



Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council

Dublin City Council

# Climate Neutral Dublin 2030

Local Authority Climate Action Plan 2024 - 2029



# **CLIMATE NEUTRAL DUBLIN 2030 LOCAL AUTHORITY CLIMATE ACTION PLAN 2024-2029**

Dublin City Council has prepared this plan in accordance with Climate Action and Low Carbon Development (Amendment) Act 2021.

Dublin City Council would like to acknowledge the support of the Dublin Metropolitan Climate Action Regional Office (CARO) and Codema in the development of this draft plan.



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# LORD MAYOR

As Lord Mayor of Dublin, I welcome the publication of our second local authority climate action plan – Climate Neutral Dublin 2030. The four local authorities that make up County Dublin – Dublin City Council, Dun Laoghaire Rathdown County Council, Fingal County Council and South Dublin County Council, have prepared revised climate action plans with the support of the Dublin Metropolitan Climate Action Regional Office and Codema in line with the Climate Action and Low Carbon Development (amendment) Act 2021. The plans set out how we as local authorities are making the place we call home resilient to the known and unknown impacts of climate change.

There is no place left on the planet that has been untouched by climate change. The last year demonstrates that climate change is not only sudden events, but slower onset events with cascading and compounding impacts. Here in Dublin and in Ireland, it has taken a while for the tools of government, in this fight of our generation and next generation, to catch up to the need to adapt to climate change.

Laws and actions that protect nature, climate and biodiversity are essential. We need a vibrant natural world and stable climate. We need it to be healthy for us to be healthy. The investment we make today in protecting nature will pay dividends for generations to come. But our world hangs in the balance. The choices we make now and in the coming years will determine our shared future.

Making Dublin resilient to climate change is a target of our climate action plans and calls for adapting the city and county, and residents, for a future where we live with the impacts of climate change, such as flooding, extreme temperatures, and extreme weather events. Uncertainty adds to the challenge of implementing actions that contribute our home's resilience. Despite this, we have made progress that contributes to our overall resilience, particularly in the use of nature-based solutions to respond to flood risk facing Dublin.

Further, the long-term challenge is ensuring that the mitigation and adaptation actions we implement are just. The implementation of Climate Neutral Dublin 2023 alongside our City Development Plan, and Local Economic and Community Plan are vital to making the city and residents resilient to climate change. The decisions we make about land-use and land-use change will determine our adaptive capacity. The location of housing and employment determines our vulnerability and exposure to climate risk.

Realising a Dublin where we are resilient, resource-full, creative, and social requires all of us. Join us, as we work together to prepare our city, and our home for the impacts of climate change now and into the future.

*John de Paolre*





The urgency for action is evident. The climate crisis impacts all of us. Unfortunately, it is with us now and for the foreseeable future. It is a lifetime crisis. I am conscious of my responsibility to lead an organisation in this time of crisis.

The scale of the challenge is clear. Ireland is off target. This though is not an excuse for throwing in the towel and resigning ourselves to fate. Nor is it an excuse to say the responsibility lies with energy providers, farmers, builders, transport engineers or planners. We all have to play our part. Because emissions from one sector are linked to another. And the impacts we are experiencing do not discriminate.

Recognising the interconnected nature of the challenge, Dublin City Council's Climate Action Plan - Climate Neutral Dublin 2030 - takes an interdisciplinary and collaborative approach to climate action, and builds on our corporate vision of a dynamic, sustainable city, that is future-ready, built on thriving, inclusive neighbourhoods and communities, a strong economy, a vibrant cultural life and compact, connected growth.

A foundation of this plan - a Resource-Full City - is particularly important. Nature is vital to our survival. Dublin has a rich natural environment and our plan is striving to insure all people living in Dublin have access to nature, and have opportunities to learn about the importance of biodiversity, whether it is through the Dublin Mountains Partnership or the Dublin Bay UNESCO Biosphere, or simply our parks and greening strategies.

Dublin City and Cork City are both cities in the EU Mission for 100 Climate Neutral and Smart Cities. The 112 Cities in the Mission are striving to reach climate neutrality by 2030. This is not easy, but not impossible. The success of both cities is important for all local authorities in Ireland. Dublin and Cork's success is Ireland's success.

For the journey to neutrality by 2030 and beyond, we know that we need everyone at the table and ready to work and invest in our future and the future of generations to come. Already, together, we have been awarded the Global Green City Award for 2023 and the European Capital of Smart Tourism 2024.

These awards are a testament to the work we have done. They are a reminder that we need to continue to live up to what they symbolise, and be ambassadors. This means we challenge ourselves to do more. Join us as we strive for Climate Neutrality by 2030.

# EXECUTIVE SUMMARY

Our second climate action plan, Climate Neutral Dublin 2030, sets out the actions that will be taken by the City Council to prepare our city and the people living here for the known impacts of climate change – flooding, sea level rise, extreme weather events, drought. Climate Neutral Dublin 2030 will set out how the City Council will mitigate greenhouse gas emissions and contribute towards the global effort to limit warming to below 1.5 degrees.

Realising a Dublin City where we are resilient, resource-full, creative, and social requires all of us. Join us, as we work together to prepare Dublin City, our home, for the impacts of climate change now and into the future.

## **Targets:**

Our plan has three targets that are interdependent:

- A 51% reduction in greenhouse gas emissions in line with our National Climate Objective by 2030, while striving for neutrality before 2050 as per Dublin City's participation in the EU Mission for 100 Climate Neutral and Smart Cities (Net Zero Cities).
- A Climate Resilient City prepared for the known and unknown impacts of climate change
- A Just Transition meaning that the actions we take do not cause harm.

## **Foundations and Connecting Actions:**

Achieving our targets requires collaboration to ensure that the actions connecting the foundations of our plan are interdisciplinary and account for the diverse systems that support life in our city. The foundations of our plan build on our city's strengths.

The connecting actions support the foundations – A Resilient City, A Resource-Full City, A Creative City and A Social City. While the actions are categorised they are not independent of each other. All actions are interconnected and require a collaborative approach. We recognise that Dublin's success is Ireland's success, and success requires that everyone is working together.



# INTRODUCTION

Dublin City is our home, the place where we create memories of the past and dreams for the future by living, learning, working and playing today. In our present day we know that the dreams of our shared future are in our hands. Take a moment, imagine Dublin City in 2030. It is only 6 years away and a lot can happen...

*We see a Dublin City in 2030 that is flourishing. People living in the city are happy and healthy. Walking, cycling or using public transport to and from their homes that are powered by 100% renewable sources of heat and electricity; moving through the city is easy, seamless and safe!*

*We have a vibrant economy that is globally recognised for the diversity of businesses that make up Dublin's social and circular economy. Social enterprises are emerging, growing and are continuously innovating and building wealth in communities across the city. Employment and investment opportunities are abundant and sustainable.*

*Dubliners and visitors to the city experience our built and natural history. Sitting in College Green under the shade of a native tree, enjoying a meal made with locally sourced and seasonal ingredients they strike up a conversation with a neighbouring table about the buzz and the craic in the city...*

Climate change is the greatest risk to our future. Through our local authority climate action plan, Climate Neutral Dublin 2030, we will take action to prepare our city and people living here for the known impacts of climate change - flooding, sea level rise, extreme weather events, drought - and the known unknowns - the intensity and frequency of events, and slow burn impacts (see Appendix 2 for how climate is impacting on weather patterns over time). Climate Neutral Dublin 2030 will set out how we will mitigate greenhouse gas emissions (Appendix 3) and do our part to limit warming to below 1.5 C.

We recognise that the implementation of Climate Neutral Dublin 2030 is key. This is the beginning of an ambitious journey, one we know will not be without challenges. We will need to work together with you.





# VISION & MISSION

Dublin City Council's Corporate Plan puts forward our vision and mission for both the City and Dublin City Council, as an organisation, and the principles by which we will be guided in all elements of our work on climate action. Our vision and mission in the Corporate Plan for 2020-2024 are:

- **Our Vision:** A dynamic, sustainable city, that is future-ready, built on thriving, inclusive neighbourhoods and communities, a strong economy, a vibrant cultural life, and compact, connected growth.
- **Our Mission:** To drive the sustainable development of the City through strong civic leadership and delivery of effective services that promote **the well-being and quality-of-life of citizens and communities.**

Climate Neutral Dublin 2030 responds to our vision and mission through the inclusion of actions that align and contribute. Realising a Dublin City where we are resilient, resource-full, creative, and social requires all of us.

Join us, as we work together to prepare Dublin City, our home, for the impacts of climate change now and into the future.





# TARGETS TO 2030 & BEYOND

Our first climate change action plan covered the years 2019 to 2024. In the life-time of our first plan we met and exceeded our emissions and energy efficiency targets for 2020.<sup>1</sup>

We aim to build on our first plan's successes and learnings. As with the first, this plan is a living document that will respond to the science (IPCC) and changes in National and EU policy.

This plan covers the period 2024 to 2029. In this time, we will strive to reduce our emissions by over 51% from the 2018 baseline ahead of the 2030 target and make Dublin City resilient without causing harm. We will also strive for climate neutrality, an ambitious goal that together with Cork City and over 100 cities across Europe we will work towards, by engaging our citizens.

We have to do our bit for all sectors: Built Environment, Transport, Electricity, Industry, Agriculture, and Land Use, Land Use Change and Forestry,<sup>2</sup> (LULUCF).<sup>3</sup> In other words, our plan must enable all sectors to reduce emissions. Emissions from one sector are inextricably linked to another – Farmers need roads to bring food to the businesses that occupy buildings, which use energy transmitted and distributed by utilities under the roads, to cook the food that feeds you.

**Farmers need roads to bring food to the businesses that occupy buildings, which use energy transmitted and distributed by utilities under the roads, to cook the food that feeds you.**

We know that as climate science advances and the understanding of the impacts of human activity on the planet deepens, targets will shift. Already the IPCC (2023) has stated we need to accelerate action to limit warming to 1.5 degrees.

Ireland is off target, even though there was a decrease in emissions of 1.9% in 2022 (EPA, 2023). In 2022, Ireland's GHG emissions were estimated to be 60.76 Mt CO<sub>2</sub>eq million tonnes carbon dioxide equivalent (Mt CO<sub>2</sub>eq). While the reduction is welcome, the latest report indicates that Ireland will not meet the National Climate Objective of 51% by 2030 (EPA, 2023).

1 - In 2021, it is estimated that DCC consumed over 161 GWh of Total Primary Energy, emitted over 30,500 tonnes of CO<sub>2</sub> at an estimated cost of €11.4 million. While this is positive, a large proportion of the reduction is attributable to the increasing percentage of renewables on the national grid. An ongoing challenge is the thermal element, which has only recorded a marginal reduction in the same period

2 - The LULUCF sector is made up of six land use categories (Forest Land, Cropland, Grassland, Wetlands, Settlements, and Other Land) and Harvested Wood Products

3 - We now have an Amended act that requires us to meet new targets - 51% by 2030 from 2018 and Neutrality by 2050. While there are sectoral ceilings there is not a public sector target as there was for 2020. It is as a whole.



**Total Greenhouse Gas Emissions (including LULUCF) under the *With Existing Measures* and *With Additional Measures* scenarios out to the year 2030**

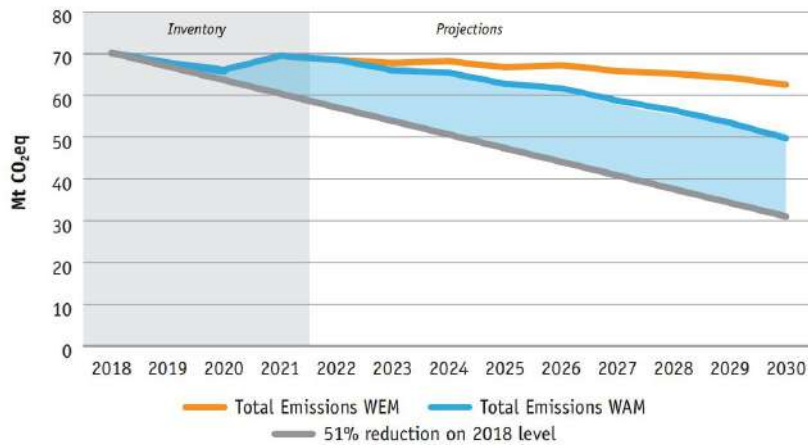


Figure 1: Greenhouse Gas Emissions  
 Source EPA: <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/indicators--targets/#>

While 592,713 people live in the city, our day-time population is 1.5 times this (CSO, 2022). The emissions from their commute, the goods and services they consume and their activities cannot be spatially constrained. Like people, emissions do not stop at county borders.

Similarly, the impacts of climate change such as flooding, storms, heat waves, and drought are not limited by geography. In 2023, the need to act has never been more evident both globally and locally. From record breaking rainfall in July for Ireland that resulted in multiple flood events across Dublin, to wildfires engulfing Canada and Southern Europe, our climate has and is changing, yet we can still act.

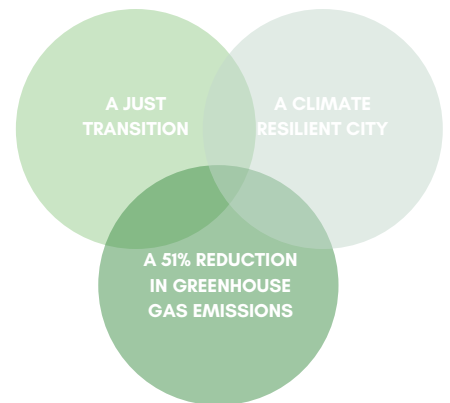
DCC will lead by decarbonising our building stock and changing the way we work, to demonstrate what is possible and needed for a climate resilient city, prepared for a future with climate change (Appendices 2 and 3).

Importantly, while this plan focuses on functions that Dublin City Council has control over, we acknowledge that Dublin City’s success is Ireland’s success. As we are part of the EU Mission for 100 Climate Neutral and Smart Cities, this plan will evolve as you join us to exchange knowledge and ideas to develop innovative solutions to increase our city, our home’s resilience.

## Targets:

Our plan has three targets that are interdependent:

- A 51% reduction in greenhouse gas emissions in line with our National Climate Objective by 2030, while striving for neutrality before 2050 as per Dublin City’s participation in the EU Mission for 100 Climate Neutral and Smart Cities (Net Zero Cities).
- A Climate Resilient City prepared for the known and unknown impacts of climate change
- A Just Transition meaning that the actions we take do not cause harm.







# IMPLEMENTATION

## Achieving Our Vision

We recognise that Dublin's success is Ireland's success, and success requires that everyone is working together. How we work together to collaborate and co-create needs to evolve for us to succeed.

In recent years, it has become clear that "change-as-usual" is not enough to address whole society problems such as climate change. Implementing change that improves efficiency but continues to allow us to work in siloes, will not enable us to meet our targets and realise the co-benefits of climate action that will improve people's health and well-being.

We know that whole society behaviour change towards more sustainable lifestyles is needed. To spark (and to nurture) change, systems need to be designed so that the sustainable choice is the most convenient. So that we make Dublin into a resilient, resourceful, social and creative city for all.

We have identified implementation actions<sup>4</sup> that need to be undertaken for our city's transition to a low carbon and climate resilient future are as follows:

**IMI | Oversight by Steering Group:** Proactive collaboration across internal departments, and with external agencies and organisations to implement and monitor the impacts of this climate action plan requires strong leadership from senior management. A Steering Group chaired by the Chief Executive to oversee the overall direction of progress and ensure that Dublin City Council, as an organisation is a leading light in decarbonisation, embedding climate resilience, facilitating co-benefits for climate and other environmental factors, and principles of equity in our operations and service delivery has been established. The Steering Group will ensure that internal structures are in place to foster ownership, accountability, and delivery of actions and projects are resourced; and provide quarterly reports to elected members via Strategic Policy Committees, and annually to the full Council.

<sup>4</sup> Which will be implemented in accordance with the environmental guidance principles set out in Appendix 10.<sup>7</sup>



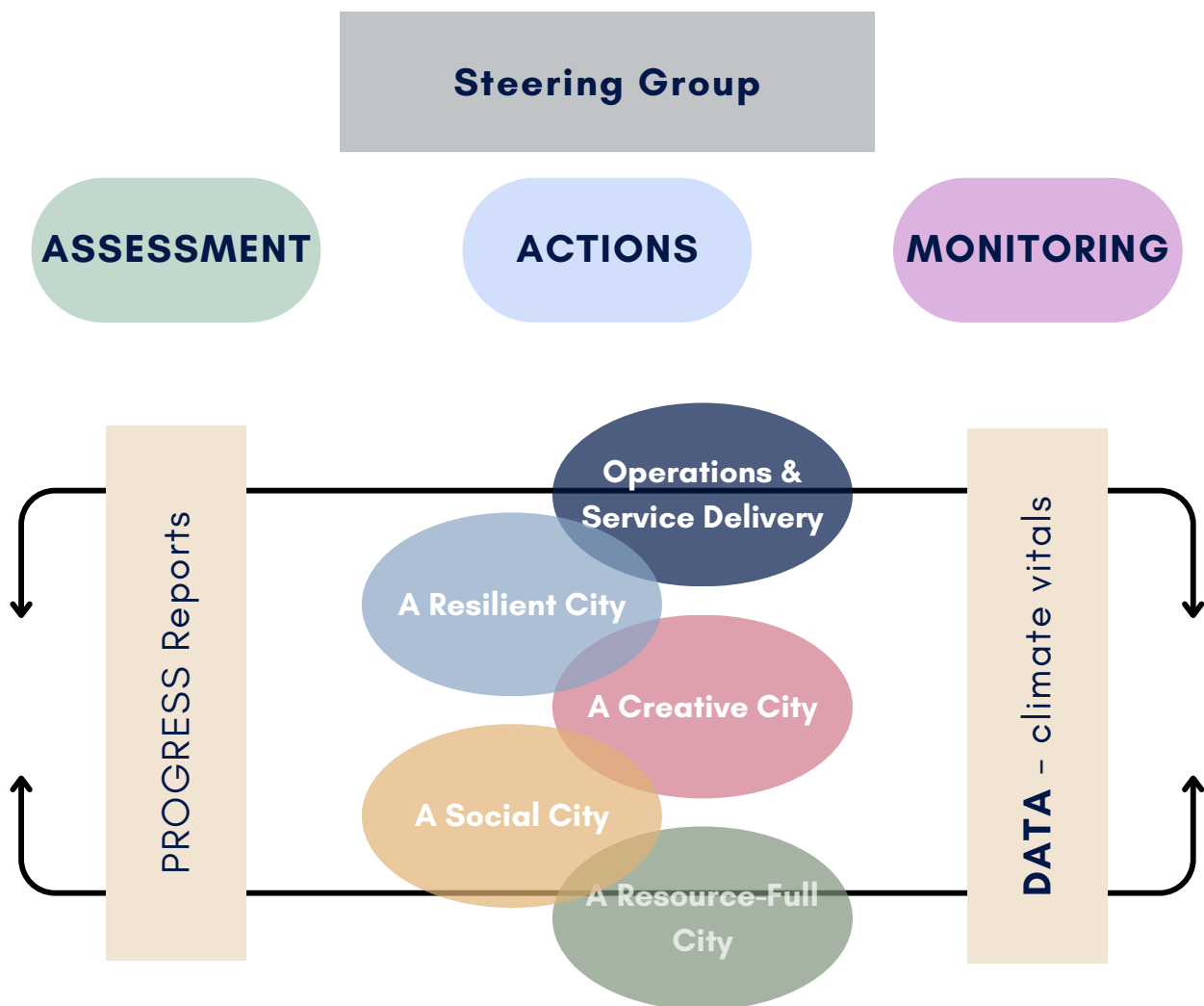


Figure 2: Implementation of Climate Neutral Dublin 2030

**IM2 | Challenge Led Approach:** Recognising the limitations of “change-as-usual”, our Plan is taking a challenge led approach to foster better coordination and increased engagement; and to unleash the collective intelligence of a variety of actors impacted by, and responsible for the change to be realised by our plan.

**IM3 | Monitoring:** Without monitoring we will not know how we are progressing, what is working or not, and who we need to engage to implement changes necessary for climate neutrality. The actions in our plan are linked to headline indicators and sub indicators as well as our targets. Together the data from these indicators and targets provide a picture and a story of the impacts of our actions on quality of life in the city. Monitoring is also an opportunity for collaboration.

**IM4 | Ireland & Dublin & You:** Your active participation in the implementation of this climate action plan, which is about safe guarding our collective future is essential. We will keep you informed, engaged and active in this plan through our Climate Newsletter, events and reports to council.



# What is a challenge-led approach?

A challenge-led approach is a way of working that is focused on the enabling conditions necessary for cross-sectoral collaboration to address complex societal issues which individual actors are unable to solve on their own. The approach involves defining a shared challenge and establishing processes for creating the enabling conditions necessary for the challenge goal(s) to be achieved. In the context of Climate Neutral Dublin 2030, the challenges are concrete steps to advance the vision in the plan.

Creating the enabling conditions for challenge achievement involves bringing actors together, mobilising resources, defining sub-targets and monitoring frameworks and, when needed, creating governance structures that are responsible and accountable for the challenge.

A challenge-led approach can be compared to that of an orchestra preparing for a performance. The challenge is the piece that will be performed by the orchestra. The notes and chords are the actions that are taken to achieve the challenge, learning the notes and practicing is the iterative process of implementing the actions and identifying who plays when, and how. The musicians as the implementers of the actions, need the leadership, support and guidance of the orchestra conductor to achieve the challenge – playing the notes and chords to deliver the performance for the audience.

Performing a piece requires the conductor and musicians of the orchestra working in harmony. Without guidance provided by the conductor, the musicians do not know when and how to make their contribution, conversely without experienced musicians the conductor has no piece to perform. Both are necessary to achieve the challenge, and need to agree to the nature of the performance, and how to achieve the challenge – deliver the performance.

Neither of them can play a song without agreeing on which song to play before-hand (note that even if improvisation is an exception to this, the actors/musicians will still follow common previously-agreed rules/principles to play a song). See Appendix 11 for more details!

# FOUNDATIONS FOR OUR VISION

Achieving our targets requires collaboration to ensure that the actions connecting the foundations of our plan are interdisciplinary and account for the diverse systems that support life in our city. The foundations of our plan build on our city's strengths.

The connecting actions support the foundations - A Resilient City, A Resource-Full City, A Creative City and A Social City. While the actions are categorised they are not independent of each other. All actions are interconnected and require a collaborative and interdisciplinary approach (Appendix 1).

Our progress will be monitored with headline indicators and crosscutting indicators, as well as our climate readiness toolkit (Appendix 8) which will ensure that health and well-being is at the core of our work.



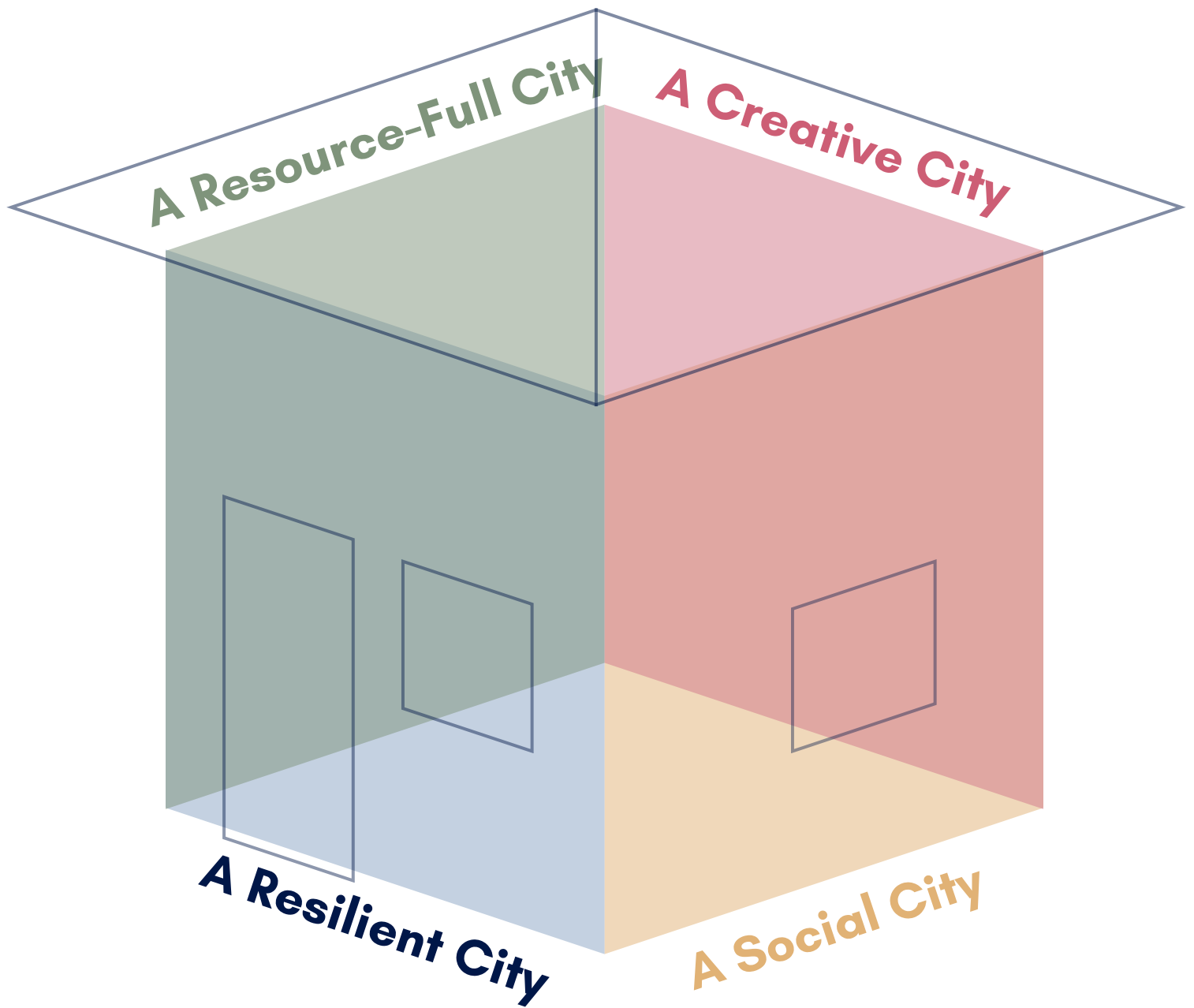


Figure 3: Interconnected Foundations



# Foundation 1: A Resilient City

## What does this mean?

In its 1000-year history Dublin has defined itself as a city that is resilient; having experienced battles and struggles and in more recent history the impacts of the Great Recession. Dublin and its citizens always emerge stronger and more unified. Dublin brings out the best in its people, who make our city unique and give it, its resilient spirit.

Dublin has a rich natural endowment that has throughout its existence provided citizens of the city with opportunities to make Dublin a city that is leading in innovation, is culturally vibrant, and is diverse, ingredients vital to being resilient now and beyond.

Dublin will be here for another millennium and longer if we build our resilience and adapt to a changing climate. To do this we will take actions to ensure that our housing, our buildings, our food system, our roads, our energy supply and our communication networks, are future proofed for the known – flooding, sea level rise, coastal erosion, heat waves, drought, cold spells, and extreme events – and unknown impacts of climate change.

We will also ensure that we are prepared to respond to extreme weather events and maintain an up-to-date emergency response plan (Appendix 1. Operations and Service Delivery).



**Dublin will be here for another millennium and longer if we build our resilience and adapt to a changing climate.**





# What actions do we take?

**R1 | Social Housing Regeneration:** We are the largest landlord in the country, with a stock of 214 flat complexes and 10,000 houses, this is an opportunity to demonstrate and set the standard for sustainable living. We will build on our experience with energy retrofitting to prepare our housing for climate change. Our flagship project will be Dominick Street Lower. This project will demonstrate climate resilient housing retrofit that enables and encourages residents to live sustainably with ease through the provision of, for example: green spaces to grow, play and create; shared spaces to meet and innovate; segregated waste facilities, renewable energy generation (solar PV, geothermal and micro wind generation where feasible), and mobility options (shared bikes, micro mobility and EV charging).

**R2 | Public Buildings Regeneration:** While our social housing will serve as the exemplar for domestic buildings, our public buildings will demonstrate how commercial and heritage buildings can be adapted and retrofitted for a climate resilient future. As with our social housing, our buildings – 2 galleries, 22 libraries, 12 community centres, 17 sports and recreation centres, and operations depots – will demonstrate what is possible.

**R3 | Climate Resilient Critical Infrastructure:** The city's infrastructure that enables us to live, work and play needs to be resilient. Ensuring that our drainage system, utilities, roads, public lighting and communications networks are maintained and upgraded is essential. This requires working in partnership with Uisce Éireann, the OPW, ESB, Eirgrid, NTA, and DECC. Together we will ensure that these critical systems are prepared for the future. Our flagship energy project, the Dublin District Heating Project (DDHP) will contribute to our energy security by providing an alternative to electricity based heating systems. This will be further supported by geothermal. DCC is also facilitating the delivery of public electric vehicle charging infrastructure in collaboration with key partners including ZEV and ESB Networks.

