
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 DRAFT PLAN

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EXECUTIVE SUMMARY

Our second climate action plan

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 current present 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 that 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.[1]

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[2] ahead of the 2030 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, and Agriculture, and Land Use, Land Use Change and Forestry, (LULUCF). 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.

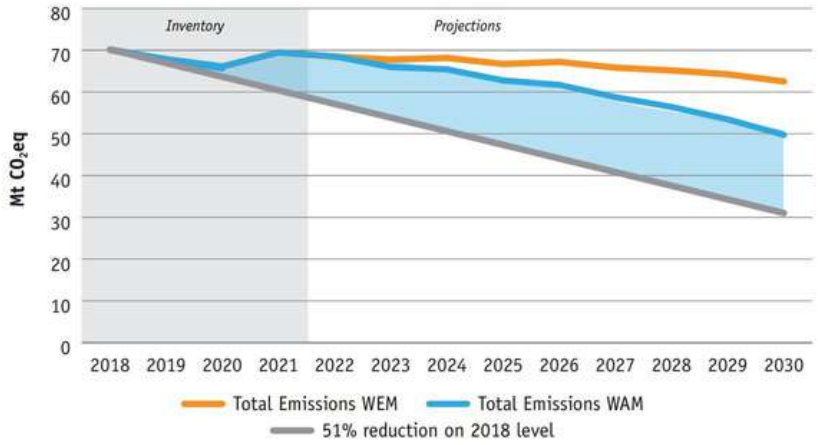
Ireland is off target (EPA, 2023), even though there was a decrease in emissions of 1.9% in 2022. In 2022 Ireland's GHG emissions were estimated to be 60.76 Mt CO2eq million tonnes carbon dioxide equivalent (Mt CO2eq). While the reduction is welcome, the latest report indicates that Ireland will not 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 CO2 at an estimated cost of €11.4 million. Note Figure 7 below from our energy management platform - Energy Elephant - displays total final consumption, total primary energy includes energy losses in transmission and distribution to point of use. 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

2 - 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



Source EPA: https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/indicators--targets/#)

While 592,713 people live in the city, our 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.

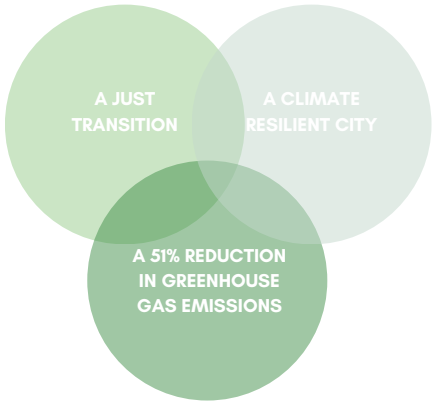
Similarly, the impacts of climate change such as flooding, storms, heat waves, and drought are not limited by geography. In 2023, the need to act has never been more evident both globally and locally. From record breaking rainfall in July for Ireland that resulted in multiple flood events across Dublin,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

FOUNDATIONS & 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 and interdisciplinary approach (Appendix 1).

Our progress will be monitored with headline indicators and sub indicators as well as our climate readiness toolkit (Appendix 7).

Figure X: Interconnected Foundations and Actions

Foundation 1: We are 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 insure 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.

> **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 lower Dominick Street West. 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 Irish Water, the OPW, ESB, Eirgrid, NTA, and DECC. Together we will insure 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 ZEVI 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. A 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?

Headline Indicator

- *Improved health and well being of citizens evidenced by for example reductions in rates of non communicable diseases (COPD, Asthma). (links to SDG 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment.)*

Sub Indicators

- 20 MW of renewable energy generation in the city (Links to 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. (Links to SDG Target 7.3: By 2030, double the global rate of improvement in energy efficiency.)
- 50% Improvement in energy efficiency
- Citizens are within a 15 minute walk or cycle of repair services and fresh food

Foundation 2: We are 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 artist's 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 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 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 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.

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.

How will we know we are resource-full?

Headline Indicator

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

Sub Indicators

- Improved air quality and water quality and biodiversity (Links to SDG Target 6.3.2: Proportion of bodies of water with good ambient water quality.)

- Reduction in waste produced across all streams and sectors (Links to SDG Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.)

- Improved biodiversity in city rivers evidenced by relevant counts (Links to SDG Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts. SDG 14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.)

Foundation 3: We are a Creative City

What does this mean?

Cities are built on knowledge gained over life times 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 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. But 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 we 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 develope 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?

Headline Indicator

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

Sub Indicators

- Increase in number of SMEs based in Dublin City (links to 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.)
- Increased use of libraries.
- Development of decarbonisation zone plans.
- Increased rate of circularity.

Foundation 4:
We are 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 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 zones 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 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?

Headline Indicator

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

Sub Indicators

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

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.

This is Climate Action SoCirulcar

Meet: Norman

Norman is our
Senior Economic Development Office – Acting
Economic Development Office, Dublin City Council

The circular economy and social economy, their associated principles, approaches and actors such as local enterprises can help address many of the challenges facing cities and make them more sustainable, future proofed and vibrant.
SoCircular is about celebrating the social economy and circular economy. It is a concept, initiative and ongoing project that seeks to enhance the social and circular economy models in a synergistic way, and to promote their associated approaches, innovations and key actors. It involves, creating awareness of and celebrating the social and circular economy ecosystem and associated culture; highlighting circular economy approaches, business models and innovations; encouraging people, businesses, organisations and government departments to buy from and support local social and circular enterprises, facilitating matchmaking opportunities for enterprises and buyers, promoting supports, skills development programmes and funding to help enterprises adopt circular / sustainability approaches and embed the sustainable transition, and providing a forum for conversation, insights, ideas and examples.
We were inspired to commence the initiative because of our ongoing work in the Economic Development Office to develop the social and circular economies and to support local social and circular enterprises, our awareness of the existing and potential synergies and because of our involvement in European Commission: European Social Economy Regions Project, Green Deal and New European Bauhaus.
We came up with the idea to launch the concept and initiative through hosting a large scale event to highlight the positive stories, impacts and examples within the social and circular economies and to showcase local social and circular enterprises which are providing innovative products and services as part of achieving a social, societal or environmental impact.
The inaugural SoCircular featured: a welcome address by Lord Mayor of Dublin Caroline Conroy; 50 social enterprise and circular / sustainable enterprises along with some support organisations in a trade expo; 4 panel discussions on key social and circular economy themes featuring 18 expert / industry stakeholder representatives; 4 fireside chats with key individuals

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 (obviously this is only one of my roles in the organisation)

·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 management 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

Meet: Deirdre

Role: Executive Parks and Landscape Officer, Parks, Biodiversity & Landscape Services, Project manager for Bridgefood Street Park.

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. At the same time, 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.

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, has increased this rate 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.

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.

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 The Dublin District Heating Project (DDHP)

Meet: Stephen

The Dublin District Heating Project (DDHP)
My name is Stephen and in my role as Executive Engineer within the E&T Department of Dublin City Council (DCC) 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 the main reason I got into Engineering in the first place is to be part of projects that can impact on people's lives now and for the future generations. 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.

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

- Built at cost of €500million
- 600,000 tonnes of waste processed annually
- Electricity for 80,000 homes - 60MW exported to National Grid
- Heating potential for 50,000 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 reduction in CO2 emissions and other pollutants
- Greater de-carbonisation of the heat sector
- Less dependence on imported fuels
- Improved price security and more competitive, reduced energy bills
- Use of local labour, energy resources and sources
- Lower capital and operational costs
- Space saving in plant rooms and homes as no boilers are required
- Improved safety having no fuel storage in home
- The heat supplied is on demand, so no energy wasted

This is Climate Action Dominick St Lower Climate Resilient Housing

Meet: Madeline, & Maeve

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 NZEB standard providing low-energy, bright, healthy homes.

The masterplan envisioned similar redevelopment of the three blocks on the west side. However with increasing awareness and focus on 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 Housing department decided to re-think the approach.

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 life time.

The core objective of the Dominick Street West 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).

This is Climate Action Dominick St Lower Climate Resilient Housing

Meet: Madeline, & Maeve

Dominick Street West 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.

The Dominick Street West flat blocks were exemplar of their time. While they have fallen into disrepair, they can be reclaimed and renovated to be exemplar public homes for many decades to come.

IMPLEMENTATION

Everyone Doing Their Bit

Dublin's success is Ireland's success, and success requires that everyone is working together. There are four essential implementation actions that must be taken for our city's transition to a low carbon and climate resilient future:

I1 | 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. The establishment of 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 and principles of equity in our operations and service delivery. The Steering Group will insure that internal structures are in place to insure ownership and delivery of actions and projects are resourced; and provide quarterly reports to elected members via Strategic Policy Committees.

