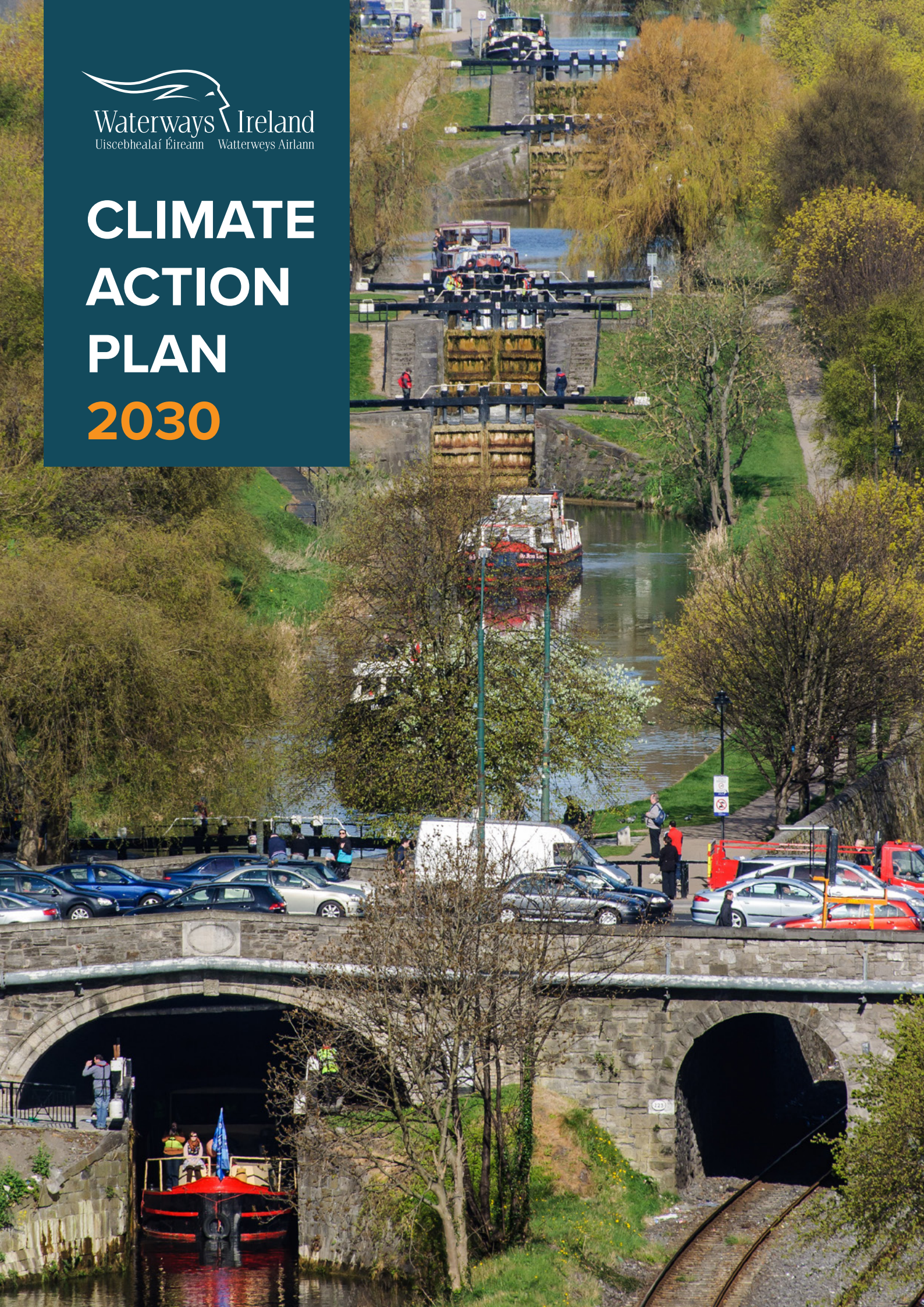
Waterways Ireland
Uiscebhealaí Éireann Watterweys Airlann

CLIMATE ACTION PLAN 2030



Waterways Ireland would like to acknowledge the guidance and commitment of M-CO in the development and formulation of this plan.

mco.ie

Cover Photo by: Conor Nolan

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1. OVERVIEW

Photo by: Waterways Ireland

1.1 FOREWORD

Waterways Ireland is responsible for the management, maintenance, development and promotion of over 1000 km of inland navigable waterways, principally for recreational purposes, across the island of Ireland.