**R4 | Edible Dublin: Food Strategy:** Feeding a city in a time of climate change is not easy. Our food strategy sets out how we are working to ensure all residents of Dublin City will have access to healthy and affordable food; by addressing the impacts of climate change on our food system from production and distribution to consumption and disposal. The implementation of this strategy requires partnerships to deliver on the four pillars: 1. Healthy Citizens, Healthy City; 2. Growing Food at Home; 3. Cooking and Creating; 4. Farm to Fork and Back.

# How will we know we are resilient?

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## Headline Indicator

- *Improved health and well-being of citizens evidenced by for example reductions in rates of non communicable diseases (COPD, Asthma).*

## Crosscutting Indicators

- Amount of renewable energy generation in the city.
- 51% reduction in emissions from energy use.
- 50% Improvement in energy efficiency.
- Citizens are within a 15 minute walk or cycle of repair services and fresh food.





## Foundation 2: A Resource-Full City

### What does this mean?

In recognition of our city's resources – nature, people, culture, parks, and history – we are conscious of the value of these resources and use them wisely and to their full potential. Nothing goes to waste in Dublin. To do this we prioritise nature by increasing green cover and giving our rivers space, looking at what we have and identifying new opportunities like converting derelict buildings into enterprise centres or artists' spaces.

Dubliners can explore nature within a 30-minute walk, cycle, or journey by public transport. Dublin's 52 Kms of coastline are part of the Dublin Bay UNESCO Biosphere where people can find beaches to swim at in the summer (or winter) and most importantly the Bull Island Nature Reserve. The Dublin Bay UNESCO Biosphere is also home to social enterprises that use nature in a respectful way to increase our social, environmental and economic resilience.

In the west of the city is Europe's largest urban park. At 707 hectares, the Phoenix Park is the lungs of the city, and home to a large population of deer and over 300 different species of flora. Then to the south are the Dublin Mountains, where during World War I sphagnum moss was collected to be used as bandages. On a walk in the mountains people can connect with Ireland's prehistoric history through megalithic tombs dotted through the valleys and peaks.



**In recognition of our city's resources – nature, people, culture, parks, and history – we are conscious of the value of these resources and use them wisely and to their full potential.**



## What actions do we take?

**RF1 | A Nature Full City:** Nature provides us with resources to live and thrive. Delivering on our parks and greening strategies will increase the green cover of the city and improve air quality, water quality, and health and well-being. Prioritising green infrastructure that connects existing parks will not only improve the look and atmosphere of our streets making your commute more enjoyable, but will also provide pollinators, birds, and other animals with food and places to live. Providing the public with the opportunity to learn about biodiversity is essential to ensuring that the nature based solutions we implement thrive. The Dublin Bay UNESCO Biosphere Discovery Centre and the Liffey Vale Biodiversity Centre, will provide people with the opportunity to learn about our natural heritage and how we can all take steps to conserve our environment, now and for future generations.

**RF2 | Restoring the City's Rivers:** Growing around the River Liffey and its tributaries, residents of the city flourished, harvesting vegetables in the hinterlands, trading livestock at marts in the city, and bringing spices in from the port. Our city's rivers and canals have defined Dublin. Their restoration plays a vital role in the city's future. In our development plan we have committed to de-culverting and giving our vital rivers space. Measures will also see our rivers provide people with places for recreation and connection with nature. Our restoration plans for the River Santry and River Camac demonstrate what is possible, and we will re-imagine how we celebrate the River Liffey.

**RF 3 | Re-Use of Buildings:** We know that the lowest carbon building is one that is already built. Re-using existing buildings provides an opportunity to build on existing programmes, for example adaptive re-use which is converting vacant commercial buildings into housing. This also aligns with the EU Performance of Buildings Directive. We will also use vacant buildings to support enterprises by identifying buildings suitable for incubation hubs and community spaces.

**RF 4 | Ecosystem of Social and Circular Enterprises:** We continue to nurture a healthy ecosystem of social and circular small and medium enterprises by providing supports to entrepreneurs through initiatives like MODOS, Micro for Green, and SoCircular. Through our partnership with Belfast City Council we are developing physical and regulatory infrastructure essential to support SMEs to innovate and create a Connected Circular Economy on the Island of Ireland, with a specific focus on food and construction.



# How will we know we are resource-full?

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## Headline Indicator

- *Implementation of DCC's Greening Strategies that will support an increase in green cover across the city.*

## Crosscutting Indicators

- Improved air quality and water quality and biodiversity.
- Reduction in waste produced across all streams and sectors.
- Improved biodiversity in city rivers evidenced by relevant counts.
- Rate of circularity
- Number of vacant properties returned to use over the lifetime of the plan



## Foundation 3: A Creative City

### What does this mean?

Cities are built on knowledge gained over lifetimes with ideas passed from generation to generation, each learning from the previous, and innovating. Climate change impacts us all and we need to learn together and from each other. Sometimes tomorrow's problem has a solution in yesteryear.

Experience shows that when we come together we can innovate and develop solutions that work for everyone. The Dublin Bay UNESCO Biosphere Partnership is a demonstration of eco-innovation and collaboration led by DCC that has received international attention. The designation of Dublin Bay as a biosphere by UNESCO in 2015 recognised the importance of biodiversity and habitats in Dublin Bay, which has allowed the growth of a sustainable tourism market and innovative approaches to climate adaptation to emerge. It is also a place that Dubliners are proud of and celebrate for its rich natural heritage.

We know that Dubliners are creative, our City is the birth place of great poets, writers, musicians, artists, architects and designers. Everyday creativity is all around us. That creativity is key to our transition to a climate resilient future; bringing people with diverse expertise together to collaborate will foster innovation. To support innovation the city will provide citizens with spaces to connect, work with academia, and grow their ideas. Further we will connect people to sources of funding such as the community climate action fund and the creative climate action fund.



**Climate change impacts us all and we need to learn together and from each other.**





## What actions do we take?

**C1 | Community Hubs:** Our Libraries are community hubs where people of all ages meet, and share ideas. Expanding the services of our libraries can support climate action through maker spaces, workshops, and libraries of things. We know from the work of our Culture Company that there are artists and makers who are active across the city and ready to share their knowledge and draw communities together.

**C2 | Networks for Knowledge Exchange:** Dublin City is home to world class third level institutions nurturing Ireland's next generation of leaders. We are establishing a partnership programme that brings academics, students and the city together to develop creative solutions to the challenges we face. Together, we will be at the cutting edge of research and innovation driving systems change.

**C3 | Innovation Districts:** Our Smart City programme is developing innovation districts that bring together diverse SMEs to create solutions that improve the city. Smart Districts are strategically selected locations across Dublin where innovation projects are fast-tracked. Smart Districts are designed in partnership with citizens, industry, and academia. Each Smart District is unique, with projects designed to meet the specific needs of those who live and work there. We will continue to develop these districts and focus projects on addressing climate change.

**C4 | Decarbonisation Zones:** We will build on the knowledge and experience gained from our smart districts, and develop our two decarbonisation zones in Ringsend and Poolbeg, and Ballymun. The development of the decarbonisation plans for Ringsend and Poolbeg, and Ballymun, will be a collaborative effort to insure that the unique strengths of each zone come to the fore and permits ownership of the challenges and solutions.

# How will we know we are creative?

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## Headline Indicator

- *Improved socio-economic status evidenced through employment, educational attainment, and volunteerism rates.*

## Crosscutting Indicators

- Increase in number of SMEs based in Dublin City.
- Increased use of libraries, particularly by under-represented age groups and ethnicities.
- Development of decarbonisation zone plans.
- Increased rate of circularity.





# Foundation 4: A Social City

## What does this mean?

Our city is characterised by its medieval core and stunning Georgian neighbourhoods with public squares providing a space for social and economic activities. These spaces continue to thrive and provide people with spots to relax and enjoy a bit of nature in the city. The Grand Canal and Royal Canal that envelop the inner city, were once full of canal boats moving goods to and from the port to the city and to the rest of the country.

Today, you will still see boats, but you will also see people cycling next to the canals on segregated paths or simply lingering and enjoying a moment.

People define Dublin, they are the story of the city. Climate action is achievable when people come together to take care of the city and their legacy in it.



**People define Dublin, they are the story of the city. Climate action is achievable when people come together to take care of the city and their legacy in it.**



## What actions do we take?

**S1 | A Connected Active Travel Network:** Moving people through the city to meet friends and family, to go to work or school, or to simply explore must be easy and safe. We will bring together 95% of the population of the City within 400 metres of the active travel network; making it easier for people to walk, cycle, wheel or scoot to their destination or for leisure, day or night.

**S2 | Neighbourhoods are the Heart:** Dublin is said to be a city of villages and these villages have strong identities. This is a strength. Nurturing our neighbourhoods to ensure that they continue to thrive and support strong social networks is vital in preparing for climate change and preventing adverse impacts on our health and well-being, during and in the aftermath of an extreme event. We will build on our existing initiatives such as quiet areas and sustainable energy communities, pride of place, and tidy towns to increase our social, and economic resilience.

**S3 | Our Parks are Playful Places for All Ages:** “If you find yourself in an inconspicuous place, forget about time and all your pressing tasks, and simply watch and listen, you will develop a kind of reverence for the games of children, for their inexhaustible ingenuity, for the ways in which the rules they devise are more subtle, less attuned to competition and more geared to enabling everyone to have a chance.” (Ward 1979, p.76) Play is not often connected to climate action, but it is important and it is not limited to children and young people. With increasing rates of eco-anxiety our parks are important places for people to not only enjoy the outdoors but to play, create and discover with peers.

**S4 | A Re-Imagined Public Realm:** Public squares and the spaces in between are where life’s stories are born. In a time of climate change our public realm has a lot to do. Not only will public spaces need to bring people together to play, chat, and create, they must be resilient to climate change impacts – providing shade as temperatures rise and water storage when the rainfall is intense or absent. Aligning our plans for a vibrant night time economy, providing public lighting, street furniture, waste segregation, active travel and greening will be a critical part of re-imagining public spaces that define our city.



# How will we know we are social?

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## Headline Indicator

- *95% of people brought within 400 metres of a segment of the active travel network.*

## Crosscutting Indicators

- Modal shift that demonstrates measures have been inclusive and network is accessible to all ages and abilities.
- Improved air quality.
- Vibrant night time economy based on qualitative surveys and night time spend; and healthy streets framework.
- Improved noise levels on streets.

A photograph of a modern brick building with a green lawn and several white vertical poles in the foreground. The building has a textured brick facade and several windows. The lawn is lush green, and there are several white vertical poles of varying heights. The sky is bright and clear.

# OPERATIONS & SERVICE DELIVERY

Supporting our foundations and connecting actions are our operations and service delivery – the day to day activities of the City Council. These actions come under the following categories: Our Staff, Our Buildings, Our Operations and Service Delivery, and Our Engagement Activities and Partnerships. Appendix 1 provides detail on how these actions contribute to the mitigation of emissions and adaptation of the City to climate change.



A photograph of a modern city street. In the foreground, a tram is moving along tracks. Pedestrians are walking on the sidewalk. The buildings are multi-story, modern structures with large windows. The sky is overcast.

# This is Climate Action Dominick St Lower Climate Resilient Housing

## Meet: Maeve & Madeline

**Role:** Senior Architect and Executive Architect in DCC's City Architect's Division and leading the Dominick Street project team

**What Inspired the Project:** The Dominick St Estate was designed and built between 1960 and 1970 following demolition of former tenement housing. It consisted of eight flat blocks on the west and east side of Dominick Street Lower in the heart of the city centre. The new blocks were 'state of the art' and provided significantly improved living conditions for 198 families at the time. In 2010 Dublin City Council began a project to regenerate this estate due to ongoing issues with poor environmental conditions within the homes. The project was guided by a masterplan which prioritised sustainable place making. It included a site for a school, shops, a community centre as well as new apartments designed and built to meet the needs of old and young. The first phase of the regeneration - the east side - was completed in 2022 with a new apartment block and townhouses built to near zero energy building (NZEB) standard providing low-energy, bright, healthy homes. The masterplan envisioned similar redevelopment of the three blocks on the west side. However with the need to reduce carbon emissions whenever and where ever we can, and recognition that 'the most sustainable building is the one we already have', City Architects with colleagues in the Housing Department decided to re-think the approach.

**Challenges:** While redevelopment of the blocks would enable construction of new homes with a very low operational carbon footprint, the carbon cost of demolition and construction could off-set any savings made in the operation of the building over its lifetime. The core objective of the Dominick Street Lower project is to develop an exemplar Climate Resilient Housing Solution to renovating Council flat blocks, which addresses current questions about retrofit and informs other renovation programmes (public and private).

**Hope for the future:** Dominick Street Lower is not the only flat complex retrofit project the Council is working on, but it presents a unique opportunity. The blocks are vacant (the residents have moved to wonderful homes across the road) so removing the additional project complexity that comes with working around existing residents. The potential to retrofit three identical flat blocks offers the opportunity to pursue different approaches which can be measured and compared. The visibility of the project on a city centre street beside a busy LUAS stop facilitates public engagement. The large open area behind the blocks can be used to activate community and stakeholder engagement through meanwhile uses. The project is also an incredible opportunity to collaborate with different Council departments and disciplines towards a common sustainable goal. As well as transforming the existing blocks to re-create a quality living environment the project will implement innovative landscaping, create a green oasis in the heart of the city, demonstrate sustainable living, and even maybe look at different affordable opportunities for housing.



# This is Climate Action The Dublin District Heating Project (DDHP)

## Meet: Stephen

**Role:** Executive Engineer within the Environment and Transportation Department of Dublin City Council (DCC).

**What Inspired the Project:** The DDHP will improve Dublin City's energy efficiency and reduce greenhouse gas emissions, while making the Dublin City area more adaptive to the impacts of climate change. The provision of District Heating (DH) took a big step forward with the construction of the Dublin Waste to Energy (DWtE) Facility located on the Poolbeg Peninsula. The facility was developed under a Public Private Partnership (PPP) between DCC (acting on behalf of the four Dublin Local Authorities) & Covanta (currently known as Encyclis). With Construction commencing in 2014 the DWtE Facility became operational in November 2017 and currently:

- Processes 600,000 tonnes of waste annually
- Produces Electricity for 80,000 homes - with approx. 60 megawatts (MW) exported to the National Grid
- Has heating potential for 50,000 - 80,000 homes (90MW of DH) which will act as a heat baseload for the proposed DDHP

The main benefits that the DDHP will deliver for the Dublin City area is:

- Improve air quality by reducing emissions and other pollutants from individual heating sources
- Greater de-carbonisation of the heat sector
- Less dependence on imported fuels
- Use of local labour, energy resources and sources
- Space saving in plant rooms and homes as no boilers are required
- Improved safety having no fuel storage requirements
- The heat supplied is on demand, so no energy wasted

**Hope for the future:** I have been part of the Project Team responsible for the delivery of the Dublin District Heating Project (DDHP) for over 6 years now. Being involved in this largescale infrastructure Project has been very rewarding, as one of the main reasons I got into Engineering in the first place was to be part of projects that can impact on people's lives now and for future generations to come. The DDHP will have a positive impact on Dublin and if done correctly can be used as an exemplar project that can be rolled out in other areas throughout Ireland.





# This is Climate Action Bridge Foot St Park

## Meet: Deirdre

**Role:** Executive Parks and Landscape Officer, Parks, Biodiversity & Landscape Services, Project Manager for Bridgefoot Street Park.

**What Inspired the Project:** Bridgefoot Street Park came about as part of a collaboration between the local residents of Bridgefoot Street and the Parks department. The site was derelict site and was highlighted as a potential park space as part of the 2015 Liberties Greening Strategy. The local community groups started to use the site as allotments and an unofficial play area. The input from the local community was key to the successful design of this park and all elements within the park came about through intense public consultation between the landscape architect, Dermot Foley and the community.

**What do I enjoy about it:** I love the fact that Bridgefoot Street Park is a new one hectare park space in an area of Dublin City with an extreme deficiency in access to quality green space. At the time of the Liberties Greening Strategy, accessible quality public green space in the Liberties was provided at a rate of 0.7sqm per person, which is in stark contrast to an average of 49 sqm/person for Dublin City Council as a whole. The Liberties Greening strategy projects, including Bridgefoot St Park, have increased this to 1.68sq.m per person.

Bridgefoot Street Park is a response to the EU Waste Framework Directive (2008) and the EU Construction and Demolition Waste Protocol and Guidelines (2018). The park build used waste from construction and demolition, concrete and brick, together with left-over stone and recycled glass, in order to construct ecologies. The design for the park is a deliberate strategy for manipulating ecological processes on secondary-raw-materials, using a range of mixes of subsoils, quarry dust and brick by-product, in order to allow beautiful and diverse plant species colonize the waste with ease. These seeded areas germinate, flower, self-seed and develop a naturalistic landscape which is unique to this park, creating a biodiversity-rich environment for pollinators and wildlife in the city.

**Challenges I overcame:** One of the biggest challenges with this project is that it commenced on site just before Covid 19 hit and the project timeline of 10 months build increased to almost 24 months. This was very hard to keep the park closed as a building site when people were in more need of open green spaces in their localities.

**Hope for the future:** My hope for this park is that it will continue to be used and loved by the local people who contributed to the design and success of the space.



# This is Climate Action Santry River Restoration and Greenway Project

## Meet: John

**Role:** Senior Executive Engineer, Water Framework Directive Section, Protection of Water Bodies Office, Project Manager for the Santry River Restoration and Greenway Project.

**What Inspired the Project:** The river presented an excellent opportunity to carry out a full catchment restoration of an urban river. Urban rivers have different challenges to rural rivers and much of the effort by Ireland is directed towards rural rivers. Once I started looking at the project, it became apparent that it should be a multi-objective project and involve the communities from the outset. What started as a Water Framework Directive project expanded to deliver the following objectives:

- Improved status under Water Framework Directive
- Flood mitigation in accordance with the Floods Directive
- Habitat improvement and restoration under the Birds and Habitats Directives
- Provision of sustainable transportation options through the delivery of a recreational greenway
- Improved social and recreational amenity within the catchment, informed by engagement with communities living within the catchment

**What do I enjoy about it:** It's a very challenging project given the range of objectives and the complexities of both the urban environment and the impacts of climate change (our rainfall patterns are changing dramatically for example). I enjoy trying to resolve these issues and I enjoy my project management role. I also really enjoy collaboration with the communities living in the catchment. Their insight is really informative and helps influence some of the decisions of the project.

**Challenges I overcame:** Getting agreement between several departments and external stakeholders to establish the project, writing and managing a very complex tender, getting buy in from communities.

**Hope for the future:** Very simple – achieving the objectives set out for the project. Beyond the technical and legislative objectives for the project, I really look forward to delivering a new, greener and more sustainable area across the north of the city (from Finglas to North Bull Island) which people can enjoy and utilise, and where people, and in particular, children, can travel within the catchment safely and sustainably without having to use the road system too much.





# This is Climate Action SoCircular

## Meet: Norman

**Role:** Senior Economic Development Officer, Economic Development Office

**What Inspired the Project:** We were inspired to start the initiative because of our ongoing work and involvement in projects regarding the circular economy. We were aware of existing and potential synergies and were involved in the European Commission: European Social Economy Regions Project, Green Deal and New European Bauhaus. SoCircular is about celebrating the social economy and circular economy. It is an initiative that seeks to enhance the social and circular economy models in a synergistic way by creating awareness of the ecosystem and by highlighting business models and innovations; and encouraging people, businesses, organisations and government departments to buy from and support local social and circular enterprises. It facilitates matchmaking and development opportunities for enterprises, and promotes supports, skills development and funding to help enterprises adopt circular approaches and embrace the transition to a sustainable future.

The inaugural SoCircular featured: a welcome address by Lord Mayor of Dublin Caroline Conroy; a trade expo with 50 social/circular enterprises; 4 panel discussions; 4 fireside chats with key individuals including Minister Ossian Smyth and an immersive programme of social and circular themed arts and cultural performances. Since the first SoCircular event, we have continued the momentum by producing a SoCircular Brochure to further encourage stakeholders to buy from and support social and circular enterprises. We also produced an Outcomes Report to inform policy makers and stakeholders about the key insights and ideas shared as part of the panel discussions and fireside chats. We hosted a SoCircular follow on event as part of Local Enterprise Week which focused on innovation and collaboration and the Circular Economy Hotspot – Dublin 2023 Deep Dive Workshop on Social Enterprise was hosted in alignment with SoCircular.

**What do I enjoy about it:** SoCircular is about celebrating the social and circular economic businesses in the city and how they are addressing climate change in innovative, tangible, positive and much needed ways. SoCircular purposefully highlights the many positive stories, impacts and examples within these models and among actors such as local social and circular enterprises. It showcases local pioneers who are operating their enterprises in sustainable, impact seeking ways and are providing innovative and tangible solutions to climate change, social, and economic issues..



# This is Climate Action Fallen Leaves

## Meet: Seamus

**Role:** Waste Management Services Co-ordinator, Waste Management Services

**What Inspired the Project:** Historically, fallen leaves collected as part of our street cleaning operations were viewed as general litter and disposed along with general waste. Autumn 2019, a pilot project was introduced to better manage the process of leaf collection and ultimately to convert fallen leaves into high-grade compost. Until we undertook this project, we had no idea of the volume of leaves being collected by waste management street cleaning crews.

**Challenges:** During this project, leaves collected by street cleaning teams were viewed a separate waste stream and sent to Thorntons where they were put through a 12 week process of anaerobic digestion and converted into high-grade compost. During this trial, 807.98 tonnes of leaves were collected.

Waste Management have built on the success of this project and included community groups as key stakeholders for leaf collection each year. Compost bags specifically for fallen leaves are distributed to community groups and kept separate from street cleaning waste by crews. For Autumn 2022, 924 tonnes of leaves were collected and turned into high grade compost. Some of this compost is made available for free to members of the public at Bring Centres.

**Hope for the future:** My future hopes for this project is that Waste Management will team up with our colleagues in the Parks Department to arrange for all collected leaves to be off-loaded in storage areas within our parks where it will be turned into high grade compost. This would significantly reduce disposal costs for Waste Management and provide free compost for all parks within Dublin City Councils administrative area.





# This is Climate Action Greening Strategies

## Meet: Suzanne

**Role:** Executive Landscape Architect, Parks, Biodiversity & Landscape Services.

**What Inspired the Project:** Dublin is made up of a dense network of streets and spaces, which derive from a layered history going back to medieval times. Tree canopy cover is below 5% and access to public green space is less than 1.6m<sup>2</sup> per person in the land between the canals of Dublin—in contrast to 10.2% canopy cover and 49m<sup>2</sup> of open space per person for the total lands managed by Dublin City Council. To tackle these challenges, Greening Strategies have been developed for The Liberties, the North East Inner City, Stoneybatter, Whitefriars, and The Markets. Rather than piecemeal projects, these strategies aim to set a framework for the planning, design and implementation of green infrastructure interventions as an integrated network of parks, open spaces, tree-lined streets and other nature-based solutions to deliver on UN sustainability goals and climate-action objectives.

Key statistics from the strategy projects so far include over 30,000 square meters of road de-paved, enhancing permeability and reducing rainwater run-off, more than 500 trees planted, with an updated canopy cover statistics study planned for commissioning in late 2024. Eight new parks have been established, providing valuable green spaces throughout the city. These initiatives reflect the proactive approach of Dublin City Council in combating climate change and enhancing the city's resilience.

**What do I enjoy about it:** A quote that drives my work - 'Public Space is where difference meets and community is built' I am passionate about improving the public realm for Dublin citizens and creating improved spaces for the city's population to linger but also that these spaces are working hard to improve the experience of city living while also mitigating against climate change issues such as flooding and urban heat effect. I love working as part of multidisciplinary team and collaboration across departments with DCC's flooding and water engineers.

**Hope for the future:** Priority focus on climate action and nature restoration targets with robust systems for measuring effectiveness over the short and long term that is shared and viewable across the DCC organisation with the help of well-designed GIS mapping systems or other data systems. Furthermore to see sufficient revenue resources to care and to give love to park and street planted projects over the 10-20 years post projects. To consider Dublin as a garden city and to care for the collection of Greening & SUDS projects as one city garden.





# This is Climate Action Capel Street

## Meet: Claire

**Role:** Senior Executive Engineer, Traffic Division, Environment and Transport Department

**What Inspired the Project:** As summer 2021 approached the city was getting ready to reopen for outdoor dining as COVID restriction were set to be relaxed. On Capel Street, businesses approached the City Council requesting a reallocation of space by converting parking spaces to pedestrian and dining space. As this space was being created we then started to get requests to create Traffic Free space which we explored and determined could be done. From June 2021 Capel Street became Traffic Free every Friday, Saturday and Sunday evening. It was so well received that the original six weeks was extended to seventeen weeks.

**What do I enjoy about it:** The best thing about this process is how it was driven from the businesses, residents and the public. Once they started to see the benefits such as the quieter and calmer street they sought to make it more permanent. Trialling these arrangements and having successful projects really helps people overcome concerns and fears they may have. On May 20th 2022, Capel Street became a permanent Traffic Free Street. Since implementation:

- Pedestrian numbers increased by 17%
- Cyclists increased by 27%
- There has been approx. 1.5 million less vehicle trips in the area between O'Connell Street and Queen Street which is a massive reduction in volume, air pollution and noise pollution in the centre of the city.

The street is now undergoing upgrades to provide more public seating, planting and trees for the street.

**Hope for the future:** Only upon starting this project did I realise I had a connection to Capel Street going back to 1901 when seven members of my family lived in one room in 104 Capel Street. The street has undergone many changes since then but hopefully this latest iteration will improve the street for today's residents, businesses and everyone passing through.

### Testimonies from Residents;

"Capel Street now feels like a street for living on. Prior to Capel Street being made traffic free, the noise pollution and air pollution made Capel Street very difficult to live on and to use. The improvement in quality of life for me as a resident of Capel Street is immense."

"It has brought more vibrancy and a better feeling of safety and community"

"I can sleep better at night because of less noise pollution. I feel like I have living space outside my front door that is more accessible than it ever was. I love living in Capel Street now that it has been pedestrianised."



# This is Climate Action Francis Street: A Liveable Street

## Meet: Stephen

**Role: Project Manager, South Central Area Office.**

**What Inspired the Project:** Creating more liveable city streets, with pedestrian and active mobility priority and increased green infrastructure is essential for us to meet our climate action targets. However we should also strive to create beautiful, high quality public realm in the city for our citizens, businesses and visitors. It is something that I am passionate about, and I believe the city centre in particular should have less traffic, more space for people to relax and more room for nature. The refurbishment of Francis Street arose out of The Liberties Greening Strategy, a Parks Services & South Central Area Office -led programme that has been significantly improving the quality of streets, public spaces and amenities in The Liberties since it was published in 2015. Francis Street has been one of its flagship projects and was delivered together with colleagues from the City Council's Roads Design Division.

The ambition was to retool the street for the 21st century and to support the wider rejuvenation of The Liberties, and particularly its main commercial thoroughfares. We designed the scheme together with local stakeholders in 2016, but it took until 2021 for work to start. The difficulties of getting technical staff to work on the project was a major hindrance and stretched resources are impeding the development of infrastructure across the city. Complex work by utilities that was needed in advance of the street works and the onset of the pandemic also led to delays getting started, and the effects of Covid 19 were felt right through the build. And the challenge of keeping so many local stakeholders engaged and onside during a long and complicated process was significant.

**What do I enjoy about it:** The project required a lot of communication and active work on the ground to explain the benefits of the scheme, to maintain enthusiasm for it during the protracted build-up to work, and to smooth over the inevitable disturbance as the street transformed. That said there were high points, and I certainly got a buzz on the day the first trees arrived and were planted on the street.

From being car and traffic dominated, Francis Street is now much more attractive and inviting, with wide footpaths, trees, planting and seats. There is more reason to get out on the street, to relax and to linger – something that is good for residents of the street and its businesses. And there was just enough time to mark the completion of the project before we launch into a long overdue refurbishment of nearby Meath Street!



# CHALLENGES & OPPORTUNITIES

## Doing No Harm

Why are we taking action? What is the benefit to us?

In addition to the headline and crosscutting indicators used to assess progress it is essential that we understand at the whole city ecosystem level, the trajectory of change by looking at the impacts of the actions as a whole.

This plan for the first time will use a modified health impact assessment to monitor our progress and inform the development of new and revised actions. The Climate Readiness Toolkit in Appendix 8 is intended to be used to support detailed monitoring and analysis of an action from inception to implementation.