I2 | Monthly Workshops: Collaboration for interdisciplinary implementation of the actions and to achieve the systems innovation necessary for climate neutrality will require regular workshops to foster a culture of knowledge exchange, to problem solve and to identify solutions to challenges and barriers. At times these workshops will also involve external stakeholders.

I4 | 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.

I3 | 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.

CHALLENGES & OPPORTUNITIES

Doing No Harm

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

In addition to the headline and sub 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 the Appendix 8 is intended to be used to support detailed monitoring and analysis of an action from inception to implementation.

Monitoring

Climate Action Vitals[3]

Climate mitigation actions focus primarily on CO2e, 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

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. 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.

[3] *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 7) that brings together qualitative and quantitative data together to tell the story of the impact our actions and projects are having wholistically 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.

Photo Credit: Julia Potato

APPENDICES

Appendix 1

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 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted GHG/ Resilience /Just Transition	Alignment with National Objectives
OUR STAFF									
S1	Sustainble 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		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Energy Bills; waste volumes	Reduced Energy Use; Reduced water use; Reduced waste		
S2	Promote shift to active modes of commuting to reduce transport emission		HRCS&T	Staff time	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	VKM	yearly increase in shift to active modes;	GHG	CAP 23 C2/23/6 - TR/23/26 - TR/23/26 - TR/23/33 - TR/23/34
S3	Implement Smart Mobility Hubs across DCC offices where feasible (Civics, Marrowbow Lane, Firebrigade)		HRCS&T		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	VKM avoided in personal car	10 % reduction in staff mileage claims year on year	GHG	CAP 23 C2/23/6 - TR/23/26 - TR/23/26 - TR/23/33 - TR/23/34 - TR/23/76 - TR/23/48
S4	Continued staff energy awareness in Council buildings		HRCS&T	Staff time	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Energy Bills;	Yearly reduction in energy use on track with 51%	GHG	CAP 23 C2/23/6
S5	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		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	VKM	yearly increase; (How do we capture the whys? Changes in behavior? Costs? Moving? Experience?)	GHG	CAP 23 C2/23/6 - TR/23/26 - TR/23/26 - TR/23/33 - TR/23/34
S6	Occupational eco driver training for fleet staff and all staff who want training		HRCS&T		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Fuel consumption	reduced fuel consumption	GHG	CAP 23 C2/23/6 - TR/23/26
S7	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
OUR BUILDINGS									
B1	Undertake programme of flat complex regenerations		H&CS	% of €	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied, Operational and Sequestered			
B2	Continuation of planned incremental improvement of housing stock (voids, extensions, boiler replacement, retrofit and energy efficiency programme)		H&CS	€30,300,000.00	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied, Operational and Sequestered			

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted GHG/ Resilience/ Just Transition	Alignment with National Objectives
OUR BUILDINGS									
B3	continue to work with appropriate external stakeholders to deliver social housing at a BER B or Cost optimal standard		H&CS		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied, Operational and Sequestered			
B4	Incorporate nature based solutions in all new Council housing developments and maintain		H&CS	% of €31,303,817	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied and Sequestered	# of trees per new dwelling, # of shrubs per new dwelling	All	CAP 23 AD/23/4
B5	Implement Sustainable urban Drainage Guidelines in Council buildings where feasible		E&T		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E		SUDS in all DCC buildings; cubic meters of of water diverted	All	CAP 23 AD/23/4 - AD/23/19
B6	Implement infrastructure to improve and reduce water use in DCC buildings		HRCS&T		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied	% reduction in water consumed	Resilience	CAP 23 AD/23/14
B7	Display Energy Certificates for public buildings		Codema	% of €414,000			Compliant with legislation	GHG	CAP 23 BE/23/27
B8	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)	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Renewable energy in MW		GHG	CAP 23 BE/23/27
B9	Annual Monitoring & Reporting to SEAI supported by ISO50001 compliant energy management system		Environment and Transport	% of €414,000	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Based on Above	DCC's energy use monitored and reported	GHG	CAP 23 RE/23/14 - BE/23/32
OUR OPERATIONS & SERVICES									
OS1	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		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied, Operational and Sequestered	GPP Standard Practice by 2027; embodied carbon and environmental impacts key criteria in procurement of materials related to housing and transport projects SDG 12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities	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 construction in public tenders and grant schemes'

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted GHG/ Resilience / Just Transition	Alignment with National Objectives
OUR OPERATIONS & SERVICES									
OS13	Environmental surveys of all City rivers and estuaries as baseline surveys from which to monitor ecosystem health		E&T	% of €17,467,061	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	Annual improvements in ecosystem health	Resilience	NABP 4C1; 2C1
OS14	DCC is working in partnership with the EPA on expanding and enhancing ambient air quality monitoring in Dublin in accordance with the National Ambient Air Monitoring Programme	EPA	E&T	% of €2,438,535	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	PMx, Nox Sox	No exceedences	All	
OS15	Identify areas in need of infrastructure that supports re use, repair, repurpose, free cycling		E&T	% of €4,632,894	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied & Operational	reduction in spend and incidences of illegal dumping; improved segregation rates; rate of reuse	GHG	CAP 23 CE/23/2
OS16	Monitor and enforce waste regulation		E&T	€5,833,619.00	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Waste Volumes	Reduction in waste and improve rates of circularity	GHG	CAP 23 CE/23/6 - CE/23/8
OS17	Identify opportunities of introducing circular economy principles in Bring Centre Depots		E&T, HRCST	% of €4,632,894	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Waste Volumes	Research complete, findings implemented	GHG	
OS18	Expand Depot collection of WEE products to all Depots and maintain		E&T	% of €4,632,894	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Waste Volumes	Opportunities identified and principles implemented where practicable	GHG	
OS19	Use green street cleaning; use biodegradable cleaning agents		E&T	% of €55,863,914	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Operational	transition of organic cleaning agents by 2027	GHG and Resilience	
OS20	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		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Operational	Guidance produced, # of events with sustainability terms and conditions	GHG	
OS21	Review terms and conditions for all events approved by DCC to incorporate possible sustainability conditions		P&CRES; E&T		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Operational	Guidance produced on terms and conditions	GHG	

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted GHG/ Resilience / Just Transition	Alignment with National Objectives
OUR OPERATIONS & SERVICES									
OS13	Environmental surveys of all City rivers and estuaries as baseline surveys from which to monitor ecosystem health		E&T	% of €17,467,061	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	Annual improvements in ecosystem health	Resilience	NABP 4C1; 2C1
OS14	DCC is working in partnership with the EPA on expanding and enhancing ambient air quality monitoring in Dublin in accordance with the National Ambient Air Monitoring Programme	EPA	E&T	% of €2,438,535	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	PMx, Nox Sox	No exceedences	All	
OS15	Identify areas in need of infrastructure that supports re use, repair, repurpose, free cycling		E&T	% of €4,632,894	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Embodied & Operational	reduction in spend and incidences of illegal dumping; improved segregation rates; rate of reuse	GHG	CAP 23 CE/23/2
OS16	Monitor and enforce waste regulation		E&T	€5,833,619.00	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Waste Volumes	Reduction in waste and improve rates of circularity	GHG	CAP 23 CE/23/6 - CE/23/8
OS17	Identify opportunities of introducing circular economy principles in Bring Centre Depots		E&T, HRCST	% of €4,632,894	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Waste Volumes	Research complete, findings implemented	GHG	
OS18	Expand Depot collection of WEE products to all Depots and maintain		E&T	% of €4,632,894	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Waste Volumes	Opportunities identified and principles implemented where practicable	GHG	
OS19	Use green street cleaning; use biodegradable cleaning agents		E&T	% of €55,863,914	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Operational	transition of organic cleaning agents by 2027	GHG and Resilience	
OS20	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		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Operational	Guidance produced, # of events with sustainability terms and conditions	GHG	
OS21	Review terms and conditions for all events approved by DCC to incorporate possible sustainability conditions		P&CRES; E&T		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Operational	Guidance produced on terms and conditions	GHG	