Since being established in 1999, Waterways Ireland has enabled and developed the public understanding and enjoyment of the waterways and made significant contributions to the visitor economy and recreation sector. Through their various uses, the navigable waterways contributed €560m to the economy in 2019.

While Covid-19 saw reductions in international tourism to Ireland, the waterways saw significant growth in visitors using active travel, with increases of 19% in the walking/cycling routes across the network rising to 91% and 126% in key locations along the Shannon Navigation and Shannon-Erne Waterway. Waterways Ireland has been instrumental in developing Ireland's Greenways and Blueways and these form part of our commitment to sustainable tourism.

Such success aligns with our purpose within Waterways Ireland; to be the custodian of the inland navigations and collaborate to reimagine, maintain, develop and promote them to sustain communities, environment and heritage.

Our ambition recognises that our environment and heritage are the fundamental basis of our offering: creating inspirational inland navigations through conservation and sustainable development for the common good. The inland waterways network supports ecological biodiversity; approximately 80% of our landholdings are within European/National designated sites and the green infrastructure of the waterways provide vital ecosystem services.

Climate Change is therefore a critical issue for our waterways. In order to meet this challenge and deliver on our ambition, it is essential that Waterways Ireland continues to bring best practice to bear in our approaches to research, data integration and capacity building.

In addition, public service bodies, such as Waterways Ireland, have a leadership role to play in meeting national and international commitments to achieving net zero carbon emissions. We also need to support delivery on the UN Sustainable Development Goals and the creation of a climate resilient, vibrant, and sustainable island. This leadership role means building climate mitigation and adaptation into policies, ways of working and corporate planning to develop low carbon pathways.

The Waterways Ireland Climate Action Plan was shaped by extensive collaboration with staff and stakeholders and. It is my commitment that climate action will become integral to Waterways Ireland operations and developments.

John Mc Donagh, Chief Executive Officer

John Mc Donagh.

1.2 ABOUT THIS PLAN

As the North-South Cooperation Body responsible for vital shared heritage assets that stretch across the island of Ireland, Waterways Ireland has both an opportunity and a responsibility to be at the forefront of climate action. This includes

- adapting the waterways network to address climate change risks,
- carbon proofing major investment decisions
- developing programmes and projects on a systematic basis and moving over time to a near zero carbon investment strategy
- transport and energy are key target areas.

KEY TARGETS INCLUDE THE ACHIEVEMENT BY 2030 OF AT LEAST:

51%

EMISSIONS REDUCTION; AND

50%

IMPROVEMENT IN ENERGY EFFICIENCY.

Our Climate Action Plan details the approach we will take to achieve these targets and the seven objectives essential to delivering on our corporate ambition. The first two objectives are centred on people and processes; setting out how we will deliver through collaboration and engagement, and by leveraging our asset and resource management systems. The remaining five objectives focus on delivering across climate mitigation and climate adaptation. These integrated objectives are set out at Fig.1, in addition to showing how they align with the United Nations Sustainable Development Goals (UN SDGs):

Ireland's Waterways

LEGEND

- Waterways Ireland network
- Other navigations
- Tidal navigations
- Disused navigations
- Restoration in progress
- Border