# Monitoring

## Climate Action Vitals<sup>5</sup>

Climate mitigation actions focus primarily on CO<sub>2</sub>e, but it is not the only measure of climate action success. Nor does it capture the targets linked to climate adaptation actions. Other critical vitals that provide important indicators of success that are linked to our targets for a just transition, climate resilience and 51% reduction in emissions are:

- Weather patterns (rainfall, temperature) and events (frequency and intensity)
- Air Quality
- Water Quality
- Soil Health
- Biodiversity (Flora and Fauna)
- Noise Levels
- Population Health and Well-being
- Social Cohesion
- Economic indicators
- Traffic volumes
- Temperature comparisons across the city to better assess the urban heat island effect
- Measuring ground level Ozone
- Aero allergens
- Monitoring of disease vectors – mosquitos, flies, ticks, and invasive species

Critically, each of these vitals should not be considered in isolation. Their 'health' status should contribute to the monitoring, assessment and analysis of an action's, a project's, or a programmes' contribution to climate objectives. Appendix 8 provides a framework - Climate Readiness Toolkit - developed from health impact assessment, to enable us to collect data to assess our performance on these vitals and their impacts on each other, and our targets. However, as mentioned, monitoring is a means for collaboration, as data to assess our climate vitals is often held by stakeholders external to Dublin City Council.

<sup>5</sup> The appendices of the plan provides additional detail on the current state of Dublin's climate vitals.

# Data: Opportunity for Collaboration

## The Data Story

The data story of climate action cannot be reduced to a single data set divided across sectors. Emissions from one sector are inextricably linked to another. The consequences of emissions are interconnected and here today.

Dublin city and Ireland as a whole is experiencing changing weather patterns, with periods of unseasonably high temperatures, drought and intense rainfall. This is impacting on our air quality and water quality, as well as our soil quality, which in turn are having adverse effects on our health, and well-being.

In this context DCC with support from the HSE has been developing a Climate Readiness Toolkit (Appendix 8) that brings qualitative and quantitative data together to tell the story of the impact our actions and projects are having holistically and from a systems perspective.

## Linking Local and National Reporting

Assessing our progress is an ongoing challenge. Data to monitor and understand our progress is both abundant and inaccessible. It is essential that Dublin City Council collaborates with data owners, and relevant stakeholders to collect and to analyse data in a coherent way that insures we are responding to the climate emergency in a manner that causes no harm.

To this end, we need an effective and efficient data management system to know if our actions are having an impact both in our “day to day” activities and over the long term on our National Climate Objectives.

While there is no public sector specific target there are sectoral ceilings, the actions we implement need to be coherent with reporting at the National level. Acknowledging this, where it is feasible and possible, we are seeking to calculate the impact of our actions and programmes on greenhouse gas emissions (embodied, avoided, sequestered, operational); as their impacts will be evident in the sectoral ceilings.





Figure 4: Climate Campaigners, an EU project that DCC is involved in as a lighthouse city.

# APPENDICES

## Appendix 1

- **New Actions**
- **Operations and Service Delivery Actions**
- **Decarbonisation Zones: Ballymun and Ringsend/Poolbeg**



# NEW ACTIONS: Resilient City

Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations			Target Impacted GHG/Resilience/Just Transition	Internal Alignment	Alignment with National Objectives	
				Emitted (Embodied and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City				Social City
<b>RESILIENT CITY</b>													
<b>Social Housing Regeneration:</b> We are the largest landlord in the country, with a stock of 214 flat complexes and 10,000 houses; this is an opportunity to demonstrate and set the standard for sustainable living. We will build on our experience with energy retrofitting to prepare our housing for climate change. Our flagship project will be Dominick Street Lower. This project will demonstrate climate resilient housing retrofit that enables and encourages residents to live sustainably with ease through the provision of, for example: green spaces to grow, play and create; shared spaces to regenerate waste facilities, renewable energy generation (solar PV, geothermal and micro wind generation where feasible), and mobility options (shared bikes, micro mobility and EV charging). All social housing regeneration projects will have due regard to protected species such as Annex IV species and where appropriate bat roost surveys will be undertaken to inform such works. All regeneration projects will have due regard to the need to appropriately protect, conserve and enhance protected structures in accordance with protected structures legislation.													
R1	Flagship project: Dominick Street Lower	Housing & Community Services	E&T, P&CRES, HRCST, IGBC, DHLGH, DECC	€500,000.00					This project will involve minimal new material, with re-use of materials on site, renewable energy generation; greening of the site will contribute to biodiversity and green infrastructure	Collaborative project that will involve co-design with the community, academia and IGBC	Providing residents with bicycle parking and social spaces; improved public realm	Capital Programme 2023-2025; Dublin City Council's Housing Delivery Action Plan 2022-2026; Waste Management Plan; Sustainable Urban Drainage Guidelines	Housing for All, CAP 23 (Specifically Actions JT/23/2 EN 23/11 - theme 'Reduction in Embodied Carbon in Construction Materials'. Also BE 23/35 - 'Construct two exemplar public sector buildings using alternative construction techniques and materials, and monitor their performance'; CCSAP BIO 4.4; NBAP4 4C1, 4C2 and 4C3
R1.2	Oliver Bond House Regeneration (Phase I)	Housing & Community Services	E&T, P&CRES, HRCST	€5,500,000.00					Renewable energy, community growing spaces; circular economy principles	Partnership with academia to design and measure impact	Providing residents with bicycle parking and social spaces; improved public realm	Capital Programme 2023-2025; Dublin City Council's Housing Delivery Action Plan 2022-2026; Waste Management Plan; Sustainable Urban Drainage Guidelines	Housing for All, CAP 23; CCSAP BIO 4.4; NBAP4 4C1, 4C2 and 4C3
R1.3	Constitution Hill Regeneration	Housing & Community Services	E&T, P&CRES, HRCST	€26,000,000.00					Renewable energy, community growing spaces; circular economy principles		Providing residents with bicycle parking and social spaces; improved public realm	Capital Programme 2023-2025; Dublin City Council's Housing Delivery Action Plan 2022-2026; Waste Management Plan; Sustainable Urban Drainage Guidelines	Housing for All, CAP 23; CCSAP BIO 4.4; NBAP4 4C1, 4C2 and 4C3
R1.4	Pearse House Regeneration	Housing & Community Services	E&T, P&CRES, HRCST	€19,000,000.00					Renewable energy, community growing spaces; circular economy principles		Providing residents with bicycle parking and social spaces; improved public realm	Capital Programme 2023-2025; Dublin City Council's Housing Delivery Action Plan 2022-2026; Waste Management Plan; Sustainable Urban Drainage Guidelines	Housing for All, CAP 23; CCSAP BIO 4.4; NBAP4 4C1, 4C2 and 4C4
R1.5	Integrate EV charging facilities in all flat complex regeneration projects	Housing & Community Services	E&T, P&CRES, HRCST						Renewable energy sources		enables low emissions movement through the city	Regional EV Strategy	CAP 23

Table A1.1 New Actions: Resilient City

Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations				Target Impacted	Internal Alignment	Alignment with National Objectives	
				Emitted (Embedded and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City	Social City				GHG/ Resilience/ Just Transition
<b>RESILIENT CITY</b>														
<b>R2</b>	<b>Public Buildings Regeneration:</b> Our social housing will serve as the exemplar for domestic buildings, our public buildings will demonstrate how heritage buildings can be adapted and retrofitted for a climate resilient future. As with our social housing, our buildings - 2 galleries, 22 libraries, 12 community centres, 17 sports and recreation centres, and operations depots - will demonstrate what is possible. All retrofitting and maintenance works will prioritise energy efficiencies, segregated waste facilities, renewable energy generation (solar PV, geothermal and micro wind generation where feasible), and mobility options (shared bikes, micro mobility and EV charging); having due regard to environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.													
R2.1 Civic Offices	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES	€25,242,395.00					Renewable energy generation; greening measures				GHG/ Resilience	Capital Programme 2023-2025	
R2.2 The Mansion House	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES	€650,000.00									GHG/ Resilience	Capital Programme 2023-2025	CAP 23 BE/23/30 - BE/23/32- BE/23/33(TF) - BE/23/33(TF) - BE/23/38- BE/23/39
R2.3 City Hall	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES	€600,000.00									GHG/ Resilience	Capital Programme 2023-2025	CCSAPBHA 4e
R2.4 Pathfinder Programme	Environment & Transportation	All, SEA1	€10,000,000.00					Renewable energy generation; greening measures	New partnerships and innovation			GHG/ Resilience	Capital Programme 2023-2026	CCSAPBHA 4e
R1.5 Integrate EV charging facilities in all flat complex regeneration projects	Housing & Community Services	E&T, P&CRES, HRCST						Renewable energy sources	enables low emissions movement through the city			All	Regional EV Strategy	CAP 23
<b>R3</b>	<b>Climate Resilient Critical Infrastructure:</b> The city's infrastructure that enables us to live, work and play needs to be resilient. Ensuring that our drainage system, utilities, roads, public lighting and communications networks are maintained and upgraded is essential. This requires working in partnership with Irish Water, the OPW, ESB, Eirgrid, NTA, and DECC. Together we will ensure that these critical systems are prepared for the future. Our flagship energy project, the Dublin District Heating System (DDHS) will contribute to our energy security by providing an alternative to electricity based heating systems. This will be further supported by geothermal. DCC is also facilitating the delivery of public electric vehicle charging infrastructure in collaboration with key partners including ZEV and ESB Networks. Public Lighting Upgrades will prioritise energy efficient systems while ensuring the lumen levels and spectral range are maintained or reduced/controlled to avoid effects to biodiversity. All infrastructure projects under this action will have due regard to environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.													
R3.1 Dublin District Heating Project	Environment & Transport	P&CRES, H&CS, HRCST, DECC, Codema	€42,700,000.00					Avoids sending waste to landfill by converting into electricity and heat	Partnership with private sector and communities			All	Capital Programme 2023-2025; DCC Development Plan 2022-2028;	CAP 23, Critical Infrastructure Adaptation Plan BE/23/27 (TF) - BE/23/28 (TF) - BE/23/30 - BE/23/33(TF)
R3.2 Solar PV Car Port at Davitt Road	Environment & Transport	P&CRES, H&CS, HRCST,	€500,000.00					Use of renewable energy and existing space				GHG/ Resilience	Capital Programme 2023-2025	CAP 23, Critical Infrastructure Adaptation Plan
R3.3 Explore and develop a strategy for geothermal heating in the city centre with GSI	Environment & Transport	P&CRES, H&CS, HRCST, TUD, GGDA						Uses a natural resource to provide heating				All	DCC Development Plan 2022-2028;	CAP 23 RE/24/3 - BE/23/29 - JM23/5



Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations				Target Impacted GHG/Resilience/Just Transition	Internal Alignment	Alignment with National Objectives
				Emitted (Embodied and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City	Social City			
<b>RESILIENT CITY</b>													
R3.4	Public Lighting Upgrade Project with LED lighting and CMS	Environment & Transport	P&CRES, H&CS, HRCST, TUD, GGDA	€37,075,852.00	2,500 tCO2e		Appropriate lighting will help nocturnal biodiversity; reduce energy use	Supports a vibrant night time economy by creating safer, and more enjoyable spaces.	Capital Programme 2023-2025; DCC Development Plan 2022-2028;	CAP 23 PS/23/2; 2030 Energy Reduction Targets			
R3.5	Infrastructure for Re-use, Repair and Re-purpose	Environment & Transport	P&CRES, H&CS, HRCST, TUD, GGDA				Reduces the amount of waste produced by enabling people to re-use, repair or re-purpose	Support social and circular SMEs; engagement with students in Design and Manufacturing	DCC Development Plan 2022-2028; LECP; Waste management plan	CAP 23 CE/23/3 - CE/23/8 - CE/23/9 - CE/23/2			
<b>R4</b>	<b>Edible Dublin: Food Strategy:</b> Feeding a city in a time of climate change is not easy. Our food strategy sets out how we are working to ensure all residents of Dublin City will have access to healthy and affordable food; by addressing the impacts of climate change on our food system from production and distribution to consumption and disposal. The implementation of this strategy requires partnerships to deliver on the four pillars: 1. Healthy Citizens, Healthy City; 2. Growing Food at Home; 3. Cooking and Creating; 4. Farm to Fork and Back.												
R4.1	Establish Eat the Streets Programme	Environment & Transport	P&CRES, H&CS, HRCST, HSE, Academia, Spade	€150,000.00			Reduction of food waste; greening in the city; circular food system	supports SMEs and communities in growing, working with academia and HSE to identify opportunities in the food system	DCC Development Plan 2022-2028; Biodiversity Action Plan; Active Cities/Sports Plan	CAP 23 (Specifically Actions CE/23/5 - CE/23/6 - RE/24/2 'research and innovation focusing on climate and/or sustainable and resilient food systems' <a href="https://www.gov.ie/en/publication/e8f9b1-healthy-ireland-framework-2019-2025/">https://www.gov.ie/en/publication/e8f9b1-healthy-ireland-framework-2019-2025/</a> )			
R4.2	Implementation of Markets Strategy	Planning & CRES	E&T, H&CS				Best practice for food waste; renewable energy powered	Demonstration spaces; education	DCC Development Plan 2022-2028; LECP; Tourism Strategy				
<b>Monitoring - New Approach</b>													
<b>Headline Indicator</b>													
Improved health and well being of citizens evidenced by for example reductions in rates of non communicable diseases (COPD, Asthma)													
Amount of renewable energy generation in the city													
51% reduction in emissions from energy use													
50% improvement in energy efficiency													
Citizens are within a 15 minute walk or cycle of repair services and fresh food.													

# NEW ACTIONS: Resource-Full City

Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations			Target Impacted		Alignment with National Objectives
				Emitted (Embodied and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City	Social City	GHG/Resilience/Just Transition	
<b>RESOURCE-FULL CITY</b>												
<b>A Nature Full City:</b> Nature provides us with resources to live and thrive. Delivering on our parks and greening strategies will increase the green cover of the city and improve air quality, water quality, and health and well-being. Prioritising green infrastructure that connects existing parks will not only improve the look and atmosphere of our streets making your commute more enjoyable, but will also provide pollinators, birds, and other animals with food and places to live. Ensure connectivity projects ecological connectivity through complex hedgerow development and maintenance, while ensuring barrier effects such as inappropriate lighting are avoided. Providing the public with the opportunity to learn about biodiversity is essential to insuring that the nature based solutions we implement thrive. The Dublin Bay UNESCO Biosphere Discovery Centre and the Liffey Vale Biodiversity Centre, will provide people with the opportunity to learn about our natural heritage and how we can all take steps to conserve our environment. Natural heritage education will focus on challenging environmental perceptions to foster environmental stewardship through appropriately managed engagement with nature. All infrastructure projects under this action will have due regard to environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc. Furthermore works ensure appropriate bar roost investigation surveys and appropriate measures taken to ensure no significant impacts occur to any Annex IV species.												
RF1	Planning & GRES	E&T, H&CS	€2,700,000.00			Reduces exposure to climate risks namely heat and flooding; improved health outcomes	Partnerships with Academia to monitor benefits, communities	New spaces for people to meet, play and socialise	All	DCC Development Plan 2022-2028; Biodiversity Action Plan; Edible Dublin Food Strategy;	CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan (NBAP 4 2B9, 3A4); HI2030 22 and 23; CCSAP BIO 4.4	
RF1.2	Dublin Bay UNESCO Biosphere Discovery Centre	E&T, H&CS	€12,038,65.00			Provides opportunity to engage with citizens on resilience	Entrepreneurship - social and circular enterprises; Sustainable Tourism	New opportunities for recreation	All	DCC Development Plan 2022-2028; Biodiversity Action Plan	CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan MA/23/11	
RF1.3	Liffey Vale Biodiversity Centre	E&T, H&CS	€3,400,000.00			Provides opportunity to engage with citizens on resilience	Entrepreneurship - social and circular enterprises	New opportunities for recreation	All	DCC Development Plan 2022-2028; Biodiversity Action Plan	CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan	
RF2	<b>Restoring the City's Rivers:</b> Growing around the River Liffey and its tributaries, residents of the city flourished, harvesting vegetables in the hinterlands, trading livestock at markets in the city, and bringing spices in from the port. Our city's rivers and canals have defined Dublin. Their restoration plays a vital role in the city's future. In our development plan we have committed to de-culverting and giving our vital rivers space. Measures will also see our rivers provide people with places for recreation and connection with nature. Our restoration plans for the River Santry demonstrate what is possible, and we will re-imagine how we celebrate the River Liffey. All recreational activities being promoted or developed under the action will have due regard to all environmental constraints such as Biodiversity and European sites, where required appropriate visitor management plans and appropriate signage will be developed to ensure appropriate management processes are put in place to avoid significant adverse effects. Similarly, infrastructure works will have integrated environmental considerations within the feasibility assessment.											
RF2.1	Santry River Restoration & Transport	P&GRES, H&CS	€1,500,000.00			Reduces exposure to climate risks namely heat and flooding	Partnerships with Academia to monitor benefits, communities	New opportunities for recreation; enhanced opportunities for active travel with rollout of new Active Travel facilities	All	DCC Development Plan 2022-2028; Biodiversity Action Plan; Play Strategy	River Basin Management Plan; CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan (2B15, 2C1, 2C4, 2E2, 4C2)	
RF2.2	Comac River Restoration & Transport	P&GRES, H&CS	€4,200,000.00			Reduces exposure to climate risks namely heat and flooding	Partnerships with Academia to monitor benefits, communities	New opportunities for recreation; enhanced opportunities for active travel with rollout of new Active Travel facilities	All	DCC Development Plan 2022-2028; Biodiversity Action Plan	River Basin Management Plan; CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan (2B15, 2C1, 2C4, 2E2, 4C2)	

Table A1. 2 New Actions: Resource-Full City



Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations				Target Impacted	Internal Alignment	Alignment with National Objectives
				Emitted (Embodied and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City	Social City			
<b>RESOURCE-FULL CITY</b>													
RF2.3	The Liffey a Place for Leisure	Environment & Transport	€1,050,000.00 (work on Campshires)				Reduces exposure to climate risks namely heat and flooding	Partnerships with Academia to monitor benefits, communities	New opportunities for recreation; enhanced opportunities for All active travel with rollout of new Active Travel facilities	DCC Development Plan 2022-2028; Biodiversity Action Plan; LECIP; Tourism Strategy;	River Basin Management Plan; CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan (2015, 201, 204, 2E2, 4C2)		
<b>RF3</b>	<b>Re-Use of Buildings:</b> We know that the lowest carbon building is one that is already built. Re-using existing buildings provides an opportunity to build on existing programmes, for example adaptive re-use which is converting vacant commercial buildings into housing. This also aligns with the EU Performance of Buildings Directive. We will also use vacant buildings to support enterprises by identifying buildings suitable for incubation hubs and community spaces. All reuse projects will have due regard to the need to appropriately protect, conserve and enhance protected structures in accordance with protected structures legislation.												
RF3.1	Adaptive Re-use Programme converting existing buildings to 'new' uses such as social housing	Housing & Community Services	E&T, P&CRES	€69,214,339.00			Re-use extends life of buildings, thereby reducing emissions	Creation of spaces to support SMEs, Artists	Contributes to community building	DCC Development Plan 2022-2028	Housing for All, CAP 23 - Ref 19.2.1 Construction and Prevention of waste; CCSAPBHA 4e		
<b>RF4</b>	<b>Ecosystem of Social and Circular Enterprises:</b> We continue to nurture a healthy ecosystem of social and circular small and medium enterprises by providing supports to entrepreneurs through initiatives like MODOS, Micro for Green, and SoCircular. Through our partnership with Belfast City Council we are developing physical and regulatory infrastructure components essential to support SMEs to innovate and create a Connected Circular Economy on the Island of Ireland.												
RF4.1	Establish network of centres to enable the scaling out of social and circular small and medium enterprises	Planning & CRES	E&T, H&CS, HRCST, DBEC				Supports economic and social resilience	Partnerships with private sector	Community wealth building	DCC Development Plan 2022-2028; LECIP	CAP 23, Regional Enterprise Plan, RSES, National Planning Framework		
<b>MONITORING</b>													
<b>Headline Indicator</b> Implementation of DCC's Greening Strategies that will support an increase in green cover													
Crosscutting Indicator Improved air quality and water quality and biodiversity													
Crosscutting Indicator Reduction in waste produced across all streams and sectors													
Crosscutting Indicator Improved biodiversity in city rivers evidenced by relevant counts.													
Crosscutting Indicator Rate of circularity													
Crosscutting Indicator Number of vacant properties returned to use over the lifetime of the plan													

# NEW ACTIONS: Creative City

Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations				Target Impacted	Internal Alignment	Alignment with National Objectives
				Emitted (Embodied and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City	Social City			
<b>CREATIVE CITY</b>													
<b>C1 Community Hubs:</b> Our Libraries are community hubs where people of all ages meet, and share ideas. Expanding the services of our libraries can support climate action through maker spaces, workshops, and libraries of things. We know from the work of our Culture Company that there are artists and makers who are active across the city and ready to share their knowledge and draw communities together.													
C1.1	Parnell Square Cultural Quarter	Planning & GRES	E&T, H&CS, HRCST	€20,000,000.00			Project will include nature based solutions	Citizen science	Place to meet and socialise	All	Capital Programme 2023-2025; Development Plan 2022-2028; NEIC Greening Strategy	CAP 23 C2/23/6 - CE/23/3 - C2/23/11 - C223/8 - C2/23/9	
C1.2	Dalymount Park Redevelopment	Planning & GRES	E&T, H&CS, HRCST, Bohemian Societies, DTCAGS, IM	€44,041,787.00			Project will include nature based solutions	Citizen science	New opportunities for recreation	All	Capital Programme 2023-2025; Development Plan 2022-2028	CAP 23, Regional Enterprise Plan, RSES, National Planning Framework	
C1.3	Maker Spaces in Libraries	Planning & GRES	E&T, H&CS, HRCST	% of €1,200,632.00			Provides opportunity to engage with citizens on resilience	Citizen science, reuse and reducing waste	Place to meet and socialise	All	Capital Programme 2023-2025; Development Plan 2022-2029	CAP 23 RE 23/15 'Improve citizen engagement pathways and uptake on sustainability initiatives'	
C1.4	Improved Community Facilities, that may include community kitchens	H&CS	P&GRES	€822,600.00			Provides opportunity to engage with citizens on resilience	Reducing waste	Place to meet and socialise	All	Capital Programme 2023-2025; Development Plan 2022-2030		
<b>C2 Networks for Knowledge Exchange:</b> Dublin city is home to world class third level institutions nurturing Ireland's next generation of leaders. We are establishing a partnership programme that brings academics, students and the city together to develop creative solutions to the challenges we face. Together, we will be at the cutting edge of research and innovation driving systems change.													
C2.1	Partnership Programme with Third Level institutions - Future Work Force	HR-Corp. Services-Transformation	E&T, H&CS, P&GRES				Research & innovation for adaptation	Research & innovation for biodiversity, circular economy,	Intergenerational engagement	All	LECP	National Planning Framework/ Project Ireland 2040; CAP 23 (specifically actions RE/24/2, RE/23/2, RE/23/3 CAP 4.3.7 Research Networks and coordination. - RE/23/15 - TR/23/67 (TF)	
C2.2	Establish Annual Deep Dive Data Challenge unearth learnings and target resources linking to implementation action on monitoring)	HR-Corp. Services-Transformation	E&T, H&CS, P&GRES				Unearth learnings and target resources to improve implementation of actions that increase resilience of city	Unearth learnings and target resources to improve implementation of actions support nature based solutions	Unearth learnings and target resources to improve implementation of actions that improve movement through the city and connection	All			
<b>C3 Innovation Districts:</b> Our Smart City programme is developing innovation districts that bring together diverse SMEs to create solutions that improve the city. Smart Districts are strategically selected locations across Dublin where innovation projects are fast-tracked. Smart Districts are designed in partnership with citizens, industry, and academia. Each Smart District is unique, with projects designed to meet the specific needs of those who live and work there. Having due regard to environmental sensitivities such as local human receptors, European sites and biodiversity, and the need to appropriate protect and conserve protected structures.													
C3												CAP 23 RE/23/11 - TR23/11	

Table A1. 3 New Actions: Creative City



Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations				Target Impacted GHC/ Resilience / Just Transition	Internal Alignment	Alignment with National Objectives
				Emitted (Embodied and Operational)	Avoided (Counterfactual / Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City	Social City			
<b>CREATIVE CITY</b>													
C3.1	Resilient North East Inner City	Housing & CS	E&T, P&CRES, HRCST	€294,855.00				Project will include nature based solutions	Projects will be focused on re-use, and use of available resources	New social spaces and improved public realm that supports social cohesion; Builds on Sustainable energy communities, and active travel projects (multiple Active Travel projects in this area)	Capital Programme 2023-2025; Development Plan 2022-2030; LECP; Tourism strategy; NEIC Greening strategy	CAP 23, Regional Enterprise Plan, RSES, National Planning Framework	
C3.2	Climate Smart Districts	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES					Climate Smart Districts will support increasing resilience through use of technology and data	Sensors can be used to support monitoring of biodiversity, air quality, water quality	Sensors can be used to support improved movement through the city			
<b>C4</b>	<b>Decarbonisation Zones:</b> We will build on this knowledge and experience gained from our smart districts, and develop our two decarbonisation zones in Ringsend and Poolbeg, and Ballymun. The development of the decarbonisation plans for Ringsend and Poolbeg, and Ballymun, will be a collaborative effort to ensure that the unique strengths of each zone come to the fore and permits ownership of the challenges and solutions. 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.												
C4.1	Ringsend Decarbonisation Zone	Environment and Transport	P&CRES, H&CS, HRCST, DECC, Codema	€124,500.00				Project will include nature based solutions; support the deployment of district heating reducing demand on electricity grid for heating	Projects will be focused on re-use, and use of available resources	Builds on Sustainable energy communities, and active travel projects (Ringsend to College Green Active Travel Project, Dodder River Greenway)	Capital Programme 2023-2025; Development Plan 2022-2030; Air Quality Management Plan; Noise Action Plan; Biodiversity Plan, Active Travel Network	CAP 23; Housing for All; NPF	
C4.2	Ballymun Decarbonisation Zone	Environment and Transport	P&CRES, H&CS, HRCST, DECC, Codema	€124,500.00				Project will include nature based solutions; support the development climate resilient infrastructure in Ballymun	Projects will be focused on re-use, and use of available resources	Builds on Sustainable energy communities, and active travel projects (Santry to Poppintree Active Travel Project)	Capital Programme 2023-2025; Development Plan 2022-2030; Air Quality Management Plan; Noise Action Plan; Biodiversity Plan, Active Travel Network	CAP 23; Housing for All; NPF	
<b>MONITORING</b>													
<b>Headline Indicator</b>	<b>Improved socio-economic status evidenced through employment, educational attainment, and volunteer rates</b>												
Crosscutting Indicator	Increase in number of SMEs based in Dublin City involved in social and circular enterprises.												
Crosscutting Indicator	Increased use of libraries, particularly by under-represented age groups and ethnicities.												
Crosscutting Indicator	Development of decarbonisation zone plans												
Crosscutting Indicator	Increased rate of circularity.												