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted GHG/ Resilience / Just Transition	Alignment with National Objectives
OUR OPERATIONS & SERVICES									
OS22	Develop strategy to convert fleet to low emission vehicles; and insure end of life plan is in place for vehicles.		E&T		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	VKM, Fuel consumption	Fleet converted, VKM reduced and emissions reduced	GHG	CAP 23 PS/23/10
OS23	Conduct a common cord-grass management study and monitoring for North Bull Island SPA		P&CRES	% of €31,303,817			maintained or improved	GHG and Resilience	
OS24	Conduct light-bellied Brent goose roost survey	Birdwatch	P&CRES	% of €31,303,817			maintained or improved population		
OS25	Implement the North Bull Island Management Plan		P&CRES	% of €31,303,817 (€250,000)	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	Plan implemented		CAP 23 MA/23/11
OS26	Establish a cross-departmental Trees and SuDS Working Group to promote and pilot water sensitive urban design incorporating urban tree planting		P&CRES; E&T	Staff time			decrease in hard surfacing in the city; increase in areas using SUDs		CAP 23 AD/23/4
OS27	Implement Dublin City Tree Strategy		P&CRES		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	Tree count in city improved and tree health maintained	Resilience & Just Transition	National Biodiversity Plan (NBAP 4 2B9); HI2030 22
OS28	Promote and expand Native Tree Trails programme		P&CRES				# of tree trails	All	National Biodiversity Plan (NBAP 4 2B9); HI2030 22
OS29	Produce guidance on species of public trees for urban planting in accordance with Action 3.1 of the Dublin City Tree Strategy		P&CRES		**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	Tree count in city improved and tree health maintained	Resilience	National Biodiversity Plan (NBAP 4 2B9); HI2030 22
OUR ENGAGEENT ACTIVITIES & PARTNERSHIPS									
EP1	Develop and implmenet Sustainble Living Programme to engage Council Tenants on how they can reduce consumption of energy, and water		H&CS	125000 (tenancy management)	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Energy use, waste produced	% tenants receiving information		CAP 23 AD/23/19

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted: GHG/ Resilience / Just Transition	Alignment with National Objectives
OUR ENGAGEENT ACTIVITIES & PARTNERSHIPS									
EP2	Hold Bike Week annually		E&T	% of €1,206,691			NA - regular activity	GHG	CAP 23 TR/23/26
EP3	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
EP4	Organise Pedestrian Days in areas with high footfall		E&T	% of €1,206,693			# of pedestrian days held	All	CAP 23 TR/23/26 - TR/23/27
EP5	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
EP6	Set up partnership and create a communications engagement and promotion platform for cycling and walking - "Stories on the move"		E&T	% of €1,206,694			# of communities / areas involved		CAP 23 CE/23/6 - CE/23/8 - TR/23/46 - TR/23/33 - TR/23/34
EP7	Implement flood awareness campaign with the OPW	OPW	E&T	% of €17,467,061			NA - regular activity	Resilience and Just Transition	CAP 23 AD/23/14
EP8	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		E&T	€1,934,159.00	**Emissions Baseline 2018**_____ Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	10% reduction year on year of hard surfaces on private property across the city	Resilience & Just Transition	CAP 23 AD/23/14 - AD/23/19; NABP 4C1 and 2C1
EP9	Communication and awareness campaigns on flood risk management and natural flood management measures		E&T	% of €17,467,061			NA - regular activity	Resilience & Just Transition	CAP 23 AD/23/3 - AD/23/19
EP10	Promote international World Wetlands Day		P&CRES, E&T	% of €31,303,817			NA - regular activity	All	NABP 4C1 and 4C2
EP11	Establish regional working group on nature-based solutions		P&CRES, E&T				DCC Working Group Established; work is ongoing		CAP 23 AD/23/4
EP12	Engage with students about climate related projects through CPD Programme/Engineers Week		E&T	staff time			SDG Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	GHG and Just Transition	CAP 23 AD/23/19
EP13	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
EP14	Run anti-dumping and anti-litter campaigns		E&T	€1,174,180.00			10% Year on year decrease in litter	GHG	CAP 23 CE/23/6 - CE/23/8

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted: GHG/ Resilience / Just Transition	Alignment with National Objectives
OUR ENGAGEENT ACTIVITIES & PARTNERSHIPS									
EP15	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
EP16	Apply for LAPN (Local Authority Prevention Network) grants		E&T				# of projects implemented	Just Transition	
EP17	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
EP18	Promote Reuse Month annually		E&T	% of 5,233,876 (€170,989)			NA - regular activity	GHG	CAP 23 CE/23/8
EP19	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	
EP20	Support and promote Tidy Towns / City Neighbourhoods initiatives		E&T, H&CS	% of 5,233,876 (€170,989)			# of participants yearly	All	
EP21	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
EP22	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
EP23	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
EP24	Continue to work with the Rediscovery Centre to promote sustainability		P&CRES, E&T					All	CAP 23 CE/23/2
EP25	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
EP26	Facilitate an annual workshop for information exchange between biodiversity experts		P&CRES				Workshop organised (Done as part of Biodiversity Action Plan, meeting annually)	Resilience	
EP27	Tree-planting activities with schools including annual National Tree Week and National Tree Day		P&CRES		**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	NA - regular activity	All	NABP 4C1
EP28	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 enterpriseses		P&CRES						
EP29	Apply for EU funding to undertake innovative climate action projects and build partnerships.		P&CRES				Funding secured	All	

CCAP Action No.	Action	External Stakeholders	Assistant Chief Executive (ACE) Responsible	BUDGET 2023 Allocation	Emissions	Calculation	NEW Indicators	Target Impacted	Alignment with National Objectives
								GHG/ Resilience / Just Transition	
OUR ENGAGEENT ACTIVITIES & PARTNERSHIPS									
EP30	Build partnerships with cities internationally to exchange best practice for climate action.		P&CRES				partnerships established	All	
EP31	Public Service Innovation Week		HRCST						
EP32	Implement the Dublin Bay Biosphere work programme	Failte Ireland, Dublin Port Authority, NPWS	P&CRES	% of €31,303,817 (€250,000)	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	Plan developed and progressing implementation	All	CAP 23 AD/23/6
EP33	Promote and encourage community involvement in the retrofit of SuDS in existing developments		P&CRES, H&CS, E&T	% of €31,303,817 (€490,000)	**Emissions Baseline 2018_____** Emissions 2024 Total CO2E Emissions 2025 Total CO2E Emissions 2026 Total CO2E Emissions 2027 Total CO2E Emissions 2028 (51% of 2018) Total CO2E	Sequestered	decrease in hard surfacing in the city; increase in areas using SUDs	All	CAP 23 AD/23/4 NABP 4C1 5C3; 1D4

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience/ Just Transition		
RESILIENT CITY															
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 lower Dominick Street West. 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). All social housing regenerations 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 regneration projects will have due regard to the need to appropriately protect, conserve and enhance protected structures in accordance with protected structures legislation.														CAP 23 - BE/23/11(TF) - BE/23/25 - BE23/24 BE/23/19
R1.1	Flagship project: Lower Dominick Street	Housing & Community Services	E&T, P&CRES HRCST, IGBC, DHLGH, DECC	€3,500,000.00				2024-2029		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	All	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	€10,500,000.00						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	All	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	€44,000,000.00						Renewable energy, community growing spaces; circular economy principles		Providing residents with bicycle parking and social spaces; improved public realm	All	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	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
R2	**Public Buildings Regeneration** 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 XX operations depots - will demonstrate what is possible. All retrofitting and maintainence 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.														CAP 23 BE/23/30 - BE/23/32- BE/23/33(TF) - BE/23/31(TF) - BE/23/38- BE/23/39
R2.1	Civic Offices	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES	€13,281,527.00						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	€409,000.00									GHG/ Resilience	Capital Programme 2023-2025	CAP 23 BE/23/37 - BE/23/35; CCSAPBHA 4e

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience/ Just Transition		
RESILIENT CITY															
R2.3	City Hall	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES	€380,000.00									GHG/ Resilience	Capital Programme 2023-2025	CCSAPBHA 4e
R2.4	Pathfinder Programme														
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 Irish Water, the OPW, ESB, Eirgrid, NTA, and DECC. Together we will insure 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 ZEVI 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.														CAP 23 RE/23/13* - BE/23/2(TF) - RF4.3 - RE/23/11 - RE/23/14
R3.1	Dublin District Heating Project	Environment & Tranpsort	P&CRES, H&CS, HRCST, DECC, Codema	€20,000,000.00				2024-2027		Avoids sending waste to landfill by converting into electricity and heat	partnership with ….		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/23/31(TF)
R3.2	Solar PV Car Port at Davitt Road	Environment & Tranpsort	P&CRES, H&CS, HRCST,	€250,000.00						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 & Tranpsort	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
R3.4	Public Lighting Upgrade	Environment & Tranpsort	P&CRES, H&CS, HRCST, TUD, GGDA	€58,900,000.00				2024-2029		Appropriate lighting will help nocturnal biodiversity; reduce energy use		Supports a night time economy by creating safer spaces	All	Capital Programme 2023-2025; DCC Development Plan 2022-2028;	CAP 23 PS/23/2
R3.5	Infrastructure for Re-use, Repair and Re-purpose	Environment & Tranpsort	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; enagement with students in Design and Manufacturing	Places for re-use, repair and re-purpose will also provide additional social space	All	DCC Development Plan 2022-2028; LECP; Waste management plan	CAP 23 CE/23/3 - CE/23/8 - CE/23/9 - CE/23/2
R4	**Edible Dublin: Food Strategy**														
R4.1	Establish Eat the Streets Programme	Environment & Tranpsort	P&CRES, H&CS, HRCST, HSE, Academia, Spade	€150,000.00				2024-2029		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	social cohesion and inter generational justice; sharing city - Cultivate	All	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' https://www.gov.ie/en/publication/e8f9b1-healthy-ireland-framework-2019-2025/
R4.2	Implementation of Markets Strategy	Planning & CRES	E&T, H&CS							Best practice for food waste; renewable energy powered	Demonstration spaces; education	Gathering place for people to meet and socialise	All	DCC Development Plan 2022-2028; LECP; Tourism Strategy	