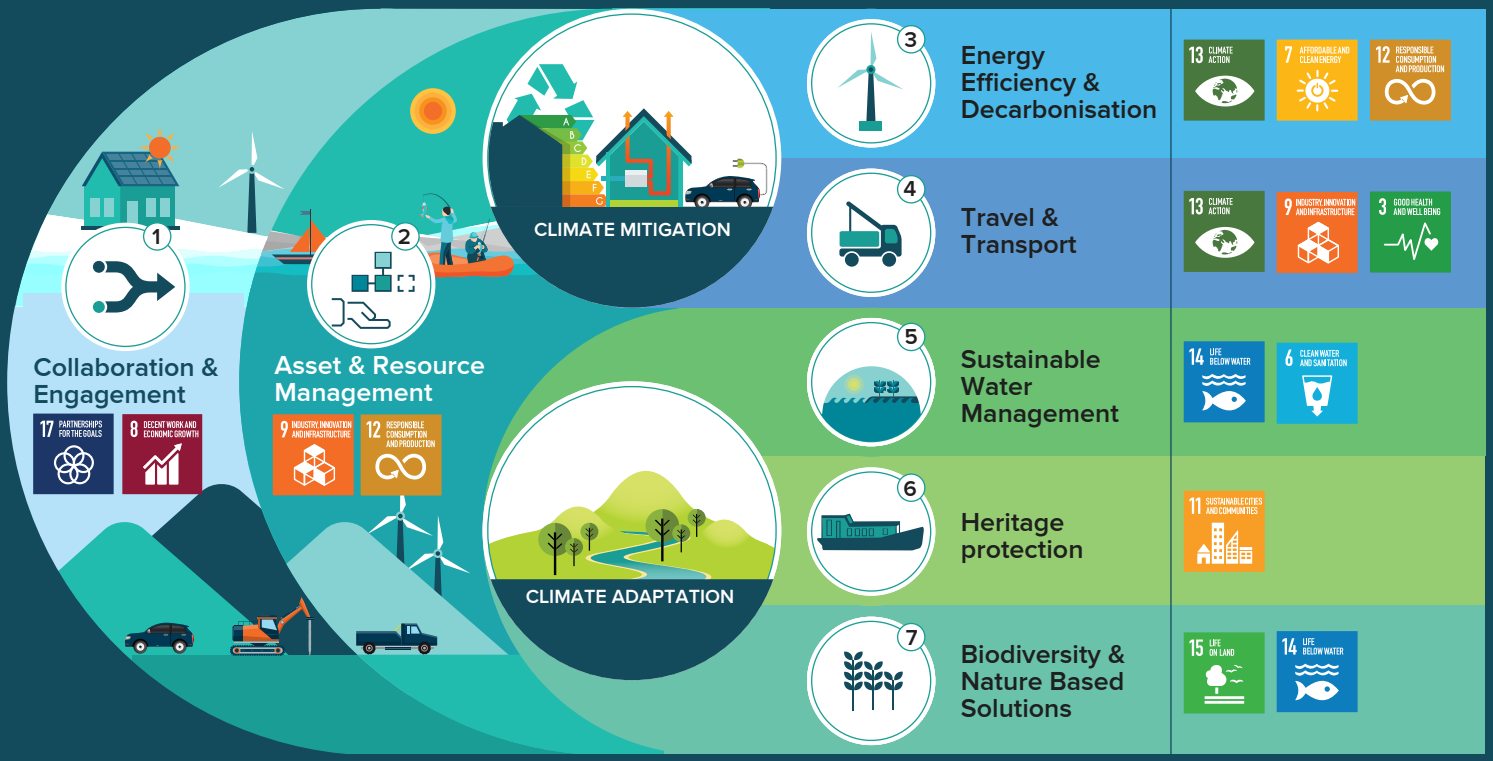


Fig.1: Waterways Ireland Climate Action Plan – Seven Integrated Objectives linked to UN SDGs

OUR PEOPLE AND PROCESSES

Collaboration & Engagement	**Objective 1:** Deliver the Waterways Ireland Climate Action Plan through empowerment of staff and proactive engagement and collaboration with our stakeholders.
Asset & Resource Management	**Objective 2**: Embed climate action processes and investment through effective integration with asset and resource management systems

The Waterways Ireland Climate Action Plan was developed through extensive staff and stakeholder engagement, which reflected a confidence that climate action is a shared ambition that can be addressed to protect our waterways. The process of developing the plan is carried over to the people-centred approach we will take to its implementation and our first objective is to ensure that this plan is delivered through the empowerment of Waterways Ireland staff and proactive engagement with our stakeholders.