# NEW ACTIONS: Social City

Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases		Connections to Foundations				Target Impacted	Internal Alignment	Alignment with National Objectives
				Emitted (Embodied and Operational)	Avoided (Counterfactual/ Sequestered Status Quo)	Resilient City	Resource-Full City	Creative City	Social City			
<b>SOCIAL CITY</b>												
<b>A Connected Active Travel Network:</b> Moving people through the city to meet friends and family, to go to work or school, or to simply explore must be easy and safe. We will bring together 95% of the population of the City within 400 metres of the active travel network; making it easier for people to walk, cycle, wheel or scoot to their destination or for leisure, day or night. Community Participation Events to celebrate new active travel routes as they open and encourage use in a responsible manner to avoid/minimise impacts to biodiversity and the environment. Ecological connectivity will be considered with regard to hedgerow development and maintenance as well as the avoidance of barrier effects such as inappropriate lighting. All active travel projects will have due regard to environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.												
S1.1												CAP 23 TR/23/11 = TR/23/2 - TR/23/4 (TF) - TR/23/14 - TR/23/23 - TR/23/26 - TR/23/27 - TR/23/29 - TR/23/30 - TR/23/31 - TR/23/24 - TR/23/73
S1	Delivery of Active Travel projects in accordance with the 2022 to 2024 projects (C2CC, Liffey, Royal Canal)	P&CRES, H&CS, HRCST	€105,556,354.00			Social resilience; economic resilience; integration of NBS into projects reduction of heat and flood risk	Re-use of materials, and reduction of waste; inclusion of nature based solutions.	Partnership with NTA, businesses and communities; partnership with academia to monitor and measure impacts on health and well-being	All	Capital Programme 2023-2025; Development Plan 2022-2030; Air Quality Management Plan; Noise Action Plan; Biodiversity Plan, Active Travel Network; Greening Strategies; SUDS Guidelines	National Planning Framework/ Project Ireland 2040, European Mobility Framework; CAP 23	
S1.2	Delivery of Active Travel projects in accordance with the 2025 to 2027 projects	P&CRES, H&CS, HRCST	€348,505,804.00			Social resilience; economic resilience; integration of NBS into projects reduction of heat and flood risk	Re-use of materials, and reduction of waste; inclusion of nature based solutions.	Partnership with NTA, businesses and communities; partnership with academia to monitor and measure impacts on health and well-being	All	Capital Programme 2023-2025; Development Plan 2022-2030; Air Quality Management Plan; Noise Action Plan; Biodiversity Plan, Active Travel Network; Greening Strategies; SUDS Guidelines	National Planning Framework/ Project Ireland 2040, European Mobility Framework; CAP 23	
S1.3	Delivery of Active Travel projects in accordance with the 2027 and onward projects	P&CRES, H&CS, HRCST				Social resilience; economic resilience; integration of NBS into projects reduction of heat and flood risk	Re-use of materials, and reduction of waste; inclusion of nature based solutions.	Partnership with NTA, businesses and communities; partnership with academia to monitor and measure impacts on health and well-being	All	Capital Programme 2023-2025; Development Plan 2022-2030; Air Quality Management Plan; Noise Action Plan; Biodiversity Plan, Active Travel Network; Greening Strategies; SUDS Guidelines	National Planning Framework/ Project Ireland 2040, European Mobility Framework; CAP 23	
S1.4	Community Participation Events to celebrate new active travel routes as they open and encourage use	P&CRES, H&CS, HRCST				Social resilience and behavior change	Awareness of materials used; care of greening		All	Play Strategy		

Table A1. 4 New Actions: Social City

Actions & Activities	Department Responsible	Partners Internal & External	BUDGET 2024-2026 Allocation	Greenhouse Gases			Connections to Foundations			Target Impacted	Internal Alignment	Alignment with National Objectives	
				Emitted (Embodied and Operational)	Avoided (Counterfactual/ Status Quo)	Sequestered	Resilient City	Resource-Full City	Creative City				Social City
<b>SOCIAL CITY</b>													
S1.5	Behaviour Change initiatives to encourage use of the network and modal shift across diverse groups	Environment and Transport	P&CRES, H&CS, HRCST					Social resilience and behavior change		All			
<b>S2</b>	<b>Neighbourhoods are the Heart:</b> Dublin is said to be a city of villages and these villages have strong identities. This is a strength. Nurturing our neighbourhoods to ensure that they continue to thrive and support strong social networks is vital in preparing for climate change and preventing adverse impacts on our health and well-being, during and in the aftermath of an extreme event. We will build on our existing initiatives such as quiet zones and sustainable energy communities, pride of place, and tidy towns to increase our social, and economic resilience. A focus shall be placed on integrating climate action with considerations relating to pollinator friendly biodiversity to ensure a win-win scenario are achieved.												
S2.1	Sustainable Energy Communities	Environment and Transport	SEAI					Energy security	Use of renewable energy, biodiversity improvements		Citizen lead, co design, businesses and academia to deliver	Development Plan 2022-2028; Active Travel Plans; Waste Management Plans	CAP 23
S2.2	Quiet Areas	Environment and Transport	P&CRES, H&CS, HRCST					Greening, traffic calming,	Biodiversity improvement, air quality, noise, and water quality		Spaces for reflection; improved mental health and well-being	Development Plan 2022-2028; Noise Action Plan; Air quality plan	
S2.3	Low carbon mobility hubs (EV charging infrastructure)	Environment and Transport	P&CRES, H&CS, HRCST						Renewable energy charging infrastructure			Development Plan 2022-2028; Regional EV Strategy	CAP 23
<b>S3</b>	<b>Our Parks are Playful Places for All Ages:</b> "If you find yourself in an inconspicuous place, forget about time and all your pressing tasks, and simply watch and listen, you will develop a kind of reverence for the games of children, for their inexhaustible ingenuity, for the ways in which the rules they devise are more subtle, less attuned to competition and more geared to enabling everyone to have a chance, than the team games devised for them by adults" (Ward 1979, p.76) Play is not often connected to climate action, but it is important and it is not limited to children and young people.												
S3.1	Delivery of Parks Strategy	Planning & CRES	E&T, H&CS, HRCST				€19,887,629.00	Greening, integration of NBS to mitigate flood and heat risk	Biodiversity improvement, air quality, noise, and water quality		Space for meeting and hosting events	Development Plan 2022-2028; Active Travel Plan; Greening Strategies; Play Strategy; LECP	CAP 23
<b>S4</b>	<b>A Re-imagined Public Realm:</b> Public squares and the spaces in between are where life's stories are born. In a time of climate change our public realm has a lot to do. Not only will public spaces need to bring people together to play, chat, and create, they must be resilient to climate change impacts - providing shade as temperatures rise and water storage when the rainfall is intense or absent. Aligning our plans for a vibrant night time economy, providing public lighting, street furniture, waste segregation, active travel and greening will be a critical part of re-imagining public spaces that define our city. All lighting projects will have low lumens directional lighting designed with regard to ecological sensitivities. All works will due regard to environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.												
S4.1	City Centre Public Realm	Planning & CRES	E&T, H&CS, HRCST					Greening, traffic calming, integration of NBS to mitigate flood and heat risk	Biodiversity improvement, air quality, noise, and water quality		engagement with citizens, academia and business	Development Plan 2022-2028; City Centre Public Realm Plan; Active Travel Plans	CAP 23; Bus Connects
S4.2	Laneways of Dublin 1 and Dublin 2	Planning & CRES	E&T, H&CS, HRCST					NBS to mitigate flood and heat risk	Biodiversity improvement, air quality, noise, and water quality		engagement with citizens, academia and business	Development Plan 2022-2028; City Centre Public Realm Plan; NEIC Greening Strategy	
S4.3	Vibrant Streets	Planning & CRES	E&T, H&CS, HRCST					Social resilience	Biodiversity improvement, air quality, noise, and water quality		engagement with citizens, academia and business	Development Plan 2022-2028; Active Travel Plan; Greening Strategies; Play Strategy; LECP	



MONITORING		PARTNERS INTERNAL & EXTERNAL
<b>Headline Indicator</b>		
Crosscutting Indicator	Modal shift that demonstrates measures have been inclusive and network is accessible to all ages and abilities. Link to SDG Target 11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries. SDG Target 11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.	
Crosscutting Indicator	Maintain Air quality at good status, reduced levels of NO <sub>x</sub> and PM; avoided CO <sub>2</sub>	EPA
Crosscutting Indicator	Vibrant night time economy based on qualitative surveys and night time spend; and healthy streets framework, improvement in night time air quality and nocturnal biodiversity activity	Dublin Town
Crosscutting Indicator	Improved noise levels on streets	EPA

# NEW ACTIONS: Anticipated Time Frames

Time frames for actions may change, pending a range of issues such as financing.

Actions & Activities		2024			2025			2026			2027			2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>RESILIENT CITY</b>																	
<b>RI</b>	<b>Social Housing Regeneration</b>																
RI.1	Flagship project: Lower Dominick Street																
RI.2	Oliver Bond House Regeneration (Phase I)																
RI.3	Constitution Hill Regeneration																
RI.4	Pearse House Regeneration																
RI.5	Integrate EV charging facilities in all flat complex regeneration projects																
<b>R2</b>	<b>Public Buildings Regeneration</b>																
R2.1	Civic Offices																
R2.2	The Mansion House																
R2.3	City Hall																
R2.4	Pathfinder Programme																
<b>R3</b>	<b>Climate Resilient Critical Infrastructure</b>																
R3.1	Dublin District Heating Project																
R3.2	Solar PV Car Port at Davitt Road																
R3.3	Explore and develop a strategy for geothermal heating in the city centre with GSI																
R3.4	LED Public Lighting Upgrade																
R3.5	Infrastructure for Re-use, Repair and Re-purpose																
<b>R4</b>	<b>Edible Dublin: Food Strategy</b>																
R4.1	Establish Eat the Streets Programme																
R4.2	Implementation of Markets Strategy																
<b>RESOURCE-FULL CITY</b>																	
<b>RF1</b>	<b>A Nature Full City</b>																
RF1.1	Implementation of greening strategies																
RF1.2	Dublin Bay UNESCO Biosphere Discovery Centre																
RF1.3	Liffey Vale Biodiversity Centre																
<b>RF2</b>	<b>Restoring the City's Rivers and Beaches</b>																
RF2.1	Santry/River Restoration																
RF2.2	Camac River Restoration																
RF2.3	The Liffey a Place for Leisure																
<b>RF3</b>	<b>Re-Use of Buildings</b>																
RF3.1	Adaptive Re-use Programme converting existing buildings to 'new' uses such as social housing																
<b>RF4</b>	<b>Ecosystem of Social and Circular Enterprises</b>																
RF4.1	Establish network of centres to enable the scaling out of social and circular small and medium enterprises																

Actions & Activities		2024				2025				2026				2027				2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>CREATIVE CITY</b>																					
<b>C1</b>	<b>Community Hubs</b>																				
C1.1	Parnell Square Cultural Quarter																				
C1.2	Dalymount Park Redevelopment																				
C1.3	Maker Spaces in Libraries																				
C1.4	Improved Community Facilities																				
<b>C2</b>	<b>Networks for Knowledge Exchange</b>																				
C2.1	Partnership Programme with Third Level institutions – Future Work Force																				
C2.2	Establish Annual Deep Dive Data Challenge unearthing learnings and target resources linking to implementation action on monitoring)																				
<b>C3</b>	<b>Innovation Districts</b>																				
C3.1	Resilient North East Inner City																				
C3.2	Climate Smart Districts																				
<b>C4</b>	<b>Decarbonisation Zones</b>																				
C4.1	Ringsend Decarbonisation Zone																				
C4.2	Ballymun Decarbonisation Zone																				
<b>SOCIAL CITY</b>																					
<b>S1</b>	<b>A Connected Active Travel Network</b>																				
S1.1	Delivery of Active Travel projects in accordance with the 2022 to 2024 projects (C2CC, Liffey, Royal Canal)																				
S1.2	Delivery of Active Travel projects in accordance with the 2025 to 2027 projects																				
S1.3	Delivery of Active Travel projects in accordance with the 2027 and onward projects																				
S1.4	Community Participation Events to celebrate new active travel routes as they open and encourage use																				
S1.5	Behaviour Change initiatives to encourage use of the network and modal shift across diverse groups																				
<b>S2</b>	<b>Neighbourhoods are the Heart</b>																				
S2.1	Sustainable Energy Communities																				
S2.2	Quiet Zones																				
S2.3	Low carbon mobility hubs (EV charging infrastructure)																				
<b>S3</b>	<b>Our Parks are Playful Places for All Ages</b>																				
S3.1	Delivery of Parks Strategy																				
<b>S3</b>	<b>A Re-imagined Public Realm</b>																				
S3.1	City Centre Public Realm																				
S3.2	Laneways of Dublin 1 and Dublin 2																				
S3.3	Vibrant Streets																				



# DCC Operations & Service Delivery Climate Action

\*this is ongoing actions of DCC Climate Change Action Plan 2019 - 2024.

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2024-2026 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted GHG/Resilience/Just Transition	Alignment with National Objectives
<b>OUR STAFF</b>									
<b>S1</b>	Sustainable Work Etiquette Guide on email use, video conference calls, printing, turning computers off, lights off, paper use and other stationary supplies to reduce energy use and emissions.		HRCS&T		Energy Bills; waste volumes	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Reduced Energy Use; Reduced water use; Reduced waste		CAP 23 C2/23/6 - TR/23/26 - TR/23/26 - TR/23/33 - TR/23/34
<b>S2</b>	Promote shift to active modes of commuting to reduce transport emissions.		HRCS&T	Staff time	VKM	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	yearly increase in shift to active modes;	GHG	CAP 23 C2/23/6 - TR/23/26 - TR/23/33 - TR/23/34
<b>S3</b>	Implement Smart Mobility Hubs across DCC offices where feasible (Civies, Marrowbow Lane, Firebrigade).		HRCS&T		VKM avoided in personal car	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	10 % reduction in staff mileage claims year on year	GHG	CAP 23 C2/23/6 - TR/23/26 - TR/23/33 - TR/23/34 - TR/23/76 - TR/23/48
<b>S4</b>	Continued staff energy awareness in Council buildings.		HRCS&T	Staff time	Energy Bills;	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Yearly reduction in energy use on track with 51%	GHG	CAP 23 C2/23/6
<b>S5</b>	Conduct detailed study of staff modal split to identify why and how staff choose modes to inform measures aimed at reducing staff travel emissions.		Environment and Transportation		VKM	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Yearly increase	GHG	CAP 23 C2/23/6 - TR/23/26 - TR/23/26 - TR/23/33 - TR/23/34
<b>S6</b>	Occupational eco driver training for fleet staff and all staff who want training.		HRCS&T		Fuel consumption	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Reduced fuel consumption	GHG	CAP 23 C2/23/6 - TR/23/26
<b>S7</b>	Risk workshops to assess the likely impacts of climate change on Council services and across the city.		HRCS&T				Annual update with priorities identified	Resilience	CAP 23 C2/23/6 - PS/23/6/B - AD/23/2 - AD/23/3 - TR/23/67
<b>OUR BUILDINGS</b>									
<b>B1</b>	Undertake programme of flat complex regenerations.		H&CS	% of €2,503,616,132	Embodied, Operational and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E			
<b>B2</b>	Continuation of planned incremental improvement of housing stock (voids, extensions, boiler replacement, retrofit and energy efficiency programme).		H&CS	€90,500,000.00	Embodied, Operational and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E			

Table A1. 5 Operations & Service Delivery

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2024-2026 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted GHG/Resilience/Just Transition	Alignment with National Objectives
<b>OUR BUILDINGS</b>									
<b>B3</b>	Continue to work with appropriate external stakeholders to deliver social housing at a BER B or Cost optimal standard.		H&CS		Embodied, Operational and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E			
<b>B4</b>	Incorporate nature based solutions in all new Council housing developments and maintain.		H&CS		Embodied and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	# of trees per new dwelling, # of shrubs per new dwelling	All	CAP 23 AD/23/4
<b>B5</b>	Implement Sustainable urban Drainage Guidelines in Council buildings where feasible.		E&T			<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	SUDS in all DCC buildings; cubic meters of water diverted	All	CAP 23 AD/23/4 - AD/23/19
<b>B6</b>	Implement infrastructure to improve and reduce water use in DCC buildings.		HRCS&T		Embodied	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	% reduction in water consumed	Resilience	CAP 23 AD/23/14
<b>B7</b>	Display Energy Certificates for public buildings.		Codema	% of €414,000			Compliant with legislation	GHG	CAP 23 BE/23/27
<b>B8</b>	Achieve (& exceed where possible) compliance with current building regulations with the provision of on-site renewable energy in all DCC building projects, new build or retrofit.		HRCS&T, PCRES, E&T, H&CS	% of €43,538,672 (Capital works)	Renewable energy in MW	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E		GHG	CAP 23 BE/23/27
<b>B9</b>	Annual Monitoring & Reporting to SEAI supported by ISO50001 compliant energy management system.		Environment and Transport	% of €414,000	Based on Above	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	DCC's energy use monitored and reported	GHG	CAP 23 RE/23/14 - BE/23/32
<b>OUR OPERATIONS &amp; SERVICES</b>									
<b>OS1</b>	Use Green Public Procurement where feasible in all procurement of goods and services to ensure adverse environmental impacts are avoided and positive environmental impacts are enhanced.		Finance		Embodied, Operational and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	GPP Standard Practice by 2027; embodied carbon and environmental impacts key criteria in procurement of materials related to housing and transport projects	All	EN 23/13 'Publish new Green Public Procurement Strategy and Action Plan, identifying an appropriate monitoring and reporting protocol that includes the monitoring of the implementation of low carbon tenders and grant schemes'

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2024-2026 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted		Alignment with National Objectives
								GHG/Resilience/Just Transition		
<b>OUR OPERATIONS &amp; SERVICES</b>										
<b>OS2</b>	Undertake annual audits of climate expenditure that considers cost effectiveness, efficiency, governance, relevance, coherence and impacts (environmental and societal).		Finance; All		Embodied, Operational and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Annual Audit completed and actions adjusted accordingly	All		CAP 23 RE/23/14
<b>OS3</b>	Ecology Assessment to be carried out on all DCC projects with the intent to enhance the site's ecological value and biodiversity		H&CS		Embodied and Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Biodiversity improvement evidenced by monitoring; i.e. increased populations of previously at risk species	All		
<b>OS4</b>	Regular maintenance of regional and local roads and active travel routes to mitigate risks.		E&T	€165,696,952.00	Embodied & Operational	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	# of repairs carried out on the road network	GHG		CAP 23 TR/23/26 - TR/23/33 - TR/23/34 - TR/23/74
<b>OS5</b>	Carry out Canal Cordon Count to monitor modal shift and traffic volumes.		E&T	% of €500,000.00		<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Changes: Increase in Active modes; decrease in private car	All		
<b>OS6</b>	Increase number of school zones, where feasible.	An Taisce , NTA	E&T	% of €2,700,000.00	VKM avoided	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	100 % of schools in administrative area	All		CAP 23 TR/23/46
<b>OS7</b>	Dublin City Council to promote active travel and public transport, (including bike bunker roll-out)		E&T	€1,500,000.00	VKM avoided	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Changes: Increase in Active modes; decrease in private car	All		CAP 23 TR/23/26 - TR/23/33 - TR/23/34
<b>OS8</b>	Monitoring of flood forecasting and warning system.		E&T	€900,000.00				Resilience		CAP 23 AD/23/21 - AD/23/14
<b>OS9</b>	Implement flood risk management guidelines. (Flood resilient city outcomes)		E&T	% of €600,000.00			NA - required	Resilience		CAP 23 AD/23/3 - AD/23/14
<b>OS10</b>	Monitor implementation of flood risk management guidelines in planning applications, having due regard for environmental sensitivities such as European sites, Biodiversity, Archeology and amenity value etc.		P&CRES	% of €600,000.00			NA - required	Resilience		CAP 23 AD/23/14
<b>OS11</b>	Coordinate Emergency Response Plans aligned with Sendai Framework and revise based on learnings from management of response to events, having due regard for environmental sensitivities such as European sites, Biodiversity, Archaeology and amenity value etc.	OPW	E&T					Resilience		CAP 23/23/21



CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2024-2026 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted GHG/Resilience / Just Transition	Alignment with National Objectives
<b>OUR OPERATIONS &amp; SERVICES</b>									
<b>OS12</b>	Update DLA urban drainage and flooding policies promoting natural flood measures as a priority to inform new development plan.		E&T	€4,500,000.00	Embodied and Sequestered	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	decrease in hard surfacing in the city	Resilience	CAP 25 AD/23/4
<b>OS13</b>	Develop and complete environmental surveys of all City rivers and estuaries as baseline surveys from which to monitor ecosystem health.		E&T, P&CRES	% of €10,500,000.00	Sequestered	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Annual improvements in ecosystem health	Resilience	NABP 4C1; 2C1
<b>OS14</b>	DCC is working in partnership with the EPA on expanding and enhancing ambient air quality monitoring in Dublin in accordance EPA with the National Ambient Air Monitoring Programme.	EPA	E&T	% of €2,438,535	PMx, Nox Sox	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	No exceedences	All	
<b>OS15</b>	Identify areas in need of infrastructure that supports re use, repair, repurpose, and free cycling.		E&T	% of €4,632,894	Embodied & Operational	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	reduction in spend and incidences of illegal dumping; improved segregation rates; rate of reuse	GHG	CAP 23 CE/23/2
<b>OS16</b>	Monitor and enforce waste regulation.		E&T	€261,04.00	Waste Volumes	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Reduction in waste and improve rates of circularity	GHG	CAP 23 CE/23/6 - CE/23/8
<b>OS17</b>	Identify opportunities of introducing circular economy principles in Bring Centre Depots and implement where appropriate.		E&T, HRCST	% of €4,632,894	Waste Volumes	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Research complete, findings implemented	GHG	
<b>OS18</b>	Expand Depot collection of WEEE products to all Depots, whilst ensuring such sites are operated in accordance with the requirements of the Waste Management Act and in a manner that does not result in environmental nuisance or pollution.		E&T	% of €4,632,894	Waste Volumes	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Opportunities identified and principles implemented where practicable	GHG	
<b>OS19</b>	Use eco friendly cleaning agents and manual methods where possible to align with Herbicide Policy.		E&T	% of €55,863,914	Operational	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	transition to of organic cleaning agents by 2027	GHG and Resilience	
<b>OS20</b>	Continue to develop sustainability guidelines and terms and conditions for any events supported, facilitated or organised by DCC, by reviewing terms and conditions for all events approved by DCC to incorporate possible sustainability conditions		P&CRES; E&T		Operational	Emissions Baseline 2018 Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (5% of 2018) Total CO2E	Guidance produced, # of events with sustainability terms and conditions	GHG	

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted		Alignment with National Objectives
								GHG/Resilience/Just Transition	GHG/Resilience/Just Transition	
<b>OUR OPERATIONS &amp; SERVICES</b>										
	Review terms and conditions for all events approved by DCC to incorporate possible sustainability conditions and integrated considerations for biodiversity and other environmental sensitivities.		P&CRES; E&T		Operational	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Guidance produced on terms and conditions	GHG		
<b>OS21</b>										
<b>OS22</b>	Develop strategy to convert fleet to low emission vehicles based on sustainable energy/fuel sources; and ensure end of life plans are in place for vehicles.		E&T		VKM, Fuel consumption	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Fleet converted, VKM reduced and emissions reduced	GHG	CAP 23 PS/23/10	
<b>OS23</b>	Monitor and prepare report on the seagrass ( <i>Zostera</i> spp.) beds at Sandymount and Merrion Gates to inform conservation management of this area.		P&CRES	% of €31,303,817			maintained or improved	GHG and Resilience		
<b>OS24</b>	Conduct wildlife and biodiversity surveys.	Birdwatch	P&CRES	% of €31,303,817			maintained or improved population			
<b>OS25</b>	Implement the North Bull Island Management Plan.		P&CRES	€100,000.00	Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Plan implemented		CAP 23 MA/23/11	
<b>OS26</b>	Implement Dublin City Tree Strategy.		P&CRES		Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Tree count in city improved and tree health maintained	Resilience & Just Transition	National Biodiversity Plan (NBAP 4 2B9); HI2030 22	
<b>OS27</b>	Identify natural heritage at risk from climate change in Dublin City to inform planning and management decisions.	Third Level, NGOs, DNFC	P&CRES	Ongoing from other projects plus review in 2024-2025			Number of species & habitats identified as at risk			
<b>OUR ENGAGEMENT ACTIVITIES &amp; PARTNERSHIPS</b>										
<b>EP1</b>	Develop and implement Sustainable Living Programme to engage Council Tenants on how they can reduce consumption of energy, and water.		H&CS	125000 (tenancy management)	Energy use, waste produced	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	% tenants receiving information		CAP 23 AD/23/19	
<b>EP2</b>	Hold Bike Week annually.		E&T	% of €1,206,691			NA - regular activity	GHG	CAP 23 TR/23/26	
<b>EP3</b>	Host events as part of European Mobility Week.	NTA	E&T	% of €1,206,692			NA - regular activity	GHG and Just Transition	CAP 23 TR/23/26	
<b>EP4</b>	Organise Pedestrian Days in areas with high footfall.		E&T	% of €1,206,695			# of pedestrian days held	All	CAP 23 TR/23/26 - TR/23/27	
<b>EP5</b>	Cycle Training Programmes for 6th Class students / Pedal Power Labs*.	Schools	E&T	% of €1,206,695			Increased number of students cycling to school	GHG and Just Transition	CAP 23 TR/23/26 - TR/23/46	

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2024-2026 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted		Alignment with National Objectives
								GHG/Resilience/Just Transition	GHG/Resilience/Just Transition	
<b>OUR ENGAGEMENT ACTIVITIES &amp; PARTNERSHIPS</b>										
<b>EP6</b>	Set up partnership and create a communications engagement and promotion platform for cycling and walking - "Stories on the move".		E&T				# of communities / areas involved		GHG/Resilience/Just Transition	CAP 23 CE/23/6 - CE/23/8 - TR/23/46 - TR/23/53 - TR/23/34
<b>EP7</b>	Implement flood awareness campaign with the OPW following a holistic environmentally integrated approach.	OPW	E&T	% of €17,467,061			NA - regular activity	Resilience and Just Transition		CAP 23 AD/23/14
<b>EP8</b>	The Council will work with the Local Authority Waters Programme in its support of communities and stakeholders in the delivery of local water quality projects and initiatives have due regard for environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.		E&T	€1,934,159.00	Sequestered	<b>Emissions Baseline 2018</b> _____ Emissions 2024 Total CO2E _____ Emissions 2025 Total CO2E _____ Emissions 2026 Total CO2E _____ Emissions 2027 Total CO2E _____ Emissions 2028 (51% of 2018) Total CO2E _____	10% reduction year on year of hard surfaces on private property across the city	Resilience and Just Transition		CAP 23 AD/23/14 - AD/23/19; NABP 4C1 and 2C1
<b>EP9</b>	Communication and awareness campaigns on flood risk management and natural flood management measures.		E&T	% of €17,467,061			NA - regular activity	Resilience and Just Transition		CAP 23 AD/23/3 - AD/23/19
<b>EPI0</b>	Implement an annual education and outreach programme to raise awareness of climate change.		P&CRES, E&T				Number of events, & outreach figures			
<b>EPI1</b>	Engage with students about climate related projects through CPD Programme/Engineers Week.		E&T	staff time				GHG and Just Transition		CAP 23 AD/23/19
<b>EPI2</b>	Monitor and develop the Home Energy Savings Kits in DCC's public libraries.		P&CRES	% of €414,000			# of kits borrowed	GHG and Just Transition		CAP 23 RE/23/14
<b>EPI3</b>	Run anti-dumping and anti-litter campaigns.		E&T	€261,04.00			10% Year on year decrease in litter	GHG		CAP 23 CE/23/6 - CE/23/8
<b>EPI4</b>	Support and promote litter clean up days and initiatives.		E&T	€170,989.00			NA - regular activity	GHG		CAP 23 CE/23/6 - CE/23/8
<b>EPI5</b>	Apply for LAPN (Local Authority Prevention Network) grants.		E&T				# of projects implemented	Just Transition		
<b>EPI6</b>	Create Stop Food Waste campaign for businesses and schools.		E&T	% of 5,233,876 (€170,989)			Reduction in food waste	All		CAP 23 CE/23/15 - CAP 23 AD/23/16
<b>EPI7</b>	Promote Reuse Month annually.		E&T	% of 5,233,876 (€170,989)			NA - regular activity	GHG		CAP 23 CE/23/8
<b>EPI8</b>	Provide public with information on leaf composting programme across the City and provide workshops.		E&T	% of 5,233,876 (€170,989)			Composting programme introduced, # tonnage of leaves diverted to composting	All		



CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Calculation	Emissions	NEW Indicators	Target Impacted		Alignment with National Objectives
								GHC/Resilience/Just Transition		
<b>OUR ENGAGEE ACTIVITIES &amp; PARTNERSHIPS</b>										
EP19	Support and promote Tidy Towns / City Neighbourhoods initiatives which have due regard for environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.		E&T, H&CS	% of 5,233,876 (€170,989)			# of participants yearly	All		
EP20	Support and promote Green Schools and Annual Conference.		E&T	% of 5,233,876 (€170,989)			# of Schools participating	All	CAP 23 AD/23/19	
EP21	Develop and implement an education programme to tackle climate issues related to the water sector.		E&T				education programme established	Resilience	CAP 23 AD/23/14 - AD/23/19	
EP22	Promote recycling and the circular economy to householders through a range of workshops, talks and programmes.		P&CRES, E&T	% of 5,233,876 (€170,989)			Improvement in Circularity Rates	All	CAP 23 CE/23/8	
EP23	Continue to work with the Rediscovery Centre to promote sustainability.		P&CRES, E&T					All	CAP 23 CE/23/2	
EP24	Engage with relevant stakeholders and deliver an energy efficiency, circular economy and sustainability training programme targeting micro and small enterprises.		P&CRES, E&T	% of €2,423,544			SME sign up and roll out training programme	All	CAP 23 CE/23/6 - CE/23/2	
EP25	Tree-planting activities with schools including annual National Tree Week and National Tree Day.		P&CRES		Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	NA - regular activity	All	NABP 4C1	
EP26	Continue to develop SoCircular as an initiative to encourage social and circular economy models among businesses in the city and to promote social and circular enterprises.		P&CRES							
EP27	Apply for EU funding to undertake innovative climate action projects and build partnerships.		P&CRES				Funding secured	All		
EP28	Build partnerships with cities internationally to exchange best practice for climate action and implement learnings into all future plans and projects.		P&CRES				partnerships established	All		
EP29	Implement and promote the objectives of the Dublin Bay UNESCO Biosphere Partnership and promote the work of the Biosphere	Faillte Ireland, Dublin Port Authority, NPWS	P&CRES	% of €31,303,817 (€250,000)			Plan developed and progressing implementation	All	CAP 23 AD/23/6	
EP30	Work with the Dublin Mountains Partnership on implementing strategic plans and activities for Climate Change mitigation and biodiversity enhancement.	Coillte, DLR, SDCC, NPWS	P&CRES				Annual report to SPC			
EP31	Public Service Innovation Week.		HRCST							
EP32	Promote and encourage community involvement in the retrofit of SuDS in existing developments; having due regard to environmental sensitivities such as Archaeology, European sites, biodiversity and amenity value etc.		P&CRES, H&CS, E&T	% of €31,303,817 (€490,000)	Sequestered	<b>Emissions Baseline 2018</b> Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	decrease in hard surfacing in the city; increase in areas using SuDS	All	CAP 23 AD/23/4 NABP 4C1 5C3; ID4	

## Decarbonisation Zone

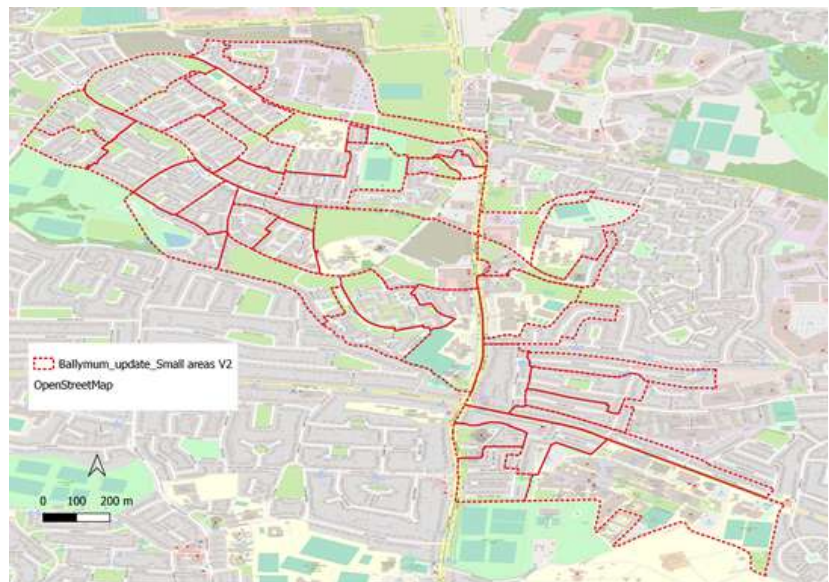
A requirement of the National Climate Action Plan 2021 is for the identification and development of decarbonisation zones that will contribute to National Climate Objective of a 51% reduction in emissions by 2030 and neutrality by 2050. Decarbonisation zones are intended to:

1. Apply a place-based approach;
2. Use systems thinking that promotes exploration, co-creativity, innovation and new learnings;
3. Be test beds for portfolio of actions, projects, technologies and interventions to achieve our targets and;
4. Address energy and non-energy related issues (adaptation, biodiversity and just transition).