RESILIENT CITY		
MONITORING - NEW APPROACH		**PARTNERS INTERNAL & EXTERNAL**
Headline Indicator	**Improved health and well being of citizens evidenced by for example reductions in rates of non communicable diseases (COPD, Asthma) (Link to SDG 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment.)**	HSE
Sub Indicator	20 MW of renewable energy generation in the city (Link to SDG Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.)	ESB, EirGrid,
Sub Indicator	51% reduction in emissions from energy use Link to SDG Target 7.3: By 2030, double the global rate of improvement in energy efficiency.	ESB, EirGrid, EPA, SEAI
Sub Indicator	50% improvement in energy efficiency	
Sub Indicator	30% of nutritional needs met locally	
Sub Indicator	Citizens are within a 15 minute walk or cycle of repair services	
Sub Indicator	Citizens are within a 15 minute walk or cycle of fresh food	

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience / Just Transition		
RESOURCE-FULL CITY															
RF 1	**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. Ensure connectivity projects priorities ecological connectivity through complex hedgerow development and maintainence, while ensuring barrier effects such as innappropriate 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 bat roost investigation surveys and appropriate measures taken to ensure no significant impacts occur to any Annex IV species.													CAP 23 AD/23/4
RF1.1	Implementation of greening strategies	Planning & CRES	E&T, H&CS	€1,200,000.00					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 Stratey;	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	Planning & CRES	E&T, H&CS	€12,750,000.00					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	Planning & CRES	E&T, H&CS	€3,314,722.00					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
RF1.4	Green and Biodiverse Streets	Environment & Tranpsort	P&CRES, H&CS	€490,000.00					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; Greening strategies; Play Strategy; Active City	CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan - AD/23/4; National Biodiversity Plan (NBAP 4 2B9, 2C4, 3A4 4C2; 2B11; 6A5); HI2030 22; HI 2030 23; CCSAP BIO 4.4
RF2	**Restoring the City's Rivers and Beaches** 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 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 avoide significant adverse effects. Similarly, infrastructure works will have integrated environemental considerations within the feasibility assessment.													CAP 23 AD/23/21 - AD/23/2 - AD/23/14
RF2.1	Santry River Restoration	Environment & Tranpsort	P&CRES, H&CS	€11,332,000.00					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	Camac River Restoration	Environment & Tranpsort	P&CRES, H&CS	€2,750,000.00					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)

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience / Just Transition		
RESOURCE-FULL CITY															
RF2.3	The Liffey a Place for Leisure	Environment & Tranpsort	P&CRES, H&CS	€6,200,000.00					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; LECP; Tourism Strategy;	River Basin Management Plan; CAP 23, All Ireland Pollinator Plan, National Biodiversity Plan (2B15, 2C1, 2C4, 2E2, 4C2)
RF 2.4	Swimmable Seas All Year Round	Environment & Tranpsort	P&CRES, H&CS						builds awareness of coastal climate risks as such supports implementation of actions to protect the coast		Partnerships with Academia to monitor benefits, communities	Opportunity for recreation that supports social connection all year round	All		NABP (2B15, 2C1, 2C4. 2E2, 4C2)
RF3	**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. All reuse projects will have due regard to the need to appropriately protect, conserve and enhance protected structures in accordance with protected structures legislation.														CAP 23 BE/23/33(TF) - BE/23/35
RF3.1	Adaptative Re-use Programme converting existing buildings to 'new' uses such as social housing	Housing & Community Services	E&T, P&CRES						Re-use extends life of buildings, thereby reducing emissions		Creation of spaces to support SMEs, Artists	Contributes to community building	All	DCC Development Plan 2022-2028	Housing for All, CAP 23 - Ref 19.2.1 Construction and Prevention of waste; CCSAPBHA 4e
RF4	**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 re developing physical and regulatory infrastructure essential to support SMEs to innovate and create a Connected Circular Economy on the Island of Ireland, whilst ensuring any additional waste management related infrastructure is appropriately located, designed and managed so as not to cause significant adverse environmental effects.														CAP 23 CE/23/2 - CE/23/6 - CE/23/9 - CE/23/3 - RE/24/2
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	All	DCC Development Plan 2022-2028; LECP	CAP 23, Regional Enterprise Plan, RSES, National Planning Framework
MONITORING														**PARTNERS INTERNAL & EXTERNAL**	
Headline Indicator		Implementaton of DCC's Greening Strategies that will support an increase in green cover												GSI	
Sub Indicator		Improved air quality and water quality and biodiversity Link to SDG Target 6.3.2: Proportion of bodies of water with good ambient water quality.												EPA	
Sub Indicator		Reduction in waste produced across all streams and sectors Link to SDG Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.												WERLA	
Sub Indicator		Improved biodiversity in city rivers evidenced by relevant counts Link to SDG Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts,SDG 14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.												NPWS, LAWPRO, EPA	
Sub Indicator		Every household is a 10 minute walk from a park													

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience/ Just Transition		
CREATIVE CITY															
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. A focus shall be placed on integrating climate action with considerations relating to biodiversity to ensure a win-win scenario are acheived. All sub-action regeneration projects will have due regard to the need to appropriately protect, conserve and enhance protected structures in accordance with protected structures legislation and maintain cultural heritage, historic and amenity value associated with structures and features.														CAP 23 C2/23/6 - CE/23/3 - C2/23/11 - C223/8 - C2/23/9
C1.1	Parnell Square Cultural Quarter	Planning & CRES	E&T, H&CS, HRCST	€56,000,000.00				2024-2028	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, Regional Enterprise Plan, RSES, National Planning Framework
C1.2	Dalymount Park Redevelopment	Planning & CRES	E&T, H&CS, HRCST, Bohemians, DTCAGSM	€40,000,000.00				2024-2027	Project will include Nature based solutions	Citizen science		new opportunities for recreation	All	Capital Programme 2023-2025; Development Plan 2022-2028	
C1.3	Maker Spaces in Libraries	Planning & CRES	E&T, H&CS, HRCST	€58,654,345.00				2024-2026	Provides opportunity to engage with citizens on resilience	Citizen science		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	H&CS	P&CRES	€274,200.00					Provides opportunity to engage with citizens on resilience			place to meet and socialise	All	Capital Programme 2023-2025; Development Plan 2022-2030	
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. A focus shall be placed on integrating climate action with considerations relating to biodiversity to ensure a win-win scenario are acheived.														
C2.1	Partnership Programme with Third Level institutions - Future Work Force	HR-Corp. Services-Transformation	E&T, H&CS, P&CRES					2024-2029	Research & innovation for adaptation	Research & innovation for biodiversity, circular economy,		future generations	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&CRES					2024-2029	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		
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. 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.														CAP 23 RE/23/11 - TR23/11

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG / Resilience / Just Transition		
CREATIVE CITY															
C3.1	Resilient North East Inner City	Housing & CS	E&T, P&CRES, HRCST	€300,000.00				2024-2029	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					2024-2029	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			
C4	**Decarbonisation Zones** 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 insure 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.														CAP 23 RE/23/11 - TR23/11
C4.1	Ringsend Decarbonisation Zone	Environment and Transport	P&CRES, H&CS, HRCST, DECC, Codema	€124,500.00				2024-2029	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)	All	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				2024-2029	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)	All	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
MONITORING														**PARTNERS INTERNAL & EXTERNAL**	
Headline Indicator		Improved socio-economic status evidenced through employment, educational attainment, and volunteer rates													
Sub Indicator		Increase in number of SMEs based in Dublin City Link to 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.													
Sub Indicator		Increased use of libraries													
Sub Indicator		Development of decarbonisation zone plans													
Sub Indicator		Increased rate of circularity.													