In line with our values[1], Waterways Ireland strives to continuously improve in the delivery of quality services and infrastructure. We promote collaboration, innovation, and accountability. While our long-term ambition is to be net zero by 2050 continuing developments in policy and technology make it difficult to identify the lowest cost path to net zero at this time.

This Climate Action Plan is focused on the decade to 2030 but, from the outset, it is essential that we excel in innovating and learning; embracing experimentation to identify the right solutions (as with our EU Green WIN project2), learning from our in-house teams, benefitting from research partnerships and best practice, and iteratively refining our approaches to ensure we meet or exceed our targets.

In order to embed climate action across each facet of our organisation, Waterways Ireland will integrate implementation across our approaches to asset management and procurement, and other resource management processes.

Climate action will be integrated into frameworks encompassing decisions around the acquisition, operation, maintenance and disposal of assets as well as the procurement of energy, consumables and third-party services. These cross-organisational processes will be additionally supported by targeted actions and initiatives in priority areas required to tackle climate mitigation and adaptation.

1 https://www.waterwaysireland.org/CorporatePlan.pdf; p.22
2 https://www.nweurope.eu/projects/project-search/greenwin-greener-waterway-infrastructure/

CLIMATE MITIGATION AND CLIMATE ADAPTATION

Energy Efficiency & Decarbonisation	**Objective 3:** Achieve emission reductions and be a net-zero organisation by 2050 at the latest.
Travel & Transport	**Objective 4:** Enable staff, and stakeholders using our shared waterways, to use lower carbon travel and transport.
Sustainable Water Management	**Objective 5:** Ensure our waterways are managed sustainably and resilient to climate and other environmental risks.
Heritage Protection	**Objective 6:** Ensure our waterways heritage is climate resilient for the continued enjoyment of current and future generations.
Biodiversity & Nature-based Solutions	**Objective 7:** Manage and protect our waterways as biodiverse, healthy, vibrant and welcoming places.

Climate mitigation refers to actions and initiatives that reduce the amount of emissions released into the atmosphere, as well as actions to increase carbon sequestration. We are committed to reducing energy demand and carbon emissions from our infrastructure, offices and depots. Given the extent of our fleet and our network, a large share of our emissions is transport-related and this is also a key area of focus.

Climate adaptation refers to changes in practices and the built and natural environment to temper the negative impacts of climate change that are already happening, as well as prepare for future impacts. Climate adaptation is essential to ensure that our waterways, our infrastructure and the built and natural heritage of our network are resilient and welcoming for current and future users. Key climate adaptation risks and impacts are set out at Fig.2, and, all across our organisation, Waterways Ireland appreciates the importance of climate adaptation in order to safeguard the sustainable use and enjoyment of the waterways network. We appreciate too that, in taking action, new opportunities will arise to contribute to the creation of a more pleasant and healthier environment, and to enhance community connections and wellbeing.