Dublin City Council has identified two decarbonisation zones: Ballymun and Ringsend and the Poolbeg Peninsula. Work is ongoing to establish a detailed baseline emissions inventory, and stakeholder map. Engagement with the communities in these areas has commenced, and work is ongoing to firstly build relationships necessary for the development of implementation plans that: improve the quality of life of residents by providing employment and education opportunities, increases accessibility to green spaces, improves mobility and reduces emissions.

Maps on below provide detail on the respective boundaries of each zone.

### Ballymun Decarbonisation Zone



### Ringsend/ Poolbeg Decarbonisation Zone

# Appendix 2

## State of the climate

Source Met Eireann

Understanding how climate change is impacting on weather patterns is vital in identifying action pathways and assessing the impact of actions in reversing the impacts of climate change. The table here uses data from Met Eireann's Phoenix Park weather station from 2016 to the present. Analysis of this data shows both the slow onset impacts of climate change over time on weather patterns and increasing intensity and frequency of extreme weather events.

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2016		Was mostly dominated by the North Atlantic jet stream, with Storm Gertrude a notable feature. LTA for temperature were normal and above average for rainfall.	After a wet and windy January, the very mobile unsettled pattern continued for most of February, albeit colder.	Storm Jake and Katie were named. Most places reported below their LTA for rainfall and mean air temperatures.	Changeable and unsettled early on, but settled for the second half of the month. LTA rainfall values were variable and all stations reported below average or above average mean temperatures.	Changeable with some clear spells. Most LTA rainfall values were below and all stations reported average or above average mean temperatures.	Two-thirds of Long-Term Average (LTA) rainfall values were above average. All stations reported above average mean air temperatures and LTA sunshine values were variable.	LTA rainfall totals were variable, half of monthly mean air temperatures were above average and nearly all LTA sunshine totals were below average.	Two-thirds of stations reported below LTA for rainfall, nearly all stations were above mean temperatures and sunshine totals were mainly below average.	The majority of stations reported above LTA for rainfall and below average for sunshine, while all stations were average or above average for temperature.	Was mainly influenced by anticyclonic conditions allowing for predominantl y dry settled conditions and no strong gales or storms reported.	Was dominated by anticyclonic conditions and the Azores high. Most stations reported below LTA for rainfall and above for temperatures.	
	<b>Rain Volume (mm)</b>	105.4	59.3	29.1	67.3	50.2	84.2	39.7	73.6	76	36.2	37.8	46.1
	<b>% of Rainfall LTA</b>	161	116	54	128	82	122	72	101	127	46	50	60
	<b>Mean Temp (°C)</b>	6.2	5.3	6.9	7.6	12.3	14.9	16.6	16.3	14.9	11.3	6	6.9
	<b>Difference Avg (°C)</b>	1.2	0.1	0	-0.9	1.3	1.1	0.8	0.8	0.8	0.9	-1.1	1.6

Table A2.1 State of the Climate 2016



Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2017	<b>Statement (Nation-wide)</b>	Was mild and dry. All rainfall totals were below their LTA and above their LTA for temperatures.	Was mild. Half of the stations reported monthly rainfall totals below their LTA and air temperatures across the country were all above their LTA. Storms Ewan and Doris affected Ireland.	Mild, unsettled and wet. Most rainfall totals and temperatures were above their LTA.	Mild and dry everywhere. All rainfall totals were below their LTA with temperatures near or above their LTA.	Warm, dry and sunny. Most rainfall totals were below average. Mean air temperatures were above everywhere and most available sunshine totals were above their LTA.	Changeable, unsettled and dull. The majority of stations reported above average monthly rainfall totals and above average mean air temperatures, while two-thirds of available sunshine totals were below their LTA.	Changeable with rain or showers most days. Most rainfall and sunshine totals were above average while the majority of air temperatures were below their LTA.	Cool and dull. LTA rainfall values were variable, all air temperatures were below average and nearly all sunshine totals were below.	Cool & wet, with storm tracking eastwards across Ireland mid-month. LTA rainfall values were above at most stations. Air temperatures were average or below average while over half of the sunshine totals were above average.	Brought the memorable ex-Hurricane Ophelia and then Storm Brian with violent storm force winds and strong gales reported at many stations throughout the country.	Was changeable, cool and unsettled. Below average monthly rainfall and mean temperatures at most locations with above average sunshine totals.	Was unsettled and mild. Storm Dylan was the main feature with monthly rainfall and temperature totals above average and below average.
	<b>Rain Volume (mm)</b>	23.2	62.1	75.2	11.4	47.7	95.6	52.9	80.4	88.9	49.6	78.3	64.8
	<b>% of Rainfall LTA</b>	36	121	139	22	78	138	96	110	148	62	104	84
	<b>Mean temp (°C)</b>	6	6.7	8.7	9.4	13	15.4	16.1	15.1	13.3	11.9	6.7	5.3
	<b>Difference Avg (°C)</b>	1	1.5	1.8	0.9	2	1.6	0.3	-0.4	-0.1	1.5	-0.4	0

Table A2.2 State of the Climate 2017

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018	<b>Statement (Nation-wide)</b>	Was wetter than normal with near or slightly above LTA for temperatures and rainfall. Fog was a significant feature, particularly in the West and South.	Was cold, sunny and dry. Nearly all rainfall totals were below their LTA and air temperatures across the country were below their LTA.	Storm Emma yielded widespread snow, ice and low temperatures. Most rainfall totals and all temperatures were below their LTA.	Unsettled, dull and wet. The majority of monthly rainfall totals and air temperatures were above their LTA and most available sunshine totals were below their LTA.	Mostly warm, dry and sunny. Nearly all rainfall totals were below their LTA. All mean temperatures and all available sunshine totals were above their LTA.	Heatwave conditions experienced in many places. Air temperatures and sunshine values were above average everywhere while rainfall totals were below their LTA. Storm Hector passed by the Northwest on the 13th & 14th.	Dry & warm with drought conditions. All monthly rainfall totals were below average, while all mean air temperatures and most of the sunshine totals were above their LTA.	Cooler & wetter in the North & West, drier & warmer elsewhere. Most monthly rainfall totals were below average, nearly everywhere. Mean temperatures were variable and all stations had below average Sunshine totals.	Dry & Cool with two named storms, Ali & Bronagh. Rainfall totals were below average nearly everywhere. Mean temperatures were below average and sunshine totals were variable.	Was a cool, dry month with above average sunshine values and the major weather event that month being Storm Callum which led to widespread heavy rain on the 12th and 13th.	Was dull and wet, with above average rainfall and monthly mean temperatures in most places. Storm Diana was a feature on the 28th with the highest recorded gust of 62 knots (115 km/h) at both Casement (its highest in 27 years) and at Roche's Point (its highest in 13 years).	Was mild and unsettled with Storm Deirdre affecting Ireland. Many stations were near normal for rainfall totals but above in the South. Air temperatures were above LTA and sunshine totals below.
	<b>Rain Volume (mm)</b>	85	31.4	99.7	75	25.6	4.1	30.5	40.8	46.1	44.5	121.6	80.7
	<b>% of Rainfall LTA</b>	130	61	185	142	42	6	56	56	77	56	161	105
	<b>Mean temp (°C)</b>	5.3	3.9	5	9.1	12.7	15.8	17.2	16.3	13.2	10.2	8.6	7.9
	<b>Difference Avg (°C)</b>	0.3	-1.3	-1.9	0.6	1.7	2	1.4	0.8	-0.2	-0.2	1.5	2.6

Table A2.3 State of the Climate 2018

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2019		Was mild and dry with a cold finish. Rainfall LTA were below everywhere and above average for temperatures.	Was very mild and mostly dry. Rainfall totals were below their LTA and air temperatures across the country were above their LTA. Storm Erik affected Ireland.	Storms Freya and Gareth were named. Unsettled and rainfall totals and temperatures were above their LTA.	Above average temperatures and rainfall for most stations with Storm Hannah bringing storm force winds this month.	Mostly dry with near average temperatures. Rainfall totals were nearly all below their LTA. Mean temperatures were variable and it was sunniest in the Southwest.	Cool and unsettled overall with a warm finish. The majority of monthly rainfall totals were above average, mean air temperatures were below and sunshine values were variable.	Warm overall, drier and sunnier in the South and East. The majority of monthly rainfall totals were below average while all mean air temperatures were above average and sunshine totals were variable.	Mild and Unsettled. Above average rainfall totals, air temperatures and sunshine totals in most places.	Mild, wet, and sunny. Above average rainfall totals and mean temperatures for most, while sunshine totals were above average everywhere.	Was mainly sunny and cool but wet in the South, ex-hurricane Storm Lorenzo brought unsettled weather at the start of the month.	Was very wet and dull in the East and cool everywhere. Most monthly rainfall totals were above their LTAs and all stations had below average monthly mean temperatures.	Was mild, bright and breezy. Storm Atyah on the 8th and 9th and Storm Elsa on the 18th brought windy, wet conditions and coastal flooding. Monthly rainfall totals varied, temperature and sunshine totals were above LTA.
	<b>Statement (Nation-wide)</b>												
	<b>Rain Volume (mm)</b>	27.1	19.9	87.8	71.5	34.8	74.8	49.2	68.7	94.2	72.7	155.1	51.8
	<b>% of Rainfall LTA</b>	42	39	163	136	57	108	90	94	157	92	205	67
	<b>Mean temp (°C)</b>	5.9	8	8.2	8.9	11.6	13.5	17	16.4	14	9.9	6.6	6.4
<b>Difference Avg (°C)</b>	0.9	2.8	1.3	0.4	0.6	-0.3	1.2	0.9	0.6	-0.5	-0.5	-0.5	1.1

Table A2.4 State of the Climate 2019



Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
2020		Was mild and dry overall. Storm Brendan, brought storm force winds including thunderstorms in the West and the East. Rainfall LTA were below average in most places and temperature were above average everywhere.	Was exceptionally wet and very windy. All rainfall totals were above their LTA and nearly all mean air temperatures were above their LTA. Storms Ciara, Dennis and Jorge affected Ireland.	Storm Jorge was named. This month was cool, sunny and dry in the East. Rainfall totals and temperatures were below their LTA nearly everywhere.	Very dry, mild and sunny. Rainfall totals were below average everywhere, all air temperatures across the country and all available sunshine totals were above their LTA.	Very dry, warm and sunny. Rainfall totals were below average but storm Arthur brought widespread rain late in the month. All mean temperatures and all available sunshine totals were above their LTA.	Changeable, dull and windy. The majority of monthly rainfall totals were above average. Temperatures were near average, while sunshine values were below average everywhere.	Cool and wet. All monthly rainfall totals were above average while mean air temperatures and sunshine totals were below.	Warm, wet, and stormy. Storm Ellen and Francis brought heavy rainfall and gales. Rainfall and air temperatures were above average nearly everywhere while sunshine totals were below their LTA.	Warm, wet, and stormy. Storm Ellen and Francis brought heavy rainfall and gales. Rainfall and air temperatures were above average nearly everywhere while sunshine totals were below their LTA.	Mostly warm, cool final third. Rainfall totals were mostly below average, with the majority of air temperatures near or above average, while sunshine totals were above average everywhere.	Was predominantly cool, wet, and windy and storm force winds were reported during Storm Aiden which developed towards the latter stages of the month. Storm Aiden, on Saturday 31 October 2020, is the last time storm force winds were observed across Ireland.	Was mild, wet in the West and dominated by an Atlantic regime, with rainfall above average in most places and mean temperatures above their LTA and temperature was below in most places.	Was cool, wet and windy. Storm Bella brought windy and wet conditions on the 26th and 27th.. Rainfall and sunshine totals were above their LTA and temperature was below in most places.
	<b>Rain Volume (mm)</b>	39.6	141.5	30.7	13.8	8.1	70.1	99.6	89.2	56.4	80.5	55.5	79.4	
	<b>% of Rainfall LTA</b>	61	276	57	26	13	101	181	122	94	101	75	103	
	<b>Mean temp (°C)</b>	6.5	6.2	6.9	10	12.5	14.4	15.4	15.9	14	10.2	8.7	5	
	<b>Difference Avg (°C)</b>	1.5	1	0	1.5	1.5	0.6	-0.4	0.4	0.6	-0.2	1.6	-0.3	

Table A2.5 State of the Climate 2020

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2021		Was cold and wet. Rainfall was above average in most places and temperature s were below average everywhere.	Was mild overall and wet, especially in the South. Rainfall totals were above their LTA and nearly all mean air temperatures were above their LTA. Storm Darcy affected Ireland.	Mild and settled. Rainfall totals were below their LTA and air temperatures were above their LTA.	Very dry, cool and sunny. All rainfall totals and nearly all air temperatures were below their LTA while all available sunshine totals were above their LTA.	Cool and wet everywhere. All rainfall and sunshine totals were above their LTA and all mean temperatures were below their LTA.	Dry everywhere, sunny and warm in the South and East. Rainfall totals were below average everywhere. The majority of mean air temperatures were above average and nearly all sunshine totals were above average.	Hot, sunny with widespread heatwaves. Rainfall totals were variable and all mean temperatures and sunshine totals were above average.	Mild and changeable, dry finish. Most monthly rainfall totals were below their LTA, nearly all mean temperatures were above, and sunshine values were variable.	Warm, dry for most and dull; Rainfall: Below average in most places, driest in the East; Temperature: Above average breaking in places	Mild. Wet, especially in the South and West. Sunny in the South and East; Rainfall: Above average in most places, wettest in the South and East; Temperature: Above average everywhere	Mild and dry for most of the month. Sunny in the South; Rainfall: Below average nearly everywhere, driest in the East; Temperature: Above average everywhere	Mild, changeable and windy at times; Rainfall: Above average in most places, wettest in the South and East; Temperature: Above average everywhere
	<b>Statement (Nation-wide)</b>												
	<b>Rain Volume (mm)</b>	115.6	61.7	34.2	16.2	96.9	14.2	83.6	51.2	35.2	73.5	17.5	83.7
	<b>% of Rainfall LTA</b>	177	120	63	31	158	21	152	70	59	93	23	109
	<b>Mean temp (°C)</b>	4	6.6	8.1	7.2	10.1	14.9	17.2	15.8	15.8	12.4	8.1	7
<b>Difference Avg (°C)</b>	-0.1	1.4	1.2	-1.3	-0.9	1.1	1.4	0.3	2.4	2	1	1.7	

Table A2.6 State of the Climate 2021

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2022													
		Was mild and very dry. Rainfall was below the Long-term average. Temperatures were above average	Violent storm force winds reported during storm Eunice. Was mild, wet and windy. Rainfall was above the long term average. Temperatures were above average.	March was mild, dry and very sunny. Rainfall: Below average nearly everywhere, driest in the Northwest; and Temperatures were above average	Was Mild, dry and sunny overall; Rainfall: Below average in most places, driest in the East; Temperature: Above average at most stations, warmest in the West	Very mild, dry in the South, wet in the Northwest; Rainfall: Below average in the South, above average in the Northwest; Temperature: Significantly above average everywhere, especially warm at night	Wetter, cooler and cloudier in the West. Drier, warmer and sunnier in the East; Rainfall: Above average in most places, highest in the West and Southwest. Below average in the East; Temperature: Mostly above average, below average at some stations in the West		Warm and dry with record high maximum daily temperatures reported; Rainfall: Below average everywhere, lowest in the South and East; Temperature: Above average everywhere, record high maximum daily temperatures reported at nine stations	Dry, sunny and very warm, with heatwaves and record temperatures reported; Rainfall: Below average everywhere, lowest in the Midlands, South and East; Temperature: Above average everywhere, record high maximum daily temperatures reported at for August eleven stations	Relatively mild and wet overall; Rainfall: Above average in most places, highest in the Midlands, South and East. Temperature: Above average in most places. Sunshine: Sunniest in the Southwest, dull in the East; Wind: Strong gales reported	Was a mild and windy month, dominated by Atlantic low pressure systems to the west of Ireland, with the airflow mostly between southerly and south-westerly. The majority of monthly rainfall totals were above their LTA. mean air temperatures across the country were above their LTA for the month.	Very cold arctic air masses dominating, with high pressure to the north and the Jetstream displaced well to the south of Ireland, leading to drier than average conditions. The second half of the month was less cold with Atlantic low pressure systems dominating bringing wetter than average conditions.
	<b>Rain Volume (mm)</b>	16.7	91.8	41.4	38.3	56.2	56.4	37.1	14.4	128.7	113.5	46.2	81.6
	<b>% of Rainfall LTA</b>	26	179	77	73	92	82	68	20	214	143	61	106
	<b>Mean temp (°C)</b>	5.7	7.3	7.8	8.9	13.1	14.6	17.4	17	13.9	12.6	9.1	4.6
<b>Difference Avg (°C)</b>	0.7	2.1	0.9	0.4	2.1	0.8	1.6	1.5	0.5	2.2	2	-0.7	

Table A2.7 State of the Climate 2022



# Appendix 3

## Baselines: Mitigation and Adaptation

### Note to the Reader

The baselines in this appendix were produced using available data at the time of the plan's drafting. It is expected that over the lifetime of this plan new research and data will emerge. As such the actions in this plan will be revised accordingly.

The baselines were produced by third parties for Dublin City Council. Full reports are available on request.

DCC is responsible for the energy use and emissions from its buildings and facilities, its public lighting, and from its vehicle fleet. This section highlights DCC's current energy use and the progress DCC 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 DCC consumed a total of nearly 111 gigawatt hours (GWh) of final energy consumption in 2021, which would represent 161 GWh of primary energy (Figure A3.1)<sup>6</sup>.

As shown in Figure A3.1 in 2021, DCC's Public Lighting was the highest energy consumer, accounting for 29% (46.6GWh) of the Council's overall primary energy consumption or Total Primary Energy Requirement (TPER). Offices and Depots accounted for 19% (30.6GWh). Vehicles fuels, Fire station, Libraries and Galleries and others accounted for 22% (36.4GWh) of the total energy use. Housing accounted for 19% (30.3GWh) and the remaining energy consumers which mostly consist of sports facilities accounted for 11% (17.1GWh) of the total energy use.

Table A3.1 below highlights the energy efficiency improvement DCC has achieved to date:

Energy Efficiency Improvements from DCC	
Energy efficiency improvement in 2008 vs 2021	> 40.90%

Table A3.1- DCC's Energy Efficiency Improvements (Source: Codema)

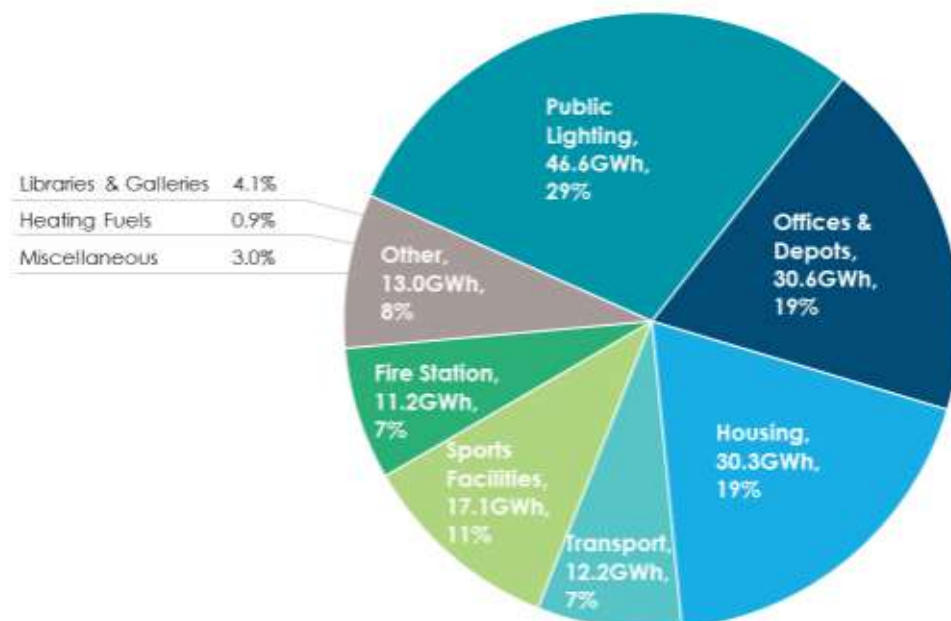


Figure A3.1 - DCC Significant Energy Users TPER in 2021 (Primary Energy) (Source: Codema)

<sup>6</sup> Primary energy is 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.

## DCC's Emissions - Current Status

Among the Council's total emissions of 30,427 tonnes of Carbon Dioxide (tCO<sub>2</sub>) in 2021, buildings and facilities were the highest contributors, accounting for 59.4% of total emissions. This was followed by public

lighting and the municipal fleet, each contributing 28.1% and 9.1% to the Council's emissions, respectively.

Largest Emitters	Public Lighting	Buildings and Facilities	Municipal Fleet	Other
Proportion of the emissions by energy source	28.1%	59.4%	9.1%	3.4%

Table A3.2 - Main sources of emissions in DCC in 2021 (Source: Codema)

In 2021, 54% of the Council's emissions came from electricity; this was mainly due to the large amount of electricity used in public lighting (half of total electricity consumption) and in the Council's buildings and facilities. The use of natural gas was the second

highest contributor of emissions at 35%. Most of this gas was used for space heating in Council buildings and facilities. The use of diesel, which made up most of the energy used for the vehicle fleet, contributed 8.9% to the total emissions.

	Electricity	Natural Gas	Diesel	Other
Proportion of the emissions by energy source	54%	35%	8.9%	2.1%

Table A3.3 - Proportion of emissions for each energy source in DCC 2021 (Source: Codema)

## Gap to Target

The gap-to-target model (GTT model) is a spreadsheet model for use by public bodies to evaluate their energy efficiency performance and energy-related GHG 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 DCC to meet its 2030 targets. The 2022 gap-to-target for thermal and transport emissions is estimated at 48%. This means in order to meet its 51% reduction target in thermal (heating and transport) related GHG

emissions, between 2022 and 2030, DCC must reduce its non-electricity related emissions by a further 48% compared to the 2018 baseline.

Overall GHG emissions have reduced by 21% since the 2018 baseline, this is mainly due to reduction from electricity sources. Non-electricity related emissions have reduced by 3% since the baseline was established.

As seen in Figure A3.2 below, based on successful completion of the decarbonisation projects identified in DCC's project pipeline, significant progress is possible.

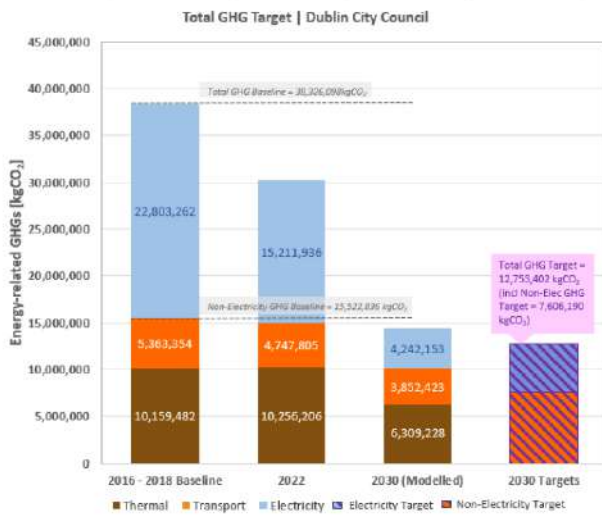


Figure A3.2 - Gap-to-Target Tool, Total DCC Emissions Targets for 2030 and Current Emissions (Source: Codema)

## Total Emissions of Dublin City Council Administrative Area

7

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 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>.

The overall emissions for the Dublin City Council 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 the BEI for the DCC Administrative Area for 2018. Total emissions are estimated to be 2,183,270 tonnes of Carbon Dioxide equivalent (tCO<sub>2</sub>e).

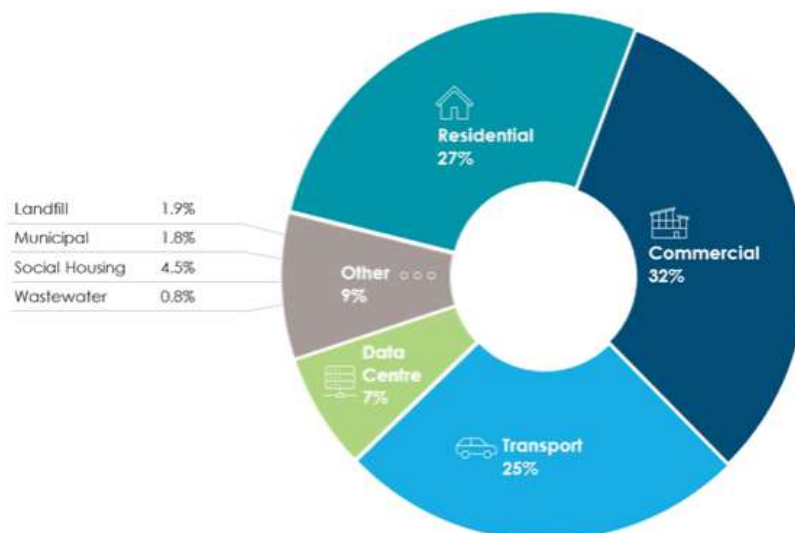


Figure A3.3 - Total GHG Emissions for Dublin City per Sector (Source: Codema)

<sup>7</sup> Annual Dublin City Council emissions were estimated to be 38,326 tCO<sub>2</sub> for the 2018 GHG emissions baseline from the SEAI M&R system.

<sup>8</sup> Annual Dublin City Council emissions were estimated to be 38,326 tCO<sub>2</sub> for the 2018 GHG emissions baseline from the SEAI M&R system.

<sup>9</sup> '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.