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience / Just Transition		
SOCIAL CITY															
S1	**A Connected Active Travel Network**														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
S1.1	Delivery of Active Travel projects in accordance with the 2022 to 2024 projects (C2CC, Liffey, Royal Canal)	Environment and Transport	P&CRES, H&CS, HRCST	€99,000,000.00				2024-2025	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	Environment and Transport	P&CRES, H&CS, HRCST					2025-2028	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	Environment and Transport	P&CRES, H&CS, HRCST					2027-2029	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	Environment and Transport	P&CRES, H&CS, HRCST					2024-2029	Social resilience and behavior change				All		

Actions & Activities		Department Responsible	Partners Internal & External	BUDGET 2023 Allocation	Greenhouse Gases			Planned Timeline	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	GHG/ Resilience / Just Transition		
SOCIAL CITY															
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					2024-2029	Social resilience and behavior change				All		
S2	**Neighbourhoods are the Heart**														
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		GHG/ Just transition	Development Plan 2022-2028; Active Travel Plans; Waste Management Plans	CAP 23
S2.2	Quiet Zones	Environment and Transport	P&CRES, H&CS, HRCST						Greening, traffic calming,	biodiversity improvement, air quality, noise, and water quality				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					2024-2029		Renewable energy charging infrastructure			GHG	Development Plan 2022-2028; Regional EV Strategy	CAP 23
S3	**A Re-imagined Public Realm**														
S3.1	City Centre Public Realm	Planning & CRES	E&T, H&CS, HRCST					2024-2029	Greening, traffic calming, integration of NBS to mitigate flood and heat risk	biodiversity improvement, air quality, noise, and water quality	enagement with citizens, academia and business		All	Development Plan 2022-2028; City Centre Public Realm Plan; Active Travel Plans	CAP 23; Bus Connects
S3.2	Laneways of Dublin 1 and Dublin 2	Planning & CRES	E&T, H&CS, HRCST					2024-2029	NBS to mitigate flood and heat risk	biodiversity improvement, air quality, noise, and water quality	enagement with citizens, academia and business		All	Development Plan 2022-2028; City Centre Public Realm Plan; NEIC Greening Strategy	
S3.3	Vibrant Streets	Planning & CRES	E&T, H&CS, HRCST					2024-2029	Social resilience	biodiversity improvement, air quality, noise, and water quality	enagement with citizens, academia and business		All	Development Plan 2022-2028; Active Travel Plan; Greening Strategies; Play Strategy; LECP	
MONITORING														**PARTNERS INTERNAL & EXTERNAL**	
Headline Indicator		**95% of people brought within 400 metres of a segment of the active travel network. Link to 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.**													
Sub 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.													
Sub Indicator		Improved air quality												EPA	
		Improved safety evidenced by a reduction in near misses. Link to SDG Target 3.6: By 2020, halve the number of global deaths and injuries from road traffic accidents.												NTA, CSO, Garda	
Sub Indicator		Vibrant night time economy based on qualitative surveys and night time spend; and healthy streets framework												Dublin Town	
Sub Indicator		Improved noise levels on streets												EPA	

Ballymun Decarbonisation Zone

- Boundary Map
- Baseline Emissions Inventory
- Stakeholder Map
- Community

Ringsend Decarbonisation Zone

- Boundary Map
- Baseline Emissions Inventory
- Stakeholder Map
- Community

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	**Statement (Nation-wide)**	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 air 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 predominantly dry settled conditions and no strong gales or storms reported.	Was dominated by anticyclonic conditions and the Azores high. Most stations reported below their LTA for rainfall and all stations were below their LTAs for temperatures.	Most stations reported below LTA for rainfall and above for temperatures
	Rain Volume (mm)	105.4	59.3	29.1	67.3	50.2	84.2	39.7	73.6	76	36.2	37.8	46.1
	% of Rainfall LTA	161	116	54	128	82	122	72	101	127	46	50	60
	Mean Temp (°C)	6.2	5.3	6.9	7.6	12.3	14.9	16.6	16.3	14.9	11.3	6	6.9
	Difference Avg (°C)	1.2	0.1	0	-0.9	1.3	1.1	0.8	0.8	1.5	0.9	-1.1	1.6

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2017	**Statement (Nation-wide)**	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 'Aileen' 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 average or 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 sunshine totals below average.
	Rain Volume (mm)	23.2	62.1	75.2	11.4	47.7	95.6	52.9	80.4	88.9	49.6	78.3	64.8
	% of Rainfall LTA	36	121	139	22	78	138	96	110	148	62	104	84
	Mean temp (°C)	6	6.7	8.7	9.4	13	15.4	16.1	15.1	13.3	11.9	6.7	5.3
	Difference Avg (°C)	1	1.5	1.8	0.9	2	1.6	0.3	-0.4	-0.1	1.5	-0.4	0

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2018	**Statement (Nation-wide)**	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 their LTA, mean air 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.
	Rain Volume (mm)	85	31.4	99.7	75	25.6	4.1	30.5	40.8	46.1	44.5	121.6	80.7
	% of Rainfall LTA	130	61	185	142	42	6	56	56	77	56	161	105
	Mean temp (°C)	5.3	3.9	5	9.1	12.7	15.8	17.2	16.3	13.2	10.2	8.6	7.9
	Difference Avg (°C)	0.3	-1.3	-1.9	0.6	1.7	2	1.4	0.8	-0.2	-0.2	1.5	2.6

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2019	**Statement (Nation-wide)**	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 Atiyah 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.
	Rain Volume (mm)	27.1	19.9	87.8	71.5	34.8	74.8	49.2	68.7	94.2	72.7	155.1	51.8
	% of Rainfall LTA	42	39	163	136	57	108	90	94	157	92	205	67
	Mean temp (°C)	5.9	8	8.2	8.9	11.6	13.5	17	16.4	14	9.9	6.6	6.4
	Difference Avg (°C)	0.9	2.8	1.3	0.4	0.6	-0.3	1.2	0.9	0.6	-0.5	-0.5	1.1

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2020	**Statement (Nation-wide)**	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 temperatures 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.	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 average everywhere.	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.
	Rain Volume (mm)	39.6	141.5	30.7	13.8	8.1	70.1	99.6	89.2	56.4	80.5	55.5	79.4
	% of Rainfall LTA	61	276	57	26	13	101	181	122	94	101	73	103
	Mean temp (°C)	6.5	6.2	6.9	10	12.5	14.4	15.4	15.9	14	10.2	8.7	5
	Difference Avg (°C)	1.5	1	0	1.5	1.5	0.6	-0.4	0.4	0.6	-0.2	1.6	-0.3

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2021	**Statement (Nation-wide)**	Was cold and wet. Rainfall was above average in most places and temperatures 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 air 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 everywhere, record 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 West; 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
	Rain Volume (mm)	115.6	61.7	34.2	16.2	96.9	14.2	83.6	51.2	35.2	73.5	17.5	83.7
	% of Rainfall LTA	177	120	63	31	158	21	152	70	59	93	23	109
	Mean temp (°C)	4	6.6	8.1	7.2	10.1	14.9	17.2	15.8	15.8	12.4	8.1	7
	Difference Avg (°C)	-0.1	1.4	1.2	-1.3	-0.9	1.1	1.4	0.3	2.4	2	1	1.7

Year	Phoenix Park Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2022	**Statement (Nation-wide)**	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; 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 for August reported at 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 very mild and wet month, dominated by Atlantic low pressure systems, with the airflow mostly between southerly and westerly. Rainfall totals were above LTA, All mean air temperatures across the country were above their LTA for the month.	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.
	Rain Volume (mm)	16.7	91.8	41.4	38.3	56.2	56.4	37.1	14.4	128.7	113.5	46.2	81.6
	% of Rainfall LTA	26	179	77	73	92	82	68	20	214	143	61	106
	Mean temp (°C)	5.7	7.3	7.8	8.9	13.1	14.6	17.4	17	13.9	12.6	9.1	4.6
	Difference Avg (°C)	0.7	2.1	0.9	0.4	2.1	0.8	1.6	1.5	0.5	2.2	2	-0.7

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.

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[4](Figure 1).

As shown in Figure 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 2 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 2 - DCC's Energy Efficiency Improvements

FIGURE 1 - DCC SIGNIFICANT ENERGY USERS TPER IN 2021 (PRIMARY ENERGY) - **TO BE INCLUDED - PICTURE WON'T TRANSFER FROM WORD DOC**

[4] *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 (tCO2) 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 3 - Main sources of emissions in DCC in 2021

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 4 - Proportion of emissions for each energy source in DCC 2021

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.[4]

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

FIGURE 2 - GAP-TO-TARGET TOOL, TOTAL DCC EMISSIONS TARGETS FOR 2030 AND CURRENT EMISSIONS - **TO BE INCLUDED - PICTURE WON'T TRANSFER FROM WORD DOC**

[5] *Annual Dublin City Council emissions were estimated to be 38,326 tCO2 for the 2018 GHG emissions baseline from the SEAI M&R system.*

Total Emissions of Dublin City Council Area

Ireland has committed to reduce its emissions by a minimum of 51% by the year 2030. The 2030 target corresponds to a 51% reduction from 2018 figures, as defined by the Programme for Government,[6] 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 CO2 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 CO2.