Climate Change & Our Waterways

Key climate adaptation risks and impacts

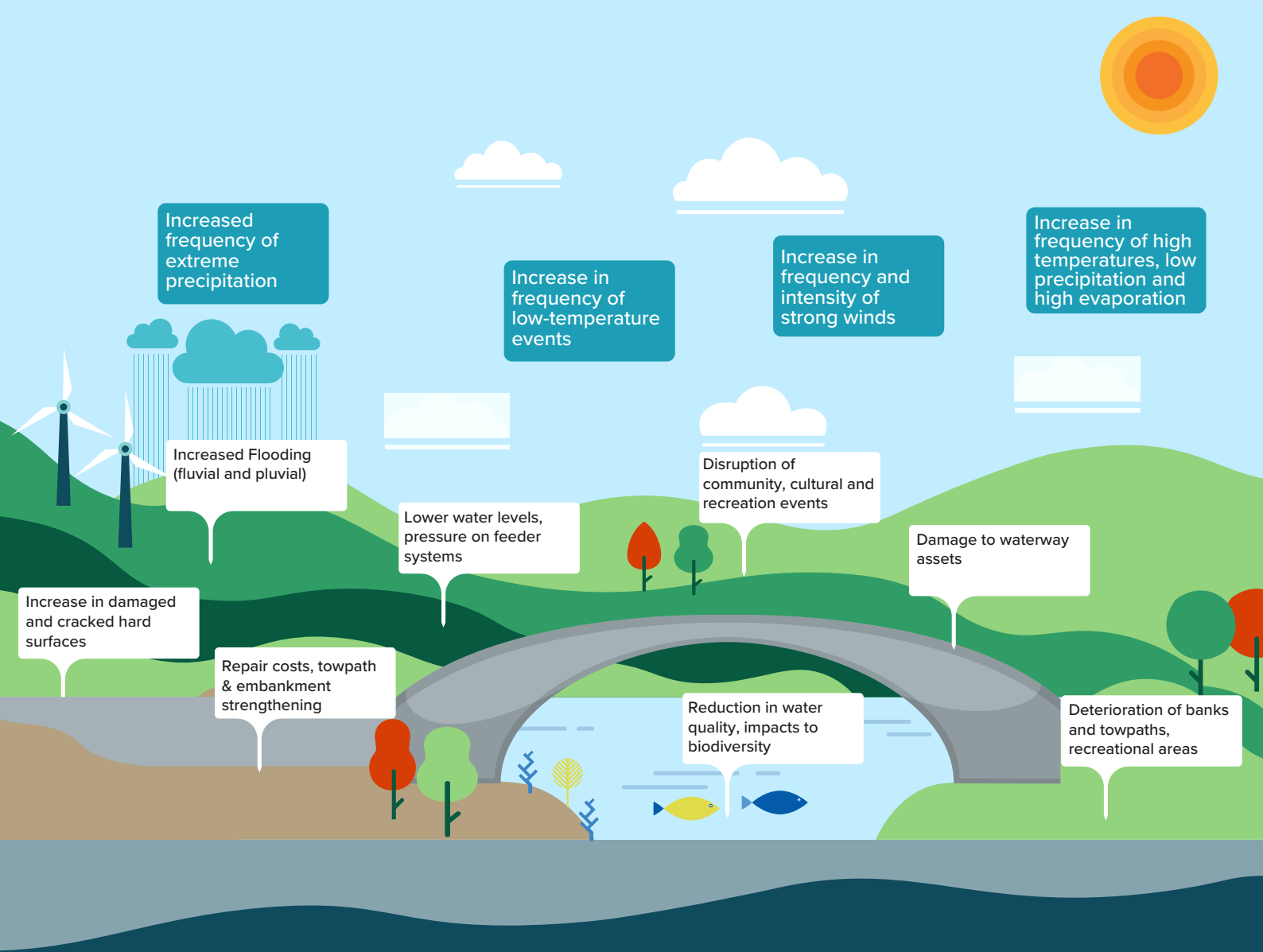


Fig.2: Key climate adaptation risks and impacts for the navigable inland waterways

Delivering through Objectives and Key Results

Delivering on the seven objectives for Waterways Ireland Climate Action Plan (WICAP) will engender a major transformation in how Waterways Ireland operates. These ambitious objectives have been developed through collaborative processes involving staff, external stakeholders and technical guidance. Such engagement will remain central to our implementation