# Dublin City Council's Social Housing

Dublin City Council is responsible for the allocation, maintenance, and refurbishment of its social housing stock, but not for the day-to-day energy use of its tenants. Nevertheless, the Council can proactively address these emissions by implementing energy efficiency enhancements. To gather the most up-to-date insights into DCC's social housing, the Council's social housing data and reports from 2022, along

with the Building Energy Rating (BER) Research Tool provided by the Sustainable Energy Authority of Ireland (SEAI), serve as the primary sources. The BER serves as a certification indicating the energy efficiency level of a property, with an 'A1' rating signifying the highest energy efficiency and a 'G' rating representing the lowest level of efficiency.

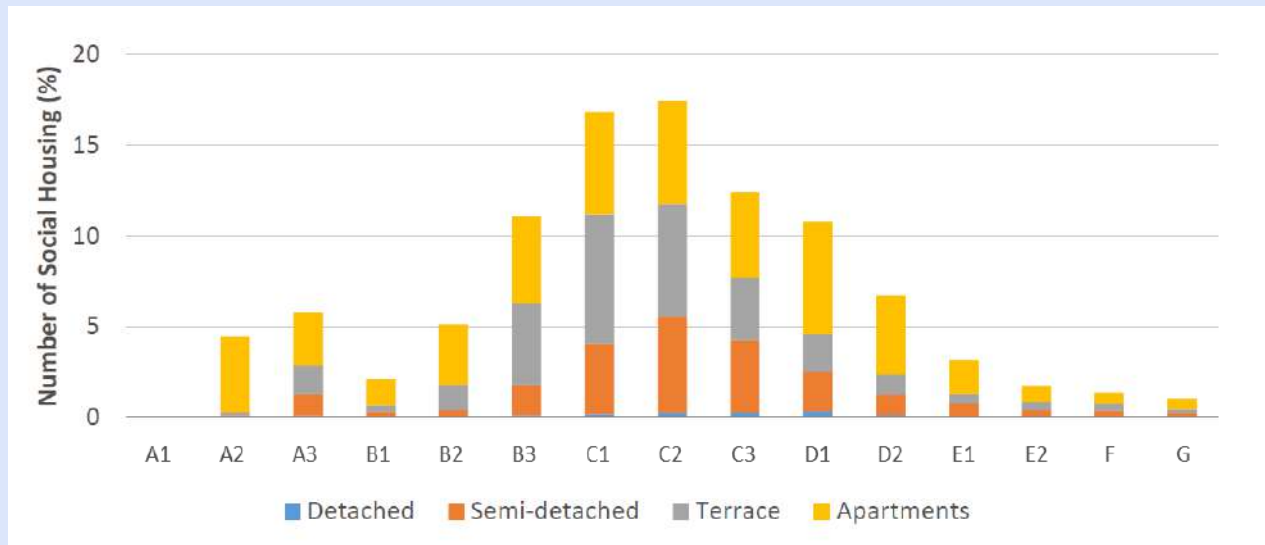


Figure A3.4: Distribution of BER by Dwelling Type for Total Housing Stock (Source: Codema)

The Distribution of BER by Dwelling Type for Total Housing Stock shows the breakdown of properties across different energy efficiency categories for four types of dwellings: Detached, Semi-Detached, Terraced, and Apartments.

The data reveals a positive trend in the energy efficiency of buildings in Dublin City. From 2009 to

2022, there has been a significant decrease in lower-rated BERs, with a reduction of 72.1% for ratings D1, D2, E1, E2, F, and G. Additionally, there has been a significant increase in higher-rated BERs, specifically A1, A2, A3, B1, and B2 categories. Moderate efficiency ratings (C1, C2, and C3) remain dominant, representing 47.8% of buildings in 2022.

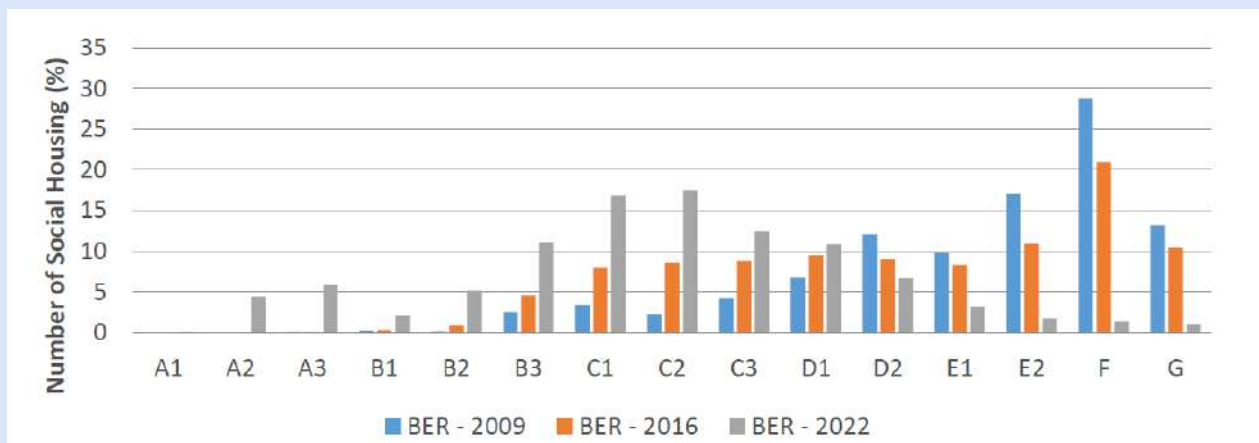


Figure A3.5: Building Energy Ratings for all the Dublin City Social Housing Stock in 2009, 2016 and 2022 (Source: Codema)

# Adapting to Climate Change

Making Dublin resilient to climate change is a target of the CAP, this calls for adapting the city and residents for a future where we live with the impacts of climate change, such as flooding, extreme temperatures, and extreme weather events, that are locked in and are prepared for the unknown impacts.

Uncertainty adds to the challenge of implementing actions that contribute to the city's resilience. Despite this DCC has made progress in the implementation of actions that contribute to our overall resilience, particularly in the use of nature-based solutions to respond to flood risk in the city. However, we have not adequately responded to other known climate risks, such as heat.

Further, the long-term challenge is ensuring that the adaptation actions we implement are just. The implementation of city development plan is vital to making the city and residents resilient to climate change. The decisions we make about land-use and land-use change will determine our adaptive capacity. The location of housing, employment determines our vulnerability and exposure to climate risk.

We need to map our hazards, risks and vulnerability and use this to inform our decisions and investments. Critically this needs to be done regularly, as during the time that this plan has been written, Ireland has experienced the driest June on record, followed by the wettest July and Storm Betty. The last three months demonstrates that climate change is not only sudden events, but slower onset events with cascading and compounding impacts.

The Climate Change Risk Assessment that has been updated in the process of developing this plan, highlights that the frequency and intensity of events will increase in future, but that there are still unknowns.

## Key Results and Findings

As illustrated in the climate risk matrix on the right, projections indicate that the level of risk associated with some hazards (e.g., 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 flooding). Risks associated with some hazards are expected to decrease due to projected reductions in hazard frequency, such as cold spells and heavy snowfalls.

- Pluvial flooding poses a relatively high risk for Dublin City and occurs on frequent basis with a moderate impact associated with the inundation of assets and road infrastructure. The risks associated with pluvial flooding are projected to increase in the future as a result of projected increases in the frequency of hazard events and also due to an increase in the areas, assets and populations exposed to these hazards.

- River flooding and coastal flooding occurs less often, but with a greater overall impact on Dublin City primarily due to direct and substantial damage to assets and infrastructure, disruption of transport networks and mobilisation of pollutants with detrimental impacts on bathing water areas. The risks associated with existing hazards such as river and coastal flooding are projected to increase in the future.
- Severe windstorms are currently experienced on a very frequent basis across Dublin city and result in wide-ranging impacts, including damages to power and communication infrastructure and disruption to transport networks. Projections indicate no significant change to this frequency.
- Dublin City experienced both a heatwave and drought in 2018, while a heatwave was also recorded in 2022. The most notable and costly impacts relate to the management of facilities at key recreational areas, and increased use of mechanical cooling. Projected increases in the frequency of heatwaves and drought conditions will mean that events currently experienced on an infrequent basis will become more frequent.
- Recent experiences of cold spells and heavy snowfall events in 2018 (e.g. Storm Emma) and 2022, demonstrated the wide range of impacts for Dublin City. These included, amongst others, road closures, disruption to public transport, power outages, an increase in the frequency of trips and falls, and impacts on water resources. 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 Dublin City and has limited impacts such as damages to roads and transport disruption. Groundwater flooding is also thought to be unchanged in the future.

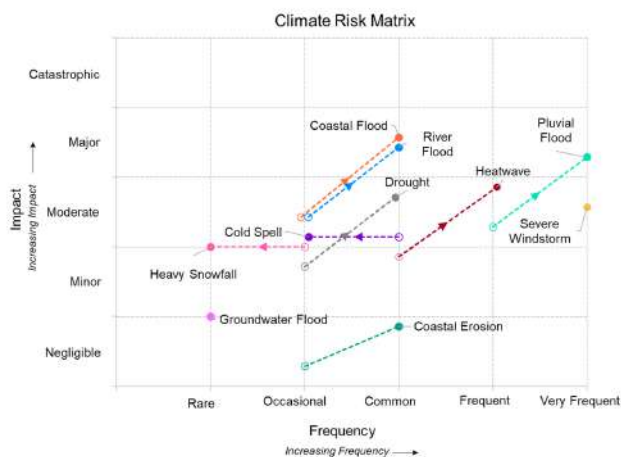


Figure A3.8 Current to Future Risk Matrix (Source KPMG)

### Limitations and Key Recommendations:

The CCRA report has been developed on the basis of the most-up-to-date climate projection data available for Ireland at the time of writing. This data focuses on changes in average climatic conditions for a high emissions scenario (RCP8.5). Where risks have been identified as part of this initial qualitative CCRA, further more detailed assessment should be undertaken as part of semi-quantitative and/or quantitative site specific CCRA's which employ the full range of projected changes in climate parameters (including extremes) and more up-to-date climate projection information where available.

The CCRA report focuses on the direct risks posed by climate change for Dublin City and the implications of these for Dublin City Council. It is important to note that climate change will also pose indirect risks for Dublin City as a result of changes in climate conditions at international and global scales. These include amongst others forced migration of populations, increase in vector-borne disease and disruption of supply chains.

### Highlights of Observed Climate Change for Ireland and Dublin City

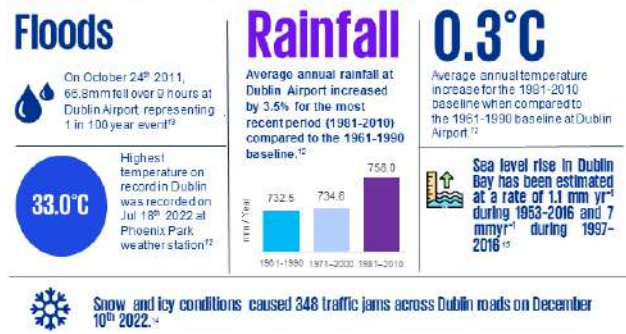


Figure A2.9 Highlights of Observed Climate Change Source: KPMG

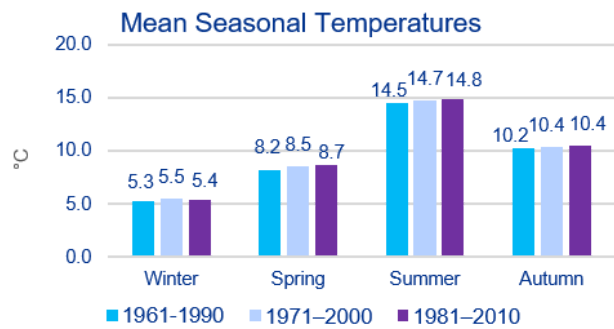


Figure A3.10 Mean Temperature Source: Met Eireann/KPMG

## Climate Hazard Profile

In addition to observed changes in Dublin City's climate, Dublin City has been impacted by a range of climate and weather-related events over the period 1982-2022\*. This baseline has been developed based on information contained within Dublin City Climate Action Plan published in 2019 and an expanded analysis covering the period 2018-2022. The hazard profile below provides an overview of the hazard events to have impacted Dublin City over the recent past.

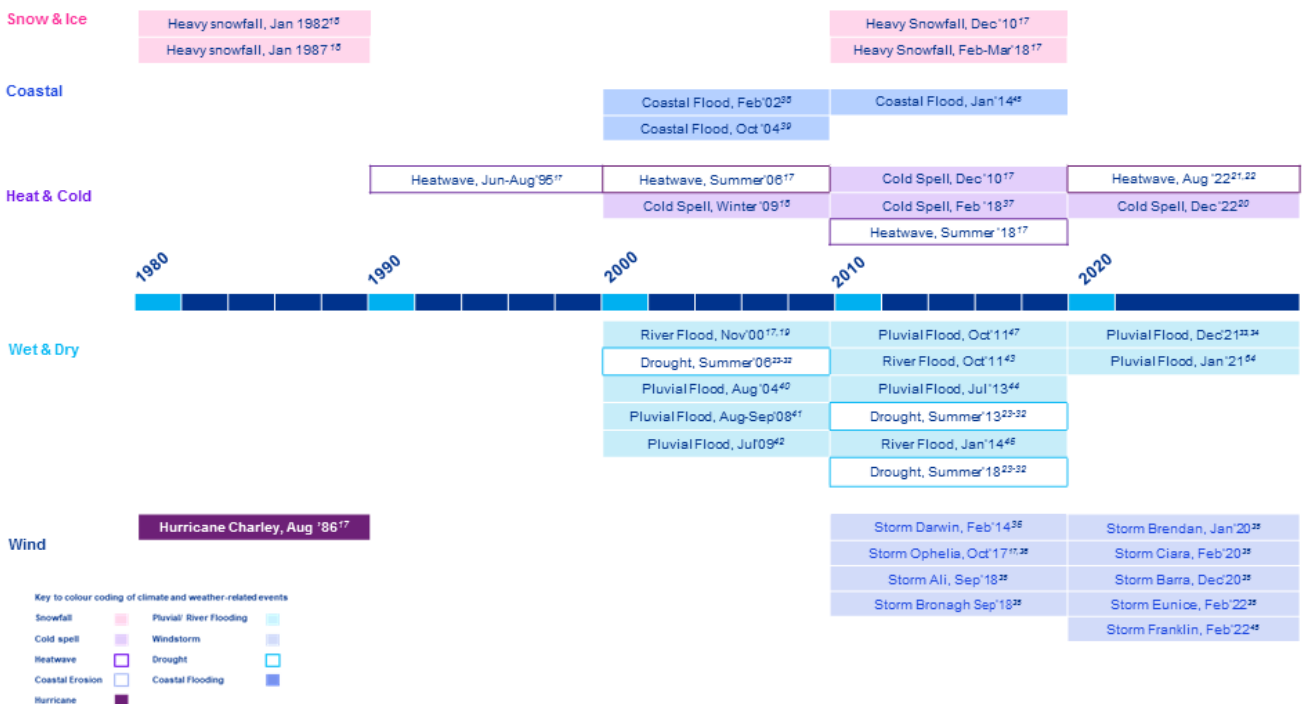


Figure A3.11 Climate Hazards Profile Source: KPMG



# Appendix 4

## Maps of Climate Risks

### Map: Urban Heat Island Risk

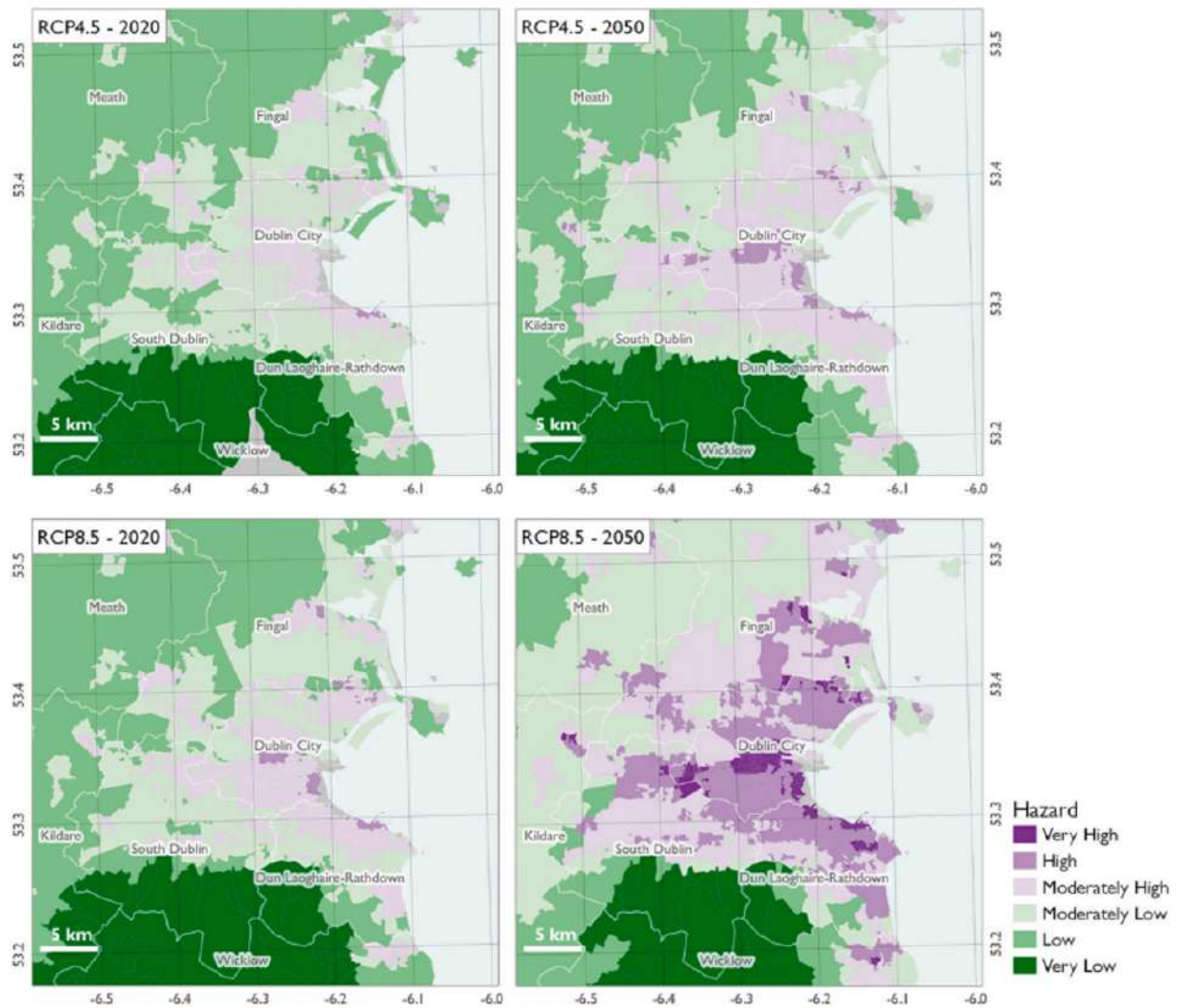


Figure A 4.1 Urban Heat Island Risks under RCP 4.5 and 8.5 for 2020 and 2050 in the month of July, with purple areas indicating higher Urban Heat Island Hazard than green areas. For the 2050s, enhanced levels of heat risk under the RCP 8.5 scenario are particularly visible in the core city centre and in the northern and western suburbs. Source: KPMG

## Map: Coastal Vulnerability Index

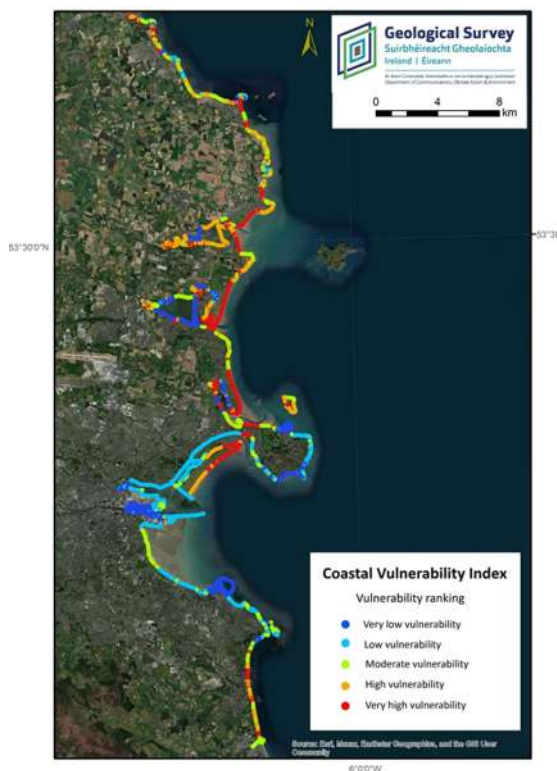


Figure A4.2 Coastal Vulnerability Index (CVI) map showing ranges of vulnerability from very low to very high in Co. Dublin Source: GSI/KPMG

## Map: Flood Extents

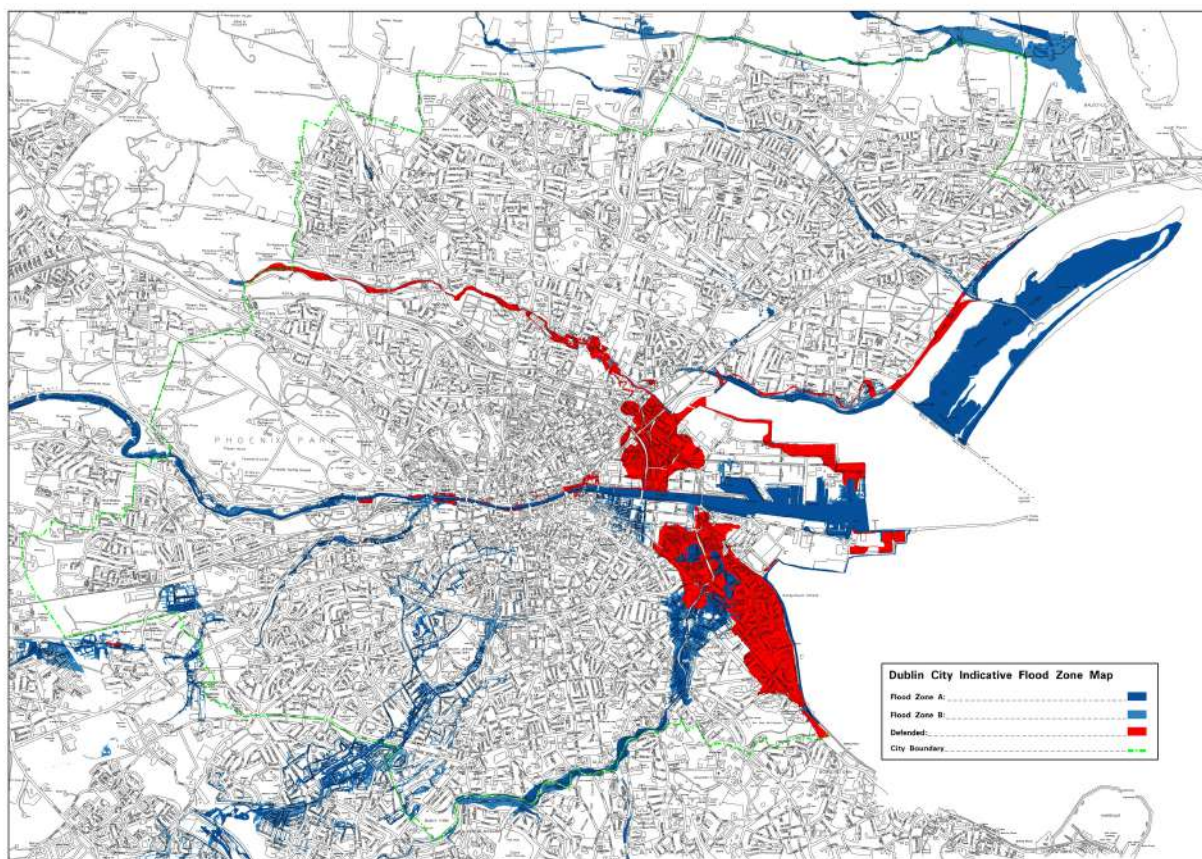


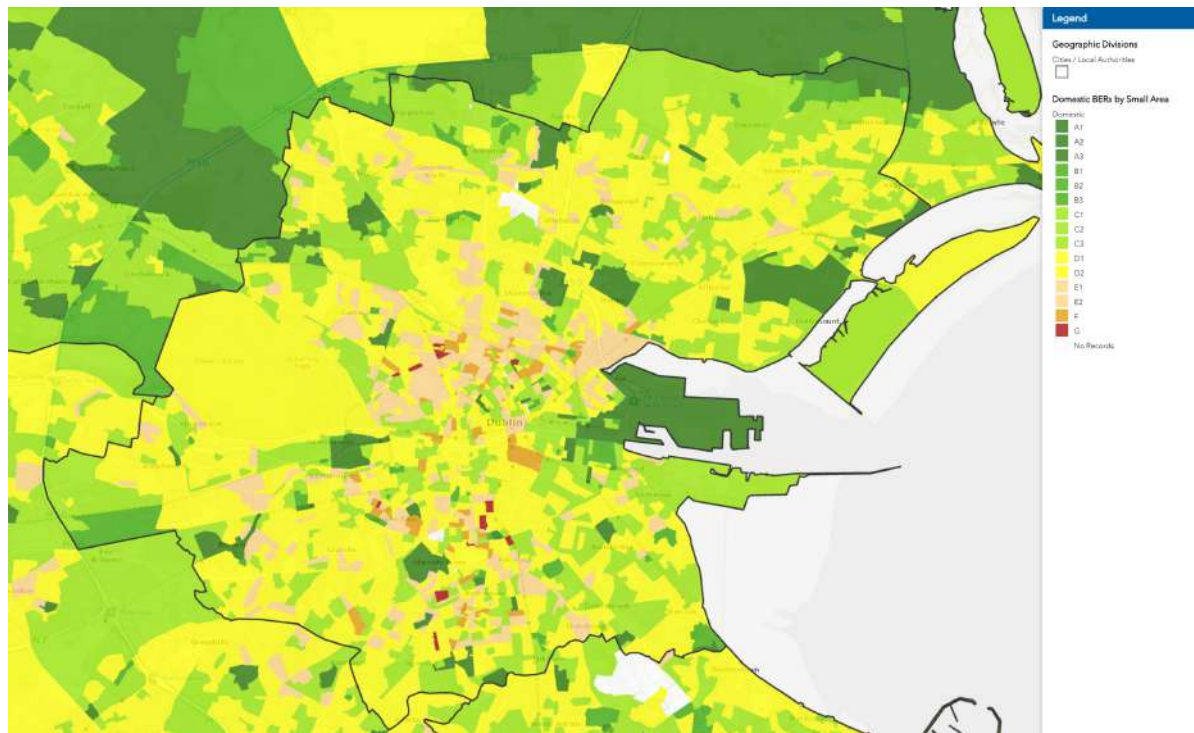
Figure A4.3 Dublin City Indicative Flood Zone Map - Flood Zone A , AEP 1% Fluvial (roughly 100 year flood) and 0.5% Tidal (roughly 200 year flood event). Flood Zone B AEP 0.1% (roughly 1,000 year flood event).