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 BEI for the Dún Laoghaire-Rathdown Area for 2018. Total emissions are estimated to be 2,183,270 tonnes of Carbon Dioxide equivalent (tCO2e) (Figure 3).[7]

FIGURE 3 - TOTAL GHG EMISSIONS FOR DUBLIN CITY PER SECTOR - **TO BE INCLUDED - PICTURE WON'T TRANSFER FROM WORD DOC**

[6] *Annual Dublin City Council emissions were estimated to be 38,326 tCO2 for the 2018 GHG emissions baseline from the SEAI M&R system.*

[7] *'CO2e' refers to the quantification of multiple GHGs in an equivalent amount of CO2. If the quantity of GHGs other than CO2 is significant for a specific sector, then they are converted to CO2e. If they are insignificant, then only CO2 is considered. In mathematical terms , CO2 = CO2e.*

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 4: Distribution of BER by Dwelling Type for Total Housing Stock

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.

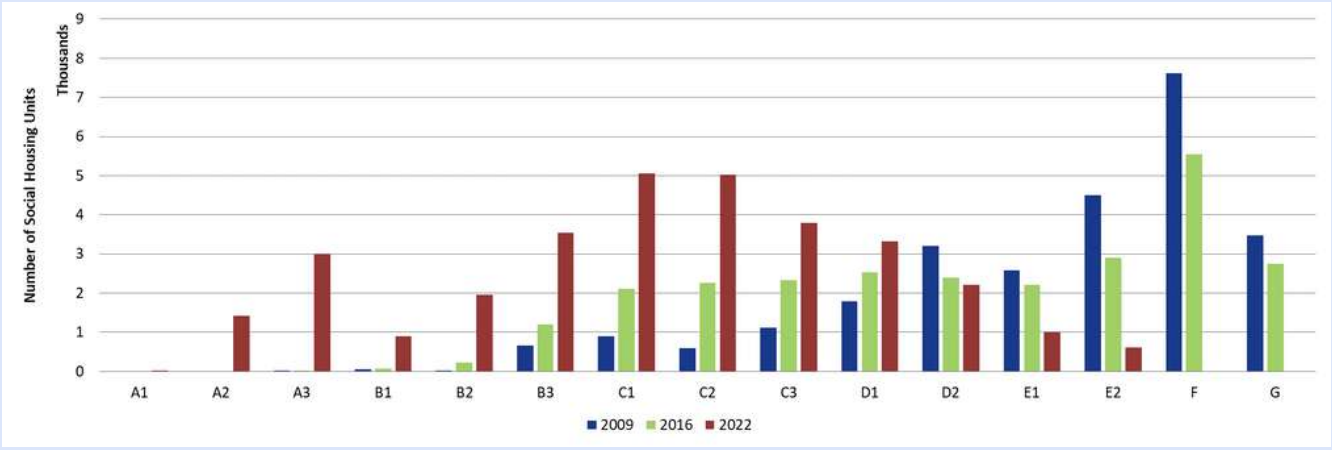


Figure 5: Building Energy Ratings for all the Dublin City Social Housing Stock in 2009, 2016 and 2022

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.

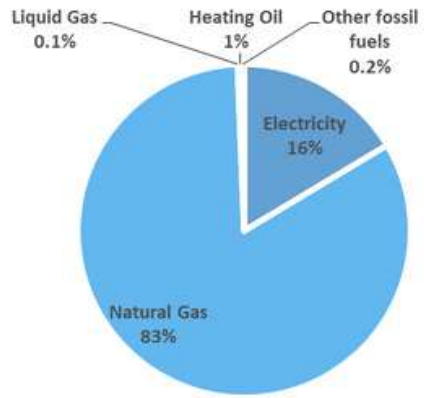


Figure 6: Share of Total Emissions from Social Housing by Fuel Type

The data reveals that social housing in DCC contributes with 114,574 tonnes of CO2 emissions where natural gas alone accounts for 83% of CO2 emissions, electricity 16%, Liquid gas with 0.1%, Heating oil with 1% and other Fossil fuel usage with 0.2 %.

Total Dublin City Emissions

This Baseline Emissions Inventory uses data from the 2016 census, and additional data collected as part of the Dublin Region Energy Masterplan (DREM) project released in 2021, to make an estimation of the baseline emissions for the Dublin City area for 2018. Total emissions are estimated to be 2,617,676 tonnes of CO2 equivalent for the 2018 baseline.

The sectors that produced the most emissions were the residential (excluding social housing), commercial and transport sectors, accounting for 21.8%, 39.4%, and 30.8% of the total emissions, respectively. Dublin City Council's own emissions accounted for 1.5% of this total, with social housing contributing another 4.4%. This highlights the need for collaboration and action from all stakeholders to tackle the remaining 94.1% of emissions from public and private sector sources in Dublin City.

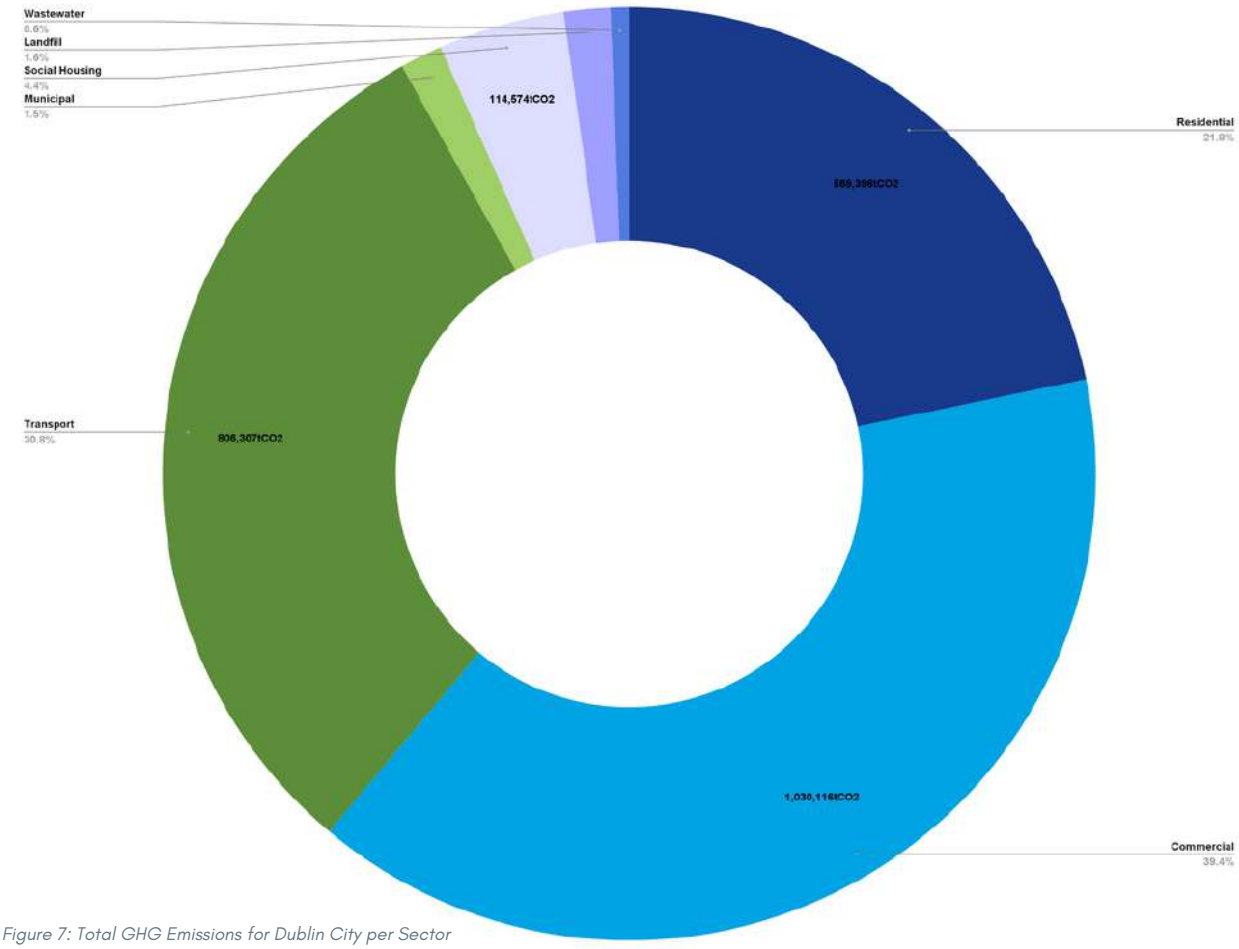


Figure 7: Total GHG Emissions for Dublin City per Sector

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. (NOTE THIS IS STILL IN DEVELOPMENT FOLLOWING STAFF FEEDBACK)