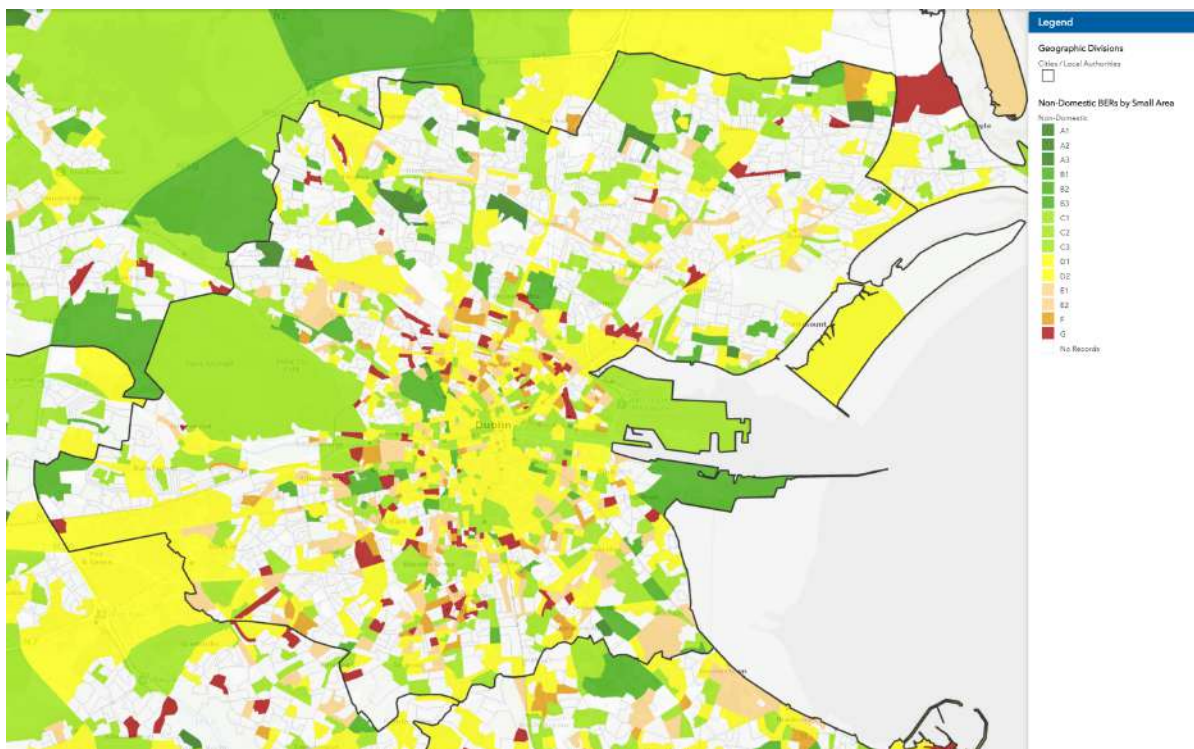
# Appendix 5

## Maps of Land Use

### Map: Domestic BERs



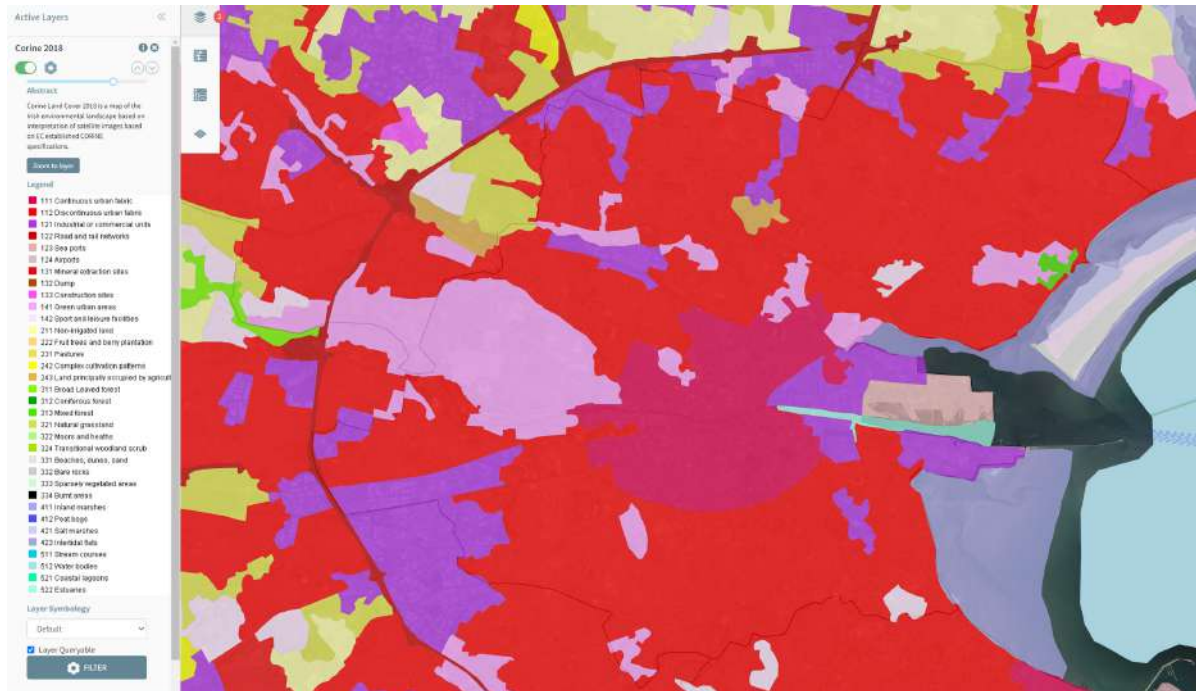
### Map: Non Domestic BERs



Source: SEAI GEO Hive:



## Map: Corrine Land Cover 2018



## Map: Rivers in Dublin



Source: EPA - <https://gis.epa.ie/EPAMaps/>

# Appendix 6

## Policy Context, Legislation & Research Updates

### Local

#### *Dublin City Development Plan 2022-2028*

The Dublin City Development Plan (2022-2028) is a plan which sets out how the city will develop to meet the needs of all residents, workers and visitors. The aim of the plan is to improve the quality of life for its citizens, and make sure that Dublin City is an attractive place to live, work and visit. The plan's policies and objectives:

- guide growth and development,
- provide a strategy to achieve proper planning, and
- show how we will achieve sustainable development, that is development that meets our needs now and won't comprise future generations meeting their needs.

In relation to climate action, Dublin City Development Plan 2022-2028 sets out key policies and objectives that:

- promote the ongoing development of key undeveloped urban sites within the city
- reduce urban sprawl to outlying counties.
- consolidate and regenerate key sites identified as SDRAs
- manage growth through the ongoing consolidation of existing urban lands and infill development
- target development of key regeneration sites and lands served by existing and planned public transport.

Specifically, our strategic approach to land use is based on the following principles:

- To ensure that land-use zoning across the city spatially facilitates the aims of the core strategy and the objective to develop a compact, connected, low carbon, and climatically resilient city.
- To ensure that land is appropriately zoned in order to accommodate the expected growth needs of Dublin City within the lifetime of the plan and to ensure the protection of community and social infrastructure, and critical ecosystems services, through the application of appropriate land-use zoning designations in order to provide adequate facilities and amenities to meet the growing needs of the city.
- To provide for balanced and sustainable development by promoting, in particular, a mixed-use pattern of development with a move away from more traditional forms of single mono-use zoning.
- To ensure that the most efficient use is being made of the city's land in line with the principles of the 15-minute city, and that the redevelopment of under-utilised and brownfield land is promoted in order to consolidate and add vitality to existing centres.
- To promote the intensification of development adjacent and close to public transport nodes and corridors in order to minimise trip generation and distribution and to promote sustainable compact urban form.
- To ensure that the city's zoned enterprise and employment lands are integrated with key supporting infrastructure to provide for more intensive forms of employment.

#### *DCC Corporate Plan*

Dublin City's Corporate Plan puts forward our vision and mission for both the City, and Dublin City Council, as an organisation and the principles by which we will be guided in all elements of our work on climate action. Our vision and mission in the Corporate Plan for 2020-2024 are:

**Our Vision:** A dynamic, sustainable city, that is future-ready, built on thriving, inclusive neighbourhoods and communities, a strong economy, a vibrant cultural life, and compact, connected growth.

**Our Mission:** To drive the sustainable development of the City through strong civic leadership and delivery of effective services that promote the well-being and quality-of-life of citizens and communities.

#### *Local Economic and Community plan 2024-2029*

The LECP 2024 - 2029, for adoption in 2024, will set out the City's strategic goals for the City's local economy and community development, alongside yearly action-led implementation action plans. The focus of the LECP is on social and economic issues and goals that can be addressed by the City Council, local businesses, community and voluntary organisations and state bodies. The LECP is a key framework through which climate action interventions can be delivered.

### National

#### *CAP24*

Climate Action Plan 2024 was launched in December 2023 and is the third annual update to Ireland's Climate Action Plan 2019, and the first under the Climate Action and Low Carbon Development (Amendment) Act 2021. The plan will implement the carbon budgets and sectoral emission ceilings as well as setting a roadmap of action to halve our emissions by 2030 and reach net zero by 2050.

Accompanying the plan is the Annex of Actions, containing specific actions that are required to meet the targets set out in the plan.

#### *LA CAP Guidelines*

Under the Climate Action and Low Carbon Development (Amendment) Act 2021, each local authority is required to prepare a local authority climate action plan for its administrative area. The plans are to be consistent with the most recent climate action plan and national adaptation framework. A set of statutory guidelines assist in the development of the local authority climate action plans, ensuring a consistent approach across local authorities while allowing for tailoring where required. The plans are to address, and integrate, mitigation of greenhouse gases, climate change adaptation and strengthened alignment with national climate policy, delivering effective local climate action.

### *Ireland's Provisional Greenhouse Gas Emissions 1990 – 2022*

Ireland is legally obliged to report data on greenhouse gas inventories to the relevant European and international institutions. The EPA is responsible for compiling and reporting this data for the period of 1990 – 2022 to the European Commission and the United Nations Framework Convention on Climate Change.

Due to the National Climate Objective and the associated carbon budgets, climate action plan review and sectoral reporting, the EPA published the provisional inventory data in July 2023 to facilitate the required monitoring and reporting processes.

These figures were based on the interim energy balances provided by the SEAI and the latest data from other data providers. The data is compiled using methodologies in line with UNFCCC reporting guidelines and include emission data from sources within the EU's Emission Trading Scheme.

The 2022 provisional total national greenhouse gas emissions (excluding LULUCF2) are estimated to be 60.76 million tonnes carbon dioxide equivalent (Mt CO<sub>2</sub>eq), which is 1.9% lower than emission in 2021. Emissions are over 0.5% lower than pre-pandemic figures in 2019. Including LULUCF, provisional national total emissions for 2022 decreased by 1.8% to 68.07 Mt CO<sub>2</sub>eq.

The provisional national total emissions including LULUCF for 2022 and latest emission estimates for 2021 are 137.36 Mt CO<sub>2</sub>eq. This accounts for 46.6% of the first five year Carbon Budget of the 295 Mt CO<sub>2</sub>eq carbon budget for the period 2021–2025. This leaves 53.4% of the budget available, requiring a 12.4% average annual emission reduction from 2023–2025 to stay within budget.

### *CCAC Annual Report 2023*

In the Annual Review 2023 the Climate Change Advisory Council stated that, “at the current rate of policy implementation, Ireland will not meet the targets set in the first and second carbon budget periods unless urgent action is taken immediately and emissions begin to fall much more rapidly. Ireland’s first task is to reduce and ultimately prevent emissions of greenhouse gases. To support this there must be effective and consistent engagement with communities, ensuring there is a fair and equitable transition, while building and maintaining public support and action.”

The CCAC recommended the following:

- Government must address areas of uncertainty in how Ireland will reduce its emissions. The sectoral emissions ceiling for the Land Use, Land Use Change and Forestry sector must be set, and it must be clear by how much each sector must reduce its emissions.
- Government needs to identify and remove barriers to policy implementation by ensuring adequate funding and planning reform at scale and speed.
- Key actions need to be implemented now to prevent longer term damage and increased costs to society and the economy.

- Government must adopt new approaches to address emission reductions, creating investment and enhancing skills across the economy, particularly in areas such as retrofitting and renewable energy.
- The establishment of a Just Transition Commission is recommended to ensure that Ireland achieves its climate objectives in a way that is fair and equitable and protects vulnerable people and communities.
- The Government should support opportunities that reduce emissions and make Ireland better prepared for the impacts of climate change

### *National Waste Management Plan for a Circular Economy*

The National Waste Management Plan for a Circular Economy has been prepared by the Local Government Sector arising from its obligations under the Waste Management Act. The Plan sets out a framework for the management of waste for the period 2024 – 2030 and adopts the Ambition of 0% Waste Growth for every individual each year for the lifetime of the plan. The Plan sets out targets for the reduction of waste from households, businesses, and the construction sector and includes targets for improved compliance on the segregation of waste and the reuse and repair of materials.

Core Policy 2 of the Plan relates to Climate Action and supports the delivery of the measures and actions prescribed in the Climate Action Plan to contribute to achieving the national climate targets. Circularity is a key driver of the National Waste Management Plan and is a common denominator across all sixteen focus areas in the Plan with associated targeted policies and priority actions for implementation.

The National Waste Management Plan for a Circular Economy is where circularity meets climate action and where the benefits of improved practices on waste prevention and management will contribute to the achievement of Ireland’s climate targets over the coming years.

## **EU**

### *EU Revision of Energy Efficiency Directive*

In March 2023 the EU agreed to reform and strengthen the EU Energy Efficiency Directive. This is one of the proposals presented in the Fit for 55 and a step further in delivering the European Green Deal (the EU’s long-term growth strategy to make Europe climate-neutral by 2050) and the REPowerEU Plan (the EU strategy to stop dependency on Russian fossil fuel imports).

The revision to the Energy Efficiency Directive has given legal strength to the requirement for EU countries to take energy efficiency into account in policy, planning and major investment decisions both in the energy sector and beyond. It established an EU energy efficiency target of 11.7% for 2030, requiring EU Member States to collectively ensure an additional reduction of final and primary energy consumption. There is also greater responsibility placed on the public sector to increase energy efficiency; they must



take energy efficiency requirements into account for procurement of products, services and works in addition to a new annual energy consumption reduction target of 1.9%. The revised directive includes the first ever EU definition of energy poverty, putting a stronger focus on alleviating energy poverty and empowering consumers. Member States are required to implement energy efficiency improvement measures as a priority among people affected by energy poverty, vulnerable customers, low-income households, and where applicable, people living in social housing.

#### *Nature Restoration Law*

In July 2023 the EU passed the Nature Restoration Law. It is the first continent-wide and comprehensive law of its kind, covering wetlands, forests, grasslands, rivers, lakes, heath and scrub, rocky habitats, dunes, pollinating insects, forests, urban green spaces, agricultural ecosystems, marine ecosystems and river connectivity. Its objective is to restore ecosystems, habitats and species across the EU's land and sea areas. These actions will enable long-term and sustained recovery of biodiverse and resilient nature, contributing to achieving the EU's climate mitigation and adaptation objectives, as well as international commitments. EU countries are expected to submit National Restoration Plans to the Commission and monitor and report on progress.

#### *EU Green Deal*

The purpose of the EU Green Deal is to ensure at least 55% less net greenhouse gas emission by 2030 (compared to 1990 levels), no net emission of GHGs by 2050 and economic growth decoupled from resource use, all under the principles of a just transition. To achieve these goals, the EU Green Deal encompasses transformational change across sectors: transport, industry, energy systems, built environment, nature restoration and circular economy.

#### *EU Mission: Climate-Neutral and Smart Cities*

European cities can substantially contribute to the EU Green Deal target of reducing emissions by 55% by 2030. Cities take up 4% of the EU's land area and are home to 75% of EU citizens. Globally, cities consume 65% of the world's energy and account for more than 70% of CO<sub>2</sub> emissions. The aim of this EU mission is to deliver 100 climate-neutral and smart cities by 2030, acting as experimentation and innovation hubs to enable all European cities to follow suit by 2050. Using Climate City Contracts, portfolios of research and innovation projects and global knowledge exchanges, a network of national, local and regional authorities will support the cities transition to climate neutrality.

#### *EU Mission: Adaptation*

The EU Adaptation Mission supports the EU Green deal and contributes to putting the EU's Adaptation Strategy into practice. Its objective is to accompany 150 European regions and communities towards climate resilience by 2030. The mission will accomplish this by helping the regions and local authorities to better understand, prepare and manage climate risks. In addition to testing and deploying innovation solutions needed to build resilience.

## International

#### *IPCC AR6*

The Intergovernmental Panel on Climate Change published AR6 Synthesis Report, which is based on the content of the three Working Group Assessment Reports: WGI – The Physical Science Basis, WGII – Impacts, Adaptation and Vulnerability, WGIII – Mitigation of Climate Change, and the three Special Reports: Global Warming of 1.5°C, Climate Change and Land, The Ocean and Cryosphere in a Changing Climate.

A message from AR6 Synthesis Report is that the current pace and scale of climate action are insufficient to tackle climate change. Adverse impacts from human-caused change will intensify and extremes become more widespread and pronounced with every increment of warming. The challenge ahead is to cut emissions quickly and sharply, scale up practices and infrastructure to enhance resilience and do both along numerous dimensions.

The report highlights the path forward; tried and tested options are available now, they need to be designed for diverse contexts, scaled up and widely applied. Mainstreaming effective and equitable climate action now via integrated adaption and mitigation in ways to provide wider benefits will reduce losses and damages for both nature and people, as well as improving health and livelihoods, reducing poverty and hunger and resulting in clean energy, water and air.

“Our choices will reverberate for hundreds, even thousands of years.”

#### *Global Stocktake*

The Global Stocktake was established in the Paris Agreement as a process to assess the world's collective progress toward the goals of the Agreement. Each stocktake is a two-year process and occurs every five-years. The first stocktake began at the UN Climate Change Conference of the Parties in Glasgow (COP 26) in 2021 and will conclude at COP 28 in 2023.

The stocktake occurs in three phases. Phase 1 includes collecting and preparing information. This phase runs from November 2021 until June 2023, with phase 2, a technical assessment, started in June 2022 and will also conclude in June 2023. Phase 3 is a consideration of outputs, focusing on the implications of findings from phase 2, and will occur during COP 28 in November 2023.

The result of phase 3, and the purpose of the stocktake is to:

- identify opportunities and challenges in enhancing action and support in collective progress
- identify possible measures and good practices
- produce recommendations for strengthening action and enhancing support

These are to be referenced in a CMA decision and/or declaration.

# Appendix 7

## Sustainable Development Goals

### DUBLIN CITY CLIMATE ACTION PLAN AND THE SDGs



Graphics by Jerker Lokrantz/Azote based on concept by Johan Rockström and Pavan Sukhdev

Figure A7.1 'The illustration describes how economies and societies should be seen as embedded parts of the biosphere. This vision is a move away from the current sectorial approach where social, economic, and ecological development are seen as separate parts.' (<https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cake.html>)

#### Background to the SDGs

'The SDGs are a bold commitment to finish what we started, and tackle some of the more pressing challenges facing the world today. All 17 Goals interconnect, meaning success in one affects success for others. Dealing with the threat of climate change impacts how we manage our fragile natural resources, achieving gender equality or better health helps eradicate poverty, and fostering peace and inclusive societies will reduce inequalities and help economies prosper. In short, this is the greatest chance we have to improve life for future generations.' (United Nations Development Program, 2023)

Ireland had a key role in furthering 'Transforming our World', the 2030 agenda for sustainable development. The 17 SDGs were brought about by the joint facilitation of the Irish and Kenyan UN ambassadors, who consulted with UN member states, civil society, the private sector and more, to commit to ending poverty and inequality, and to tackling climate change. (Flanagan and Kirwan, 2020).

#### The SDGs and Local Authorities

'We recognize that sustainable urban development and management are crucial to the quality of life of our people. We will work with local authorities and communities to renew and plan our cities and human settlements so as to foster community cohesion and personal security and to stimulate innovation and employment. We will reduce the negative impacts of urban activities and of chemicals which are hazardous for human health and the environment,

including through the environmentally sound management and safe use of chemicals, the reduction and recycling of waste and the more efficient use of water and energy. And we will work to minimize the impact of cities on the global climate system.' (United Nations, 2015)

The role of Local Authorities is key to implementation of the goals and the Dublin City Council Climate Action Plan brings together the dimensions of biosphere, economy and society.

In creating a vision of an open, social, resilient and resource-full city, we have the ideal opportunity to create connection and build on the Sustainable Development Goals by creating interlinked systems in the furtherance of reducing carbon emissions, and creating a healthier and more sustainable Dublin.

There are 17 SDGs and 169 targets in total. They are all important and interrelated, and integrating the aims and broad ethos of the SDGs enables a more holistic and connected perspective on future planning. The SDGs can offer a roadmap to equality in terms of tackling climate change and creating a sustainable city. It is impossible to achieve progress on a singular SDG without reference to the other SDGs, hence there is a need to create synergies and to have a 'checks and balances' overview of plans and projects which ensures that inequalities are not created inadvertently. SDG 17, Partnerships for the Goals, emphasises these synergies and communications in working towards the goals.

## Climate Action Plan Foundations

### Foundation 1: A Resilient City

The Goals:

Goal 1: No Poverty

Goal 2: Zero Hunger

Goal 3: Good Health and Well-Being

Goal 6: Clean Water and Sanitation

Goal 13: Climate Action

A resilient city is one which aims to be safe, healthy and diverse in terms of people, services and public spaces. Creating sustainable food systems can offer a greater range of options for people. Cleaner air, which can be achieved by reducing traffic, will alleviate respiratory health issues. Mitigation of future climate hazards, by working in tandem with other stakeholders, ensures that all city dwellers have an equal level of safety. Housing retrofits mean that there are reduced energy costs for those who are most vulnerable, and access to basic services is an overarching goal throughout all of this.



### Foundation 2: A Resource-Full City

The Goals:

Goal 7: Affordable and Clean Energy

Goal 9: Industry, Innovation and Infrastructure

Goal 11: Sustainable Cities and Communities

Goal 12: Responsible Consumption and Production

Goal 14: Life below Water

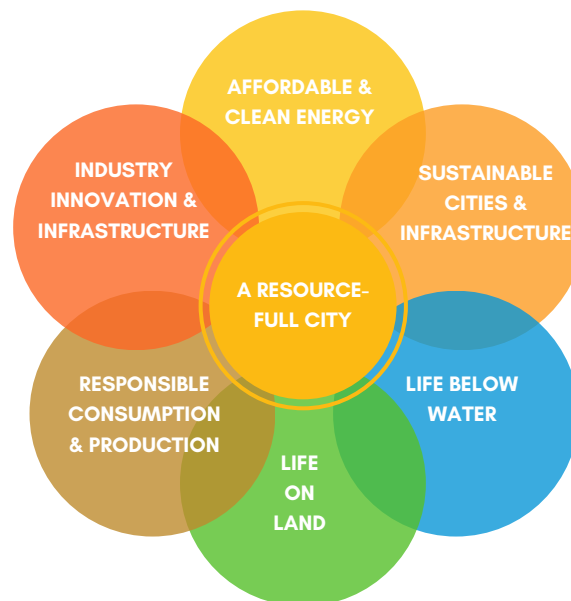
Goal 15: Life on Land

We are a city with many resources: natural, social cultural, economic and built. Protecting and developing these resources preserves our natural environment for future generations and allows us to advance technologies to mitigate against the effects of climate change.

Urban transport measures, urban planning initiatives and investment in improving energy efficiency in public buildings contribute to Goal 7. Business strategies and training (like Modos) can help businesses improve their practices.

Goal 11 is integral to the role of local government in achieving the goals, as it ties together many of the other strands.

Connected projects – Circular Economy, District heating, Smart Dublin, Parks projects and water (Suds, etc.)





### Foundation 3: A Creative City

The Goals:

Goal 4: Quality Education

Goal 8: Decent Work and Economic Growth

Goal 16: Peace, Justice and Strong Institutions

Goal 17: Partnership for the Goals

Connections with schools, green schools' programs, libraries and the arts can educate on climate change, as well as creating a space for public engagement generally. Partnerships with academic institutions offer the opportunity to learn and foster research which will benefit all citizens.

*'Local governments can generate growth and employment from the bottom up through local economic development strategies that harness the unique resources and opportunities in our territories.'* (United Cities and Local Governments, 2015)

The role of local government in creating a safe and vibrant city to live in can contribute to well-being and generate revenue from tourism, which supports businesses across a range of sectors.

### Foundation 4: A Social City

The Goals:

Goal 1: No Poverty

Goal 3: Good Health and Well-being

Goal 5: Gender Equality

Goal 10: Reduced Inequality

Goal 17: Partnerships to Achieve the Goals

Gender equality also connects to Goal 10: Reduced Inequality. As with this goal, leading by example is important and as outlined in United Cities and Local Governments, (2015):

*'Local governments can act as a model for gender equality and the empowerment of women through non-discriminatory service provision to citizens and fair employment practices.'*

Creating safe public spaces, adequate lighting and addressing safety issues are actions that are part of Goal 5, but which intertwine with other goals also.

In terms of Goal 10, Local Authorities have many capacities which can be utilised to reduce inequalities, some of which are: leading by example, creating accessible public spaces, ensuring that communications are accessible to all and consulting with marginalised groups on issues that affect them.

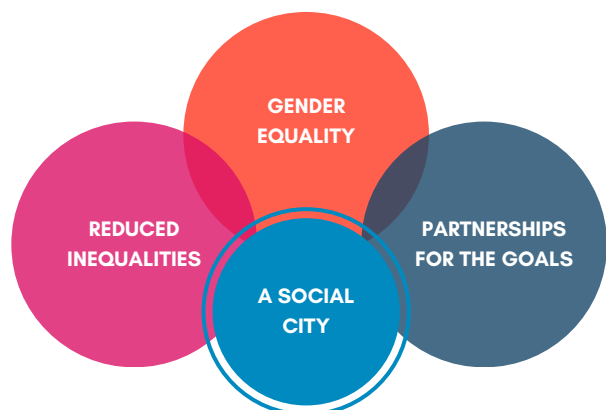
*'Despite the strong commitment expressed by the international community for inclusive and sustainable development, persons with disabilities continue to face significant challenges to their full participation in society.'*



*These include negative attitudes, stigma, discrimination and lack of accessibility in physical and virtual environments. Our shared duty is to tackle prejudice and misinformation and find new approaches and tools to work for and with persons with disabilities.'* (United Nations: Department of Economic and Social Affairs, 2018)

Partnerships and collaboration are at the core of Local Authority work and we are in a central position in relation to enabling continued and new partnerships and reaching out to communities and businesses. Present-day governing styles no longer reflect traditional, hierarchical, rule-based systems where the state assumes total responsibility for society. Contemporary systems are based on the interdependencies between state, market and civil society.' (Murphy, Walsh and Banerjee, 2021)

*'For example, partnerships should include multiple stakeholders from multiple sectors and a non-hierarchical or horizontal relationship forming a polycentric governance approach that works on a collaborative basis.'* (Murphy, Walsh and Banerjee, 2021)



<b>GOALS SCORING</b> The influence of one Sustainable Development Goal or target on another can be summarized with this simple scale.			
<b>Interaction</b>	<b>Name</b>	<b>Explanation</b>	<b>Example</b>
+3	Indivisible	Inextricably linked to the achievement of another goal.	Ending all forms of discrimination against women and girls is indivisible from ensuring women's full and effective participation and equal opportunities for leadership.
+2	Reinforcing	Aids the achievement of another goal.	Providing access to electricity reinforces waterpumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.
+1	Enabling	Creates conditions that further another goal.	Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.
0	Consistent	No significant positive or negative interactions.	Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.
-1	Constraining	Limits options on another goal.	Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.
-2	Counteracting	Clashes with another goal.	Boosting consumption for growth can counteract waste reduction and climate mitigation.
-3	Cancelling	Makes it impossible to reach another goal.	Fully ensuring public transparency and democratic accountability cannot be combined with national security goals. Full protection of natural reserves excludes public access for recreation.

(Source: Nilsson, Griggs and Visbeck, 2016)

Headline/ Crosscutting Indicator	SDG indicator
Improved health and well being of citizens evidenced by for example reductions in rates of non communicable diseases (COPD, Asthma).	SDG 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment.
Amount of renewable energy generation in the city	SDG Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix
51% reduction in emissions from energy use.	SDG Target 7.3: By 2030, double the global rate of improvement in energy efficiency.
Improved socio-economic status evidenced through employment, educational attainment, and volunteerism rates	SDG Target 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.
Increase in number of SMEs based in Dublin City	SDG Target 8.3
95% of people brought within 400 metres of a segment of the active travel network.	SDG Target 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
Modal shift that demonstrates measures have been inclusive and network is accessible to all ages and abilities.	SDG Target 11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries. SDG Target 11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities



# Appendix 8

## Climate Readiness Toolkit

DCC’s Climate Readiness Toolkit was developed with assistance from the HSE’s Dublin Public Health team. It is based on health impact assessment, this is intentional as climate change is the single biggest risk to public health.

It is also a tool for monitoring our progress, by bringing together the various climate vitals, indicators and targets into a format that permits an understanding of their interactions with and interconnectedness to each other.

The toolkit will assist us in considering to the potential social and environmental impacts that our project aimed at mitigating climate risk and adapting to climate impacts may or may not have on health and well-being.

### The Basics:

- 1 Title of the policy, project or programme
- 2 Description of policy, project or programme
- 3 Geographical area
- 4 Time period

### The Details:

#### 5 Population Affected (SDGs 1, 5, 10)

Which of the following sections of the population will be affected?

	Positive Effect	Negative Effect	No Effect	Number of People
Whole Population				
Sub Population				
Children (0-11)				
Adolescents (12-17)				
Gender:				
Female				
Male				
LGBTQI+				
Persons with a disability				
Economically disadvantaged				
Seniors (65+)				
Others				

Consideration(s):

- Just Transition – Are we actively engaging people? Have their ideas, concerns, questions etc. been considered?
- Are there direct and indirect impacts on the populations?
- Are the SDGs embedded?

Describe Impacts:

**6 Health Determinants**

**Physical Environmental Impacts (SDGs 3, 4, 6, 7, 11, 13, 14, 15)**

How will the project/policy impact physical environment?