Hazard	Current Frequency	Assets	Health and Wellbeing	Environment	Social	Cultural Heritage	Financial	Reputational	Overall Impact Score
Heatwave	Common	Minor	Minor	Negligible	Moderate	Negligible	Minor	Minor	1.9
Drought	Occasional	Negligible	Minor	Minor	Minor	Minor	Negligible	Minor	1.7
Cold Spell	Common	Moderate	Minor	Negligible	Minor	Minor	Moderate	Minor	2.1
Heavy Snowfall	Occasional	Minor	Minor	Minor	Moderate	Negligible	Minor	Minor	2.0
Severe Windstorm	Very Frequent	Moderate	Minor	Minor	Moderate	Minor	Moderate	Minor	2.4
Coastal Flood	Occasional	Moderate	Minor	Minor	Moderate	Minor	Moderate	Minor	2.4
Coastal Erosion	Occasional	Negligible	None	Negligible	None	None	None	None	0.3
Pluvial Flood	Frequent	Moderate	Moderate	Minor	Minor	Negligible	Moderate	Minor	2.1
River Flood	Occasional	Moderate	Moderate	Minor	Moderate	Minor	Minor	Minor	2.4
Groundwater Flood	Rare	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	1.0

Exposure, Vulnerability and Impacts for Dublin City

Hazard	Business Services	Roads, footpaths, bridges: construction and maintenance	Building Stock	Community Infrastructure	Cultural Heritage	Stormwater	Wastewater/ Sewerage*	Water Supply*	Water Quality*	Biodiversity	Community Development	Emergency Response
Heatwave	Minor	Minor	Minor	Moderate	Minor	Minor	Minor	Moderate	Minor	Minor	Minor	Minor
Drought	None	None	None	None	Minor	Minor	Minor	Moderate	Minor	Minor	Minor	Minor
Cold spell	Moderate	Moderate	Moderate	Moderate	Minor	Moderate	Moderate	Moderate	Minor	Minor	Minor	Minor
Heavy Snowfall	Minor	Major	Minor	Minor	Minor	Moderate	Moderate	Moderate	Moderate	Minor	Moderate	Minor
Severe Windstorm	Moderate	Moderate	Moderate	Moderate	Minor	Minor	Moderate	Moderate	Minor	Moderate	Moderate	Moderate
Coastal Flood	Minor	Moderate	Moderate	Minor	Minor	Minor	Minor	Minor	Minor	None	Moderate	Minor
Coastal Erosion	None	Negligible	None	Negligible	None	None	None	None	None	None	None	None
Pluvial Flood	Minor	Moderate	Moderate	Moderate	Negligible	Moderate	Moderate	Minor	Moderate	Minor	Moderate	Minor
River Flood	Minor	Minor	Moderate	Moderate	Minor	Moderate	Moderate	Minor	Moderate	Minor	Moderate	Moderate
Groundwater Flood	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Summary of Service Level Impacts

Hazard	Assets		Health and Wellbeing		Environment		Social		Cultural Heritage		Financial		Reputational	
	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)
Heatwave	Minor	Moderate	Minor	Moderate	Negligible	Minor	Moderate	Major	Negligible	Minor	Minor	Moderate	Minor	Moderate
Drought	Negligible	Minor	Minor	Moderate	Minor	Moderate	Minor	Moderate	Minor	Moderate	Negligible	Minor	Minor	Moderate
Cold Spell	Moderate	Moderate	Minor	Minor	Negligible	Negligible	Minor	Minor	Minor	Minor	Moderate	Moderate	Minor	Minor
Heavy Snowfall	Minor	Minor	Minor	Minor	Minor	Minor	Moderate	Moderate	Negligible	Negligible	Minor	Minor	Minor	Minor
Severe Windstorm	Moderate	Moderate	Minor	Minor	Minor	Minor	Moderate	Moderate	Minor	Minor	Moderate	Moderate	Minor	Minor
Coastal Flood	Moderate	Major	Minor	Moderate	Minor	Moderate	Moderate	Major	Minor	Moderate	Moderate	Major	Minor	Moderate
Coastal Erosion	Negligible	Minor	None	None	Negligible	Minor	None	None	None	None	None	Negligible	None	Negligible
Pluvial Flood	Moderate	Major	Moderate	Major	Minor	Moderate	Minor	Moderate	Negligible	Minor	Moderate	Major	Minor	Moderate
River Flood	Moderate	Major	Moderate	Major	Minor	Moderate	Moderate	Major	Minor	Moderate	Minor	Moderate	Minor	Moderate
Groundwater Flood	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Futrure Impacts

Appendix 4

Maps of Climate Risks

To include:

- Fluvial Risk JB – Flooding.ie or floodinfo.ie
- Pluvial Risk JB – Flooding.ie or floodinfo.ie
- Sea Level rise – JB – Flooding.ie or floodinfo.ie
- Heat Risk (https://www.sciencedirect.com/science/article/pii/S2212095521002133#f0045)
- Cascading impacts – SD- Asked UCD
- Critical infrastructure – EPA research project
- https://webapps.geohive.ie/mapviewer/index.html search terms: Land Use
- Pobal Deprivation Maps – DG
- Biodiversity habitat map (Ask Lorraine)
- https://www.cso.ie/en/releasesandpublications/ep/p-dbersp/domesticbuildingenergyratingsfromasocialperspective2016/

Appendix 5

Maps of Land Use

To include:

- Residential - Typology Census MPRN SEAI BER or property register - DM
- Commercial - All uses Census MPRN SEAI BER or property register - DM
- Water - water bodies and drainage networ SD to get from Roy
- Soil/ Green cover
- Air Quality and Noise - Use Dublincity air and noise

Appendix 6

Policy Context/ Policy, Legislation & Research Updates

National

CAP23
Climate Action Plan 2023 was launched in December 2022 and is the second 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 CCAP 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 Final Greenhouse Gas Emissions 1990 - 2021
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 - 2021 in January, March and April 2023 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 2022 to facilitate the required monitoring and reporting processes.

The final estimates of Ireland's greenhouse gas inventory 1990 - 2021 were published in April 2023. These figures were based on the final 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 2021 final total national greenhouse gas emissions (excluding LULUCF2) are estimated to be 62.11 million tonnes carbon dioxide equivalent (Mt CO2eq), which equates to 5.2% higher than emissions in 2020. Emissions are over 1.5% higher than pre-pandemic figures in 2019.

Including LULUCF, final National total emissions for 2021 at 69.45 Mt CO2eq have used 23.5% of the 295 Mt CO2eq carbon budget for the period 2021-2025. This leaves 76.5% of the budget available, requiring an 8.4% average annual emission reduction from 2022-2025 to stay within budget.

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

EU

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
IThe 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 CO2 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.

Dublin City, alongside Cork City are part of the 100 EU Cities, in addition to the 12 cities from Horizon Europe associated countries. 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 Stoketake was established in the Paris Agreement as a process to assess the world's

International

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 CMA3 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 X '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 (link in with food strategy?) 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

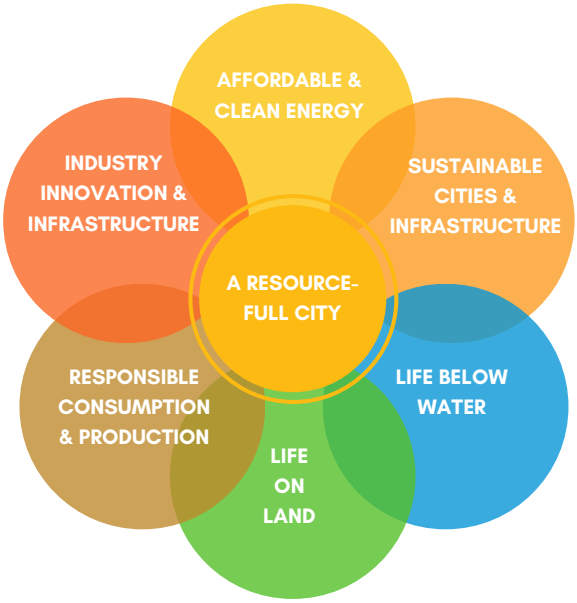
The Goals:
Goal 7: Affordable and Clean Energy
Goal 9: Industry, Innovation and Infrastructure
Goal 11: Sustainable Cities and Communities
Goal 12: Responsible Consumption and Production
Goal 14: Life below Water
Goal 15: Life on Land

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.

Connect – 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.