	<b>Positive Effect</b>	<b>Negative Effect</b>	<b>No Effect</b>	<b>Number of People</b>
<i>Air Quality</i>				
<i>Water Quality</i>				
<i>Noise Pollution</i>				
<i>Temperature</i>				
<i>Land-use</i>				
<i>Access to Nature</i>				
<i>Built Environment</i>				
<i>Waste Generated</i>				
<i>Energy Use</i>				
<i>Biodiversity (Flora &amp; Fauna)</i>				

**Socio-Economic Impacts (SDGs 1, 2, 3, 4, 5, 8, 10)**

How will the project/policy impact socio-economic factors?

	<b>Positive Effect</b>	<b>Negative Effect</b>	<b>No Effect</b>	<b>Number of People</b>
<i>Crime (act and fear of)</i>				
<i>Education</i>				
<i>Employment</i>				
<i>Family Cohesion</i>				
<i>Housing</i>				
<i>Income</i>				
<i>Transport (access to PT, safety - walking &amp; Cycling, etc)</i>				
<i>Social Cohesion</i>				
<i>Recreation and Culture</i>				
<i>Other</i>				

Consideration(s):

- Health & Well-being - are we improving quality of life in the city?
- Equity - are the distributional impacts considered?
- Are the SDGs embedded?

Describe Impacts:



### Individual Life style Impacts (SDGs 1, 2, 3)

How will the project/policy impact lifestyle factors?

	Positive Effect	Negative Effect	No Effect	Number of People
<i>Diet (including access to food)</i>				
<i>Physical activity</i>				
<i>Substance use</i>				
<i>Other</i>				

### Consideration(s):

- Vulnerability - are we reducing risks?
- Are the SDGs embedded?

### Describe Impacts:

### Psychological Impacts (SDGs 3, 4, 5, 8, 10, 11)

How will the project/policy impact lifestyle factors?

	Positive Effect	Negative Effect	No Effect	Number of People
<i>Self-esteem</i>				
<i>Relationship building</i>				
<i>Communication skills</i>				
<i>Motivation</i>				
<i>Well-being</i>				
<i>Others</i>				

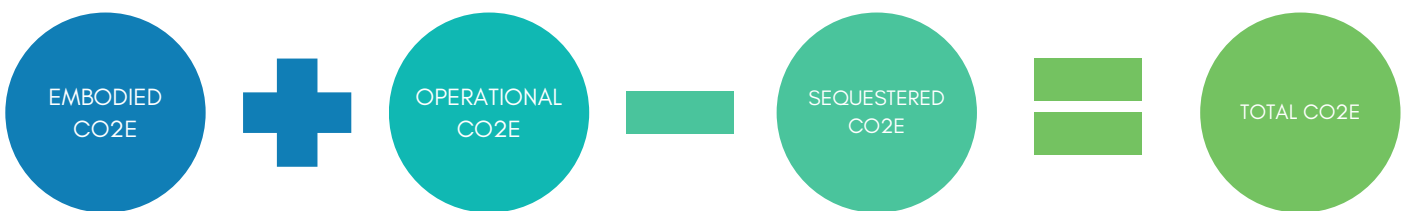
Consideration(s):

- Are the SDGs embedded?

Describe Impacts:

### 7 Climate Impacts (SDGs 7, 9, 11, 12, 13, 14, 15)

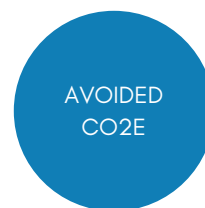
Greenhouse gas emissions of project in CO<sub>2</sub>e:



Embodied CO<sub>2</sub>e is all the CO<sub>2</sub>e emitted in producing materials. It's estimated from the energy used to extract and transport raw materials as well as emissions from manufacturing processes. The embodied carbon of a building can include all the emissions from the construction materials, the building process, all the fixtures and fittings inside as well as from deconstructing and disposing of it at the end of its lifetime.

Operational CO<sub>2</sub>e is all the CO<sub>2</sub>e emitted during the operational phase, i.e. energy use.

Sequestered CO<sub>2</sub>e is all the CO<sub>2</sub>e that is sequestered through natural processes.



Avoided CO<sub>2</sub>e is the CO<sub>2</sub>e that would have been produced (embodied and operational) had the status quo persisted for example kms travelled by car had pedestrianisation or cycling infrastructure not been put in place. For example, 100 km travelled by bike instead of car avoids 0.034 tCO<sub>2</sub>e.

Resources to help calculate/understand emissions:

- [Consumption Based Greenhouse Gas Emissions in Cities](#)
- [Carbon Calculator | Carbon Footprint | Climate Toolkit 4 Business \(climatetoolkit4business.gov.ie\)](#)
- [Taking deforestation and conversion out of supply chains | Pages | WWF \(worldwildlife.org\)](#)

**Project Price of Carbon**

$$\text{Project Price of Carbon} = \frac{\text{Total Project CO2e}}{\text{Total Project Cost (Capex + Opex)}}$$

**Project address:**

- Rising Temperatures
- Extreme Weather Events
- Flooding
- Sea Level Rise
- Coastal Erosion
- Urban Heat Island

Describe:

**Climate Resilience:**

Will this project reduce vulnerability of individuals, communities, and ecosystems to climate change and increase resilience?

Describe:

**8 Counterfactual**

What happens without this project?

- Status Quo - what is it?
- If this project doesn't happen are we better off or worse off?

Describe:



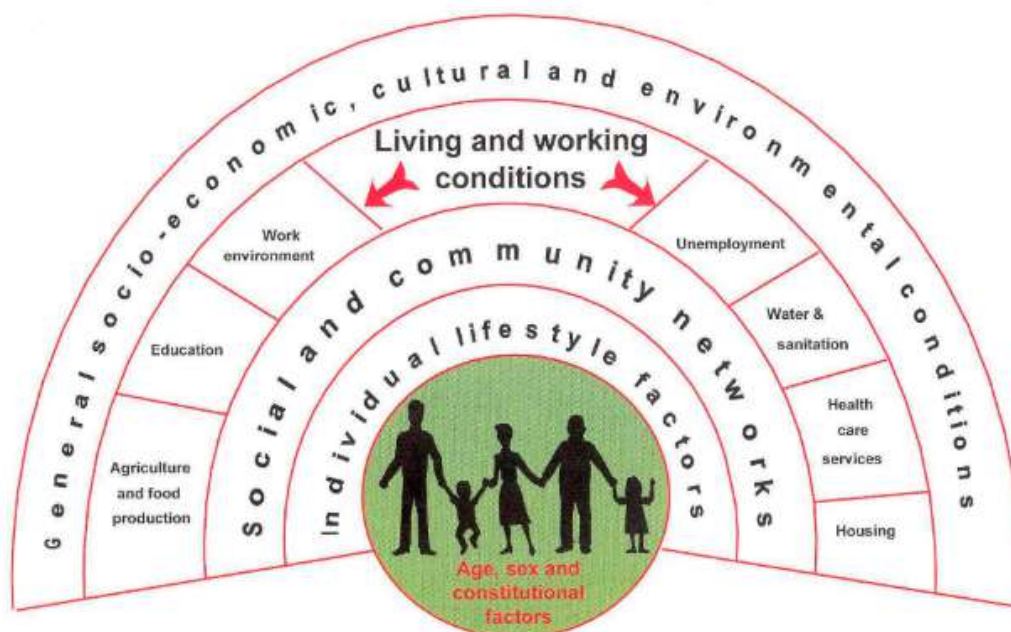
## 9 Co-creation (SDGs 16, 17)

Who are you working with on this project?

- Other DCC Departments?
- Other agencies?

Describe:

## 10 Model of Determinants of Health



Source: Dahlgren, G. and Whitehead, M., *Policies and strategies to promote social equity in health*. 1991. Stockholm, Institute for Future Studies.

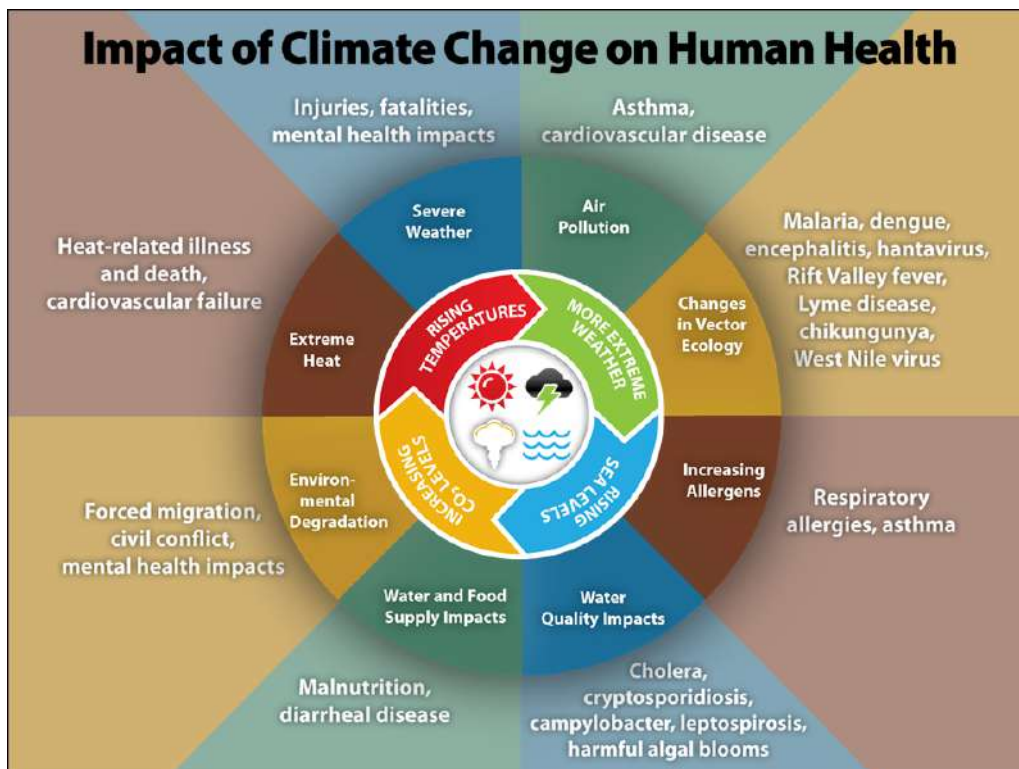
## 11 Sustainable Development Goals

# SUSTAINABLE DEVELOPMENT GOALS



Source: United Nations Sustainable Development Goals: <https://sdgs.un.org/goals>

## 12 Impacts of Climate Change on Human Health



Source: Centers for Disease Control and Prevention (CDC), 2016:  
<https://www.cdc.gov/climateandhealth/effects/default.htm>

# Appendix 9

## LACAP Methodology

### **Background and Context**

Dublin City Council's first Climate Change Action Plan 2019-2024 was approved on May 13, 2019 in accordance with the National Adaptation Framework - Planning for a Climate Resilient Ireland 2018 (NAF). The Plan was also completed in accordance with the requirements (at the time) of the Covenant of Mayors (COM) for Climate & Energy to which Dublin City Council (DCC) is a signatory. Applying the ICLEI Five Milestone Methodology to develop the plan, workshops with staff and one to one meetings were held to formulate the vision, mission, targets, and actions that comprised the plan.

The Plan set out 4 key targets and 219 actions that the Council is undertaking in the interconnected areas of energy & buildings, transport, flood resilience, nature based solutions and resource management.

While the plan is a living document it does not fully capture the changes in the City Council's organisational structure (European Office, Active Travel Unit) and new initiatives that contribute to a climate neutral Dublin (SoCircular, A Connected Circular Economy, Academy of the Near Future, Eat the Streets and Edible Dublin, Connecting Communities).

In January 2022, Dublin City Council submitted an expression of interest to become one of the cities the EU Mission for 100 Climate Neutral and Smart Cities. In April 2022 it was announced that Dublin City and Cork City were both successful. Notably Dublin City is one of 16 capital cities in the Mission.

The drive to be part of the Mission was the methodology to support cities in developing plans that would enable systems change, which is needed to aim for neutrality. The approach of the Mission is to meet cities where they are at, then through a 'transition roadmap': build a strong mandate, understand the system in which they operate, co-design actions, take action, learn and reflect, and normalise, all in an iterative process that is not linear. Climate Neutral Dublin 2030 has been designed applying this approach. We first began by reflecting on our first plan.

### **Issues with Current Plan**

#### *Mitigation of Emissions*

At present we monitor the emissions stemming from our operations and service delivery on a yearly basis and this is reported in our CCAP Annual Reports; based on analysis undertaken by Codema and reported to SEAI's public sector monitoring and reporting system. Our emissions were decreasing and this was attributable to the increasing volume of renewables on the national grid. Citywide emissions are included in the National Inventory and reductions are not in line with targets.

Further, the latest EPA projections show that Ireland as a whole is off target.

Further DCC has signed the voluntary EU Covenant of Mayors for Climate and Energy. This commits us to supporting the implementation of the EU 55% greenhouse-gas reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. However, our actions on mitigation need to cover citywide emissions to align with the CoM. This needs to be addressed in our new plan.

#### *Adapting to Climate Change*

Making Dublin resilient to climate change is a target of CCAP, this calls for adapting the city and residents for a future where we live with the impacts of climate change, such as flooding, extreme temperatures, and extreme weather events, that are locked in and are prepared for the unknown impacts.

Uncertainty adds to the challenge of implementing actions that contribute to the city's resilience. Despite this DCC has made progress in the implementation of actions that contribute to our overall resilience, particularly in the use of nature-based solutions to respond to flood risk in the city. However, we have not adequately responded to other known climate risks, such as heat.

Further, the long-term challenge is ensuring that the adaptation actions we implement are just. The implementation of city development plan is vital to making the city and residents resilient to climate change. The decisions we make about land-use and land-use change will determine our adaptive capacity. The location of housing, employment determines our vulnerability and exposure to climate risk.

We need to map our hazards, risks and vulnerability and use this to inform our decisions and investments.

#### *Theory to Practice: Collaborative Systems Change*

The process for developing the CCAP was collaborative, though it focused on fostering internal collaboration. That was intentional, as was focusing on what Irish Local authorities are responsible for. The plans were criticized for not being ambitious but- you can't have systems change without an understanding of the current system.

We will need to take internal collaboration further and develop a deeper understanding of the barriers to our leadership in climate action, and identify the changes needed to enable ownership across the organisation. We will need to realise our vision and mission by actively engaging the residents of the city to achieve systems changes that improves quality of life for all. were planned to discuss and deliberate.

## **The Approach**

Following our review and reflection on the existing plan (its development and implementation) as well as initial discussions with key internal stakeholders it was identified that the current plan needed to be consolidated and needed to embed more deeply a collaborative approach to achieve the systems innovation demanded by the Mission. The foundations were developed based on this recognition, and are hoped to promote interdisciplinary collaboration, as the five themes allowed for silo'd working to persist.

To verify this, a staff survey was developed. The survey sought to understand perceptions of individual's and the Council's role in addressing climate change in the context of the Mission.

Staff were requested to complete a survey asking the following questions:

1. Based on your current understanding, what is the main objective of the EU Mission for 100 Climate Neutral and Smart Cities?
  2. How do you see your role contributing to the EU Mission?
  3. In your role, do you find that you have the resources (staff, support and finance) to implement climate action? Scale of 1 to 5
  4. How do you see your role contributing to Dublin City's obligations under the Amended Low Carbon Development and Climate Act 2021?
  5. Dublin being part of the EU Climate Neutral and Smart Cities is to you (choose max 3 options)
    - a. an opportunity to accelerate the green transition
    - b. an opportunity to embed climate action in our operations and service delivery
    - c. an opportunity to collaborate across the organisation
    - d. another project to undertake that adds to your work load
    - e. a challenge because we have limited powers
    - f. a challenge because we lack leadership
    - g. a question mark: you are undecided and need to learn more
1. What do you see as the opportunities for Dublin City in the Mission?
  2. What are the barriers facing Dublin City in the Mission?
  3. Do you have ideas on how would these barriers could be addressed?

Actions as with the first plan needed to be developed through workshops and one to one discussions with teams and individuals with current responsibility. The workshops were also an opportunity promote collaboration, insure the interdisciplinary nature of the actions and that actions have multiple co-benefits. A series of workshops with staff were planned to discuss and deliberate.

1. CPD talk on the Climate Action Plan (in person/on line)
2. Vision of Dublin 2030 (in person)
3. Foundations and Connecting Actions Review (in person)
4. Review of what is happening (online)
5. Stakeholder mapping (online)
6. Review on indicators (online)
7. Story Slam – Communication (in person)
8. Review of all actions (online)

Reaching neutrality by 2030 through the Mission will be a challenge but not impossible. The process will be iterative as the Climate Action Plan is a living document that will responds to science and changes in policy and legislation. We recognise, that its implementation will require ongoing engagement with staff through workshops, and external stakeholders to address capacity gaps.



# Appendix 10

## Environmental Governance

The intention of the draft Climate Action Plan 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 draft Climate Action Plan to facilitate co-benefits for climate and other environmental factors.

In order to be realised, projects included in or supported by the draft Climate Action Plan 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.

An integrated approach identifying sustainable land use practices, improved water management, and ecosystem preservation, the plan seeks to mitigate climate change's impact on water resources, safeguarding both the environment and public health. This integrated approach demonstrates Ireland's commitment to achieving climate goals while concurrently promoting a healthier and more resilient natural environment.

As well as the climate focused measures detailed throughout the plan 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 works (see below).

Table A10.1 Environmental governance principles to be integrated into all actions/activities which result due to the implementation of the Climate Action Plan

EG1	Promote climate action projects 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.
EG2	Support or facilitate climate action related projects and initiatives 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 GHG sequestration associated with land use functions.
EG3	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 climate action related development project that is likely to have a significant negative effects on the receiving environment shall be supported.
EG4	Flood and coastal defense 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.
EG5	Ensure climate action related projects are carried out in a manner that promotes climate action cultural heritage co-benefits, and do not result in unauthorized physical damage to cultural, archaeological or architectural features, or unauthorized or inappropriate alteration of the context of sensitive cultural heritage features.
EG6	Ensure climate action related projects are carried out in a manner that promotes climate action water quality co-benefits, and align with the provisions of the Water Framework Directive and relevant River Basin Management Plan.
EG7	Promote climate action projects that support protected trees, hedgerows and other habitats such as wetlands, floodzones which contribute to green infrastructure.
EG8	Support opportunities to improve ecological connectivity of non-designated habitats and sites to improve overall ecosystem resilience and functioning while supporting climate action within the county.

# Appendix 11

## Challenge Led Approach

### **Context**

Dublin City Council (DCC) is one of the 112 cities that are part of the EU Mission 100 Climate Neutral and Smart Cities. As part of the mission, cities develop a Climate Action Plan (CAP) and an Investment Plan to guide the city towards carbon neutrality by 2030. The Climate Action Office and Advisory Board leading the development of the city's CAP recognise that the plan is to be an opportunity to develop a shared vision of what a sustainable Dublin can look like by 2030, and to bring on-board different departments and staff to contribute to making such a vision a reality. DCC is collaborating with the OECD who will contribute to enable and build the capacity of DCC to embrace a challenge-led and systemic approach to the Plan's implementation.

In recent years, it has become clear that "change-as-usual" is not enough to address whole society problems such as climate change. Implementing change that improves efficiency but continues to allow us to work in siloes, will not enable us to meet our targets and realise the co-benefits of climate action that will improve people's health and well-being.

We know that whole society behaviour change towards more sustainable lifestyles is needed. To spark (and to nurture) change, systems need to be designed so that the sustainable choice is the most convenient. So that we make Dublin into a resilient, resourceful, social and creative city for all.

Across several countries, the implementation stage of Climate Action Plans raises a number of issues. There is often a mismatch between the nature of the actions that need to be implemented - that requires multidisciplinary collaboration, the buy-in and engagement of multiple stakeholders inside and beyond the administration that is leading the Plan - and the siloed way in which most administrations work. A siloed way of working was identified as a barrier to the implementation of the last CAP in Dublin, and this project is about exploring ways in which work could be organized otherwise, to foster the type of collaboration that is needed for the CAP implementation, and for solving complex problems more broadly. Building on international experience, we are exploring the potential for a challenge-led (or mission-oriented innovation) approach, in which challenges are defined with goals that interest different actors, but that each of the actors alone cannot solve. A governance structure supports the coordination of actors for the achievement of the challenges defined.

### **What is a challenge-led approach?**

A challenge-led approach is a way of working that is focused on the enabling conditions necessary for cross-sectoral collaboration to address complex societal issues

which individual actors are unable to solve on their own. The approach involves defining a shared challenge and establishing processes for creating the enabling conditions necessary for the challenge goal(s) to be achieved. In the context of Climate Neutral Dublin 2030, the challenges are concrete steps to advance the vision in the plan. Creating the enabling conditions for challenge achievement involves bringing actors together, mobilising resources, defining sub-targets and monitoring frameworks and, when needed, creating governance structures that are responsible and accountable for the challenge.

A challenge-led approach can be compared to that of an orchestra preparing for a performance. The challenge is the piece that will be performed by the orchestra. The notes and cords are the actions that are taken to achieve the challenge, learning the notes and practicing is the iterative process of implementing the actions and identifying who plays when, and how. The musicians as the implementers of the actions, need the leadership, support and guidance of the orchestra conductor to achieve the challenge - playing the notes and chords to deliver the performance for the audience.

Performing a piece requires the conductor and musicians of the orchestra working in harmony. Without guidance provided by the conductor, the musicians do not know when and how to make their contribution, conversely without experienced musicians the conductor has no piece to perform. Both are necessary to achieve the challenge, and need to agree to the nature of the performance, and how to achieve it challenge. Neither of them can play a song without agreeing on which song to play before-hand (note that even if improvisation is an exception to this, the actors/musicians will still follow common previously-agreed rules/principles to play a song).

### **How a challenge led approach will work?**

The first step in the process focuses on the challenge definition and the creation of a Core Team. This is a participatory process with selected stakeholders including: i) the identification of key stakeholders for the challenge definition via tools such as actors' mapping; ii) the definition of the challenge scope striking a balance between ambition and feasibility; and iii) the mobilisation of resources for establishing a Core Team to run the challenge. The challenge Core Team is the "orchestra conductor", responsible for the day-to-day logistics, coordination and strategy to ensure the challenge achievement.

In the second step, key stakeholders gather to reflect on the challenge and form ad-hoc Task Forces responsible for advancing the testing of actions and their scale up at a later stage. Workshops with citizens impacted by the

challenge will also be organised at this stage. The analysis carried out in this step, and the workshops organised, will be guided by the OECD process Systems Innovation for Net Zero and will involve workshops to:

- envision Dublin once the challenge has been achieved,
- understand why the challenge is still one (using tools such as systems dynamics), and
- identify transformative actions to redesign systems, and reflect on strategies (e.g. barriers and opportunities), governance and monitoring mechanisms to enable the conditions for testing and, later on, implementing those actions at scale, so that the challenge can be achieved.

The OECD process builds on a key insight from systems thinking, namely that the outcomes we observe, some of which we may wish to change (e.g. unsustainable levels of emissions, air pollution, increased obesity), are the result of systems structured in a certain way. Thus, to significantly change those outcomes, systems need to be redesigned. Each of the steps described above uses systems thinking tools to support the identification of transformative policies able to redesign the system structures at the roots of challenges. The foundations of the Vision in this Plan will also serve as a compass to identify the actions with the

most potential to accelerate the transition towards a resilient, resourceful, social and creative Dublin.

The third step moves into the experimentation phase. The strategies, governance and monitoring mechanisms – initially discussed in the previous step – are refined and expanded, and the actions identified in step 2 are tested via prototypes. The results of these prototypes are monitored throughout the process to allow for iterations and improvements.

The “last” step involves the scaling up of the actions that were the most successful in the prototype phase. “Last” is among quotation marks as this is an iterative, rather than a linear, process. Ensuring learning and adaptation throughout the process is a key role of the Core Team, and governance and monitoring frameworks will be designed with this function in mind.

Throughout the process, the challenge Core Team is responsible for building an ecosystem of actors with agency to enable the conditions for the challenge to be achieved. This involves coordination, facilitation, and communication functions.

## VISION

### A Resilient, Resource-Full, Creative and Social Dublin

#### CHALLENGE-LED APPROACH

(to concretely advance towards the vision)

Each stage is co-designed with actors in the system, from the public and private sectors, the civil society, and academia.



# GLOSSARY OF TERMS

Term	Definition
Active Travel	Modes of transportation that are alternatives to motorised transport and promote physical activity, such as walking and cycling.
Adaptation	Adaptation refers to dealing with the expected impacts of climate change and involves taking practical actions to manage risks, protect communities and strengthen the resilience of the economy.
Anthropogenic Greenhouse Gas Emissions	Emissions of greenhouse gases, greenhouse gas precursors, and aerosols associated with human activities.
Biodiversity	The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part, and includes diversity within species, between species and of ecosystems.
Budget Period	A period of five years for which a carbon budget will be approved by the Government, the first of which commenced on 1 January 2021 and will end on 31 December 2025. The subsequent budget periods are 2026–2030, and 2031–2035.
Carbon Budget	The total amount of greenhouse gas emissions that are permitted during the budget period.
Carbon Sinks	A natural or artificial reservoir that soaks up and stores greenhouse gases. For example: Wetlands or Oceans. This removes GHG from the air and keeps the Earth’s temperature from increasing.
Circular Economy	An economy that promotes efficient and low-carbon approaches. Its goal is to reduce waste production and encourage the reuse of products and materials.
Climate Action Plan (National)	The Climate Action Plan 2023 (CAP23) is the second annual update to Ireland’s Climate Action Plan 2019. This plan is the first to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings. The Plan sets out how Ireland can accelerate the actions that are required to respond to the climate crisis, putting climate solutions at the centre of Ireland’s social and economic development.



Climate Justice	This links development and human rights to achieve a human-centred approach to addressing climate change, safeguarding the rights of the most vulnerable people and sharing the burdens and benefits of climate change and its impacts fairly.
Climate Neutral Economy	A sustainable economy and society where greenhouse gas emissions are balanced or exceeded by the removal of greenhouse gases.
Climate Resilience	Ability to tackle the negative impacts of climate change by reducing its effect on people and the environment, while taking advantage of any positive opportunities.
Decarbonisation	Shifting from fossil-fuels to 'carbon-free' and 'renewable' energy sources.
Decarbonising Zone (DZ)	A DZ is a spatial area identified by the local authority in which a range of climate mitigation, adaptation and biodiversity measures and action owners are identified to address local low carbon energy, greenhouse gas emissions, and climate needs to contribute to national climate action targets.
District Heating	Delivery of centrally produced heat to buildings in a specific area.
Energy Efficiency	Reducing the quantity of energy used in products and services.
Just Transition	A process within the wider statutory framework of climate action, which endeavours to maximise employment opportunities, and support persons and communities that may be negatively affected by the transition to a climate neutral economy.
Local Authority Climate Action Plan	A plan relating to a period of five years which shall specify the mitigation measures and the adaptation measures to be adopted by the local authority.
Maladaptation	Actions that may lead to increased risk of adverse climate-related outcomes, including via increased GHG emissions, increased vulnerability to climate change or diminished welfare, now or in the future. Maladaptation is usually an unintended consequence.
Mitigation	Mitigation is about changing how we live, move, consume and manufacture so as to reduce and/or eliminate the production of harmful greenhouse gases: and it includes how we best use our land.
National Adaptation Framework (NAF)	The NAF sets out Ireland's national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The 2015 Climate and Low Carbon Development Act, requires that the National Adaptation Framework (NAF) be reviewed at least every five years.
National Climate Objective	The State shall, so as to reduce the extent of further global warming, pursue and 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

National Long-Term Climate Action Strategy	This 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 Plan, to ensure coherent and effective climate policy.
Nature-Based Projects	A solution that is inspired and supported by the process and functioning of nature, which is cost-effective and provides environmental, social and economic benefits and helps to build resilience.
Nearly Zero Energy Buildings (NZEB)	A building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.
Offshore Renewable Energy	Renewable energy produced from ocean and coastal resources.
Onshore Renewable Energy	Renewable energy produced from land-based resources.
Sectoral Adaptation Plan	Sectoral plans describe and assess the extent of the risks presented by climate change to a sector, and present contingency plans to address these risks and ensure climate resilience. The nine sectors this applies to include – Agriculture, Forestry and Seafood, Biodiversity, Built and Archaeological Heritage, Transport Infrastructure, Electricity and Gas Networks, Communications Network, Flood Risk Management, Water Quality and Water Services Infrastructure and Health.
Sectoral Emissions Ceiling	Within the limits of the carbon budget, the maximum amount of greenhouse gas emissions that are permitted in different sectors of the economy during a budget period. Different ceilings may apply to different sectors.
Sustainable Development Goals (SDGs)	The 17 global goals for development for all countries established by the United Nations through a participatory process and elaborated in the 2030 Agenda for Sustainable Development, including: ending poverty and hunger; ensuring health and well-being, education, gender equality, clean water and energy and decent work; building and ensuring resilient and sustainable infrastructure, cities and consumption; reducing inequalities; protecting land and water ecosystems; promoting peace, justice and partnerships; and taking urgent action on climate change.

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