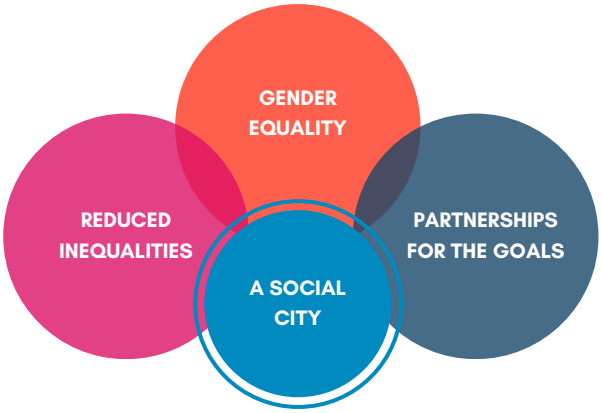
In terms of Goal 10, Local Authorities have many capacities which can be utilised to reduce inequalities, some of which are: leading by example, creating accessible public spaces, ensuring that communications are accessible to all and consulting with marginalised groups on issues that affect them.

'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)



GOALS SCORING The influence of one Sustainable Development Goal or target on another can be summarized with this simple scale.			
Interaction	**Name**	**Explanation**	**Example**
+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 climaterelated 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 nationalsecurity goals. Full protection of natural reserves excludes public access for recreation.

(Source: Nilsson, Griggs and Visbeck, 2016)

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.

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.

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 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?

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

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

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

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

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
Diet (including access to food)				
Physical activity				
Substance use				
Other				

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
Self-esteem				
Relationship building				
Communication skills				
Motivation				
Well-being				
Others				

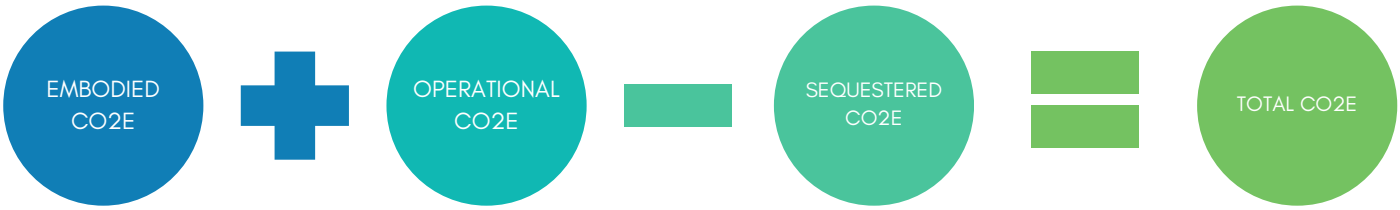
Consideration(s):

- Are the SDGs embedded?

Describe Impacts:

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

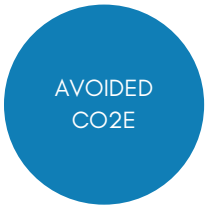
Greenhouse gas emissions of project in CO2e:



Embodied CO2e is all the CO2e 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 it's lifetime.

Operational CO2e is all the CO2e emitted during the operational phase, i.e. energy use.

Sequestered CO2e is all the CO2e that is sequestered through natural processes.



Avoided CO2e is the CO2e 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 tCO2e.

Resources to help calculate/understand emissions:

- Consumption Based Greenhouse Gas Emissions in Cities
- Carbon Calculator | Carbon Footprint | Climate Tookit 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:

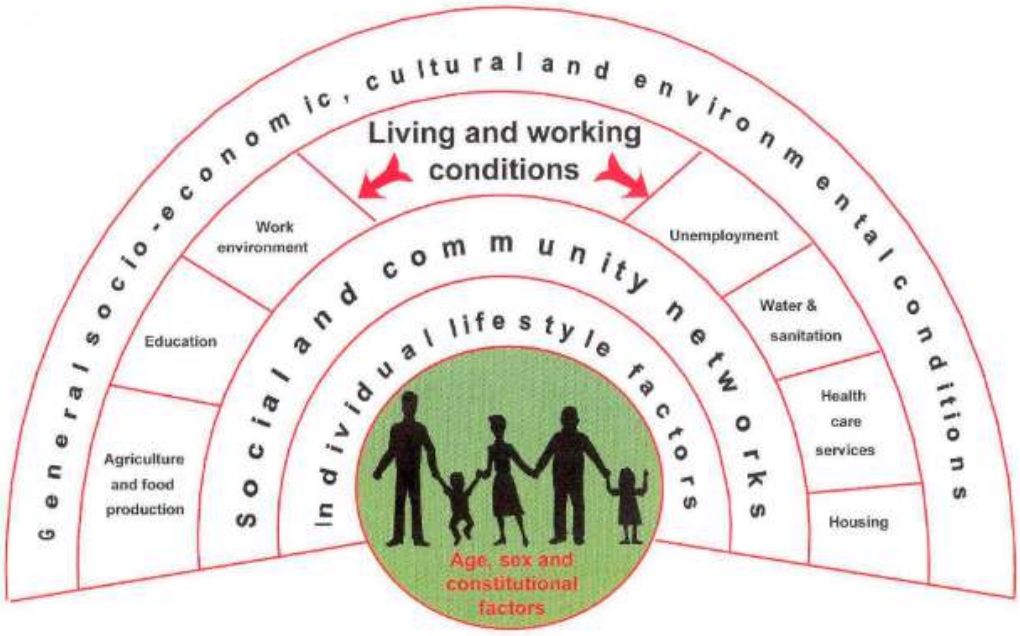
9 Co-creation (SDGs 16, 17)

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

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

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 (it 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.

BIBLIOGRAPHY

Department of the Environment Climate and Communications (2023a) Climate Action Plan 2023. Retrieved from: https://www.gov.ie/en/publication/7bd8c-climate-action-plan-2023/

Department of the Environment Climate and Communications (2023b) Guidelines for Local Authority Climate Action Plans. Retrieved from: https://www.gov.ie/en/publication/f5d51-guidelines-for-local-authority-climate-action-plans/

Environmental Protection Agency (2023) Ireland's Final Greenhouse Gas Emissions 1990-2021. Retrieved from: https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/Ireland's-Final-Greenhouse-gas-report-1990-2021_April-2023.pdf

European Commission (2021) European Green Deal: EU agrees stronger rules to boost energy efficiency [online]. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1581 (Accessed: 24 April 2023).

European Commission (2022) Nature Restoration Law [online]. Available at: https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en (Accessed: 26 July 2023).

European Commission (undated a) A European Green Deal [online]. Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en (Accessed: 26 July 2023).

European Commission (2022) Commission announces 100 cities participating in EU Mission for climate-neutral and smart cities by 2030 [online]. Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_2591 (Accessed: 26 July 2023).

European Commission (undated b) EU Mission: Adaptation to Climate Change [online]. Available at: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/adaptation-climate-change_en (Accessed: 26 July 2023).

Flanagan, P. and Kirwan, S. (2020) Understanding the Sustainable Development Goals: A Workbook for Further Education Institutions, Development Perspectives. Available at: https://developmentperspectives.ie/ResourcesPDFS/Understanding-the-SDGs.pdf (Accessed: 20 April 2023).

IPCC, (2023) Summary for Policymakers. In: Climate Change 2023: Synthesis Report. A Report of the Intergovernmental Panel on Climate Change. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 36 pages. (in press).

Murphy, E., Walsh, P. P. and Banerjee, A. (2021) Framework for Achieving the Environmental Sustainable Development Goals. Environmental Protection Agency.

Nilsson, M. et al. (2018) 'Mapping interactions between the sustainable development goals: lessons learned and ways forward', Sustain Sci, 13(6), pp. 1489-1503. doi: 10.1007/s11625-018-0604-z.

Nilsson, M., Griggs, D. and Visbeck, M. (2016) 'Policy: Map the interactions between Sustainable Development Goals', Nature, 534(7607), pp. 320-322. doi: 10.1038/534320a.

Stockholm Resilience Centre (no date) The SDGs Wedding Cake. Available at: https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cake.html (Accessed: 20 April 2023).

United Cities and Local Governments (2015) The Sustainable Development Goals: What Local Governments Need to Know. United Nations.

United Nations (2015) Transforming our world: the 2030 Agenda for Sustainable Development, United Nations General Assembly. Available at: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement (Accessed: 20 April 2023).

BIBLIOGRAPHY

United Nations Development Program (2023) Background On The Goals | United Nations Development Programme, UNDP. Available at: https://www.undp.org/sdg-accelerator/background-goals (Accessed: 20 April 2023).

United Nations Framework Convention on Climate Change (2022) What is the Global Stocktake? (Online) Available at: https://climatechampions.unfccc.int/what-is-the-global-stocktake/ (Accessed: 24 April 2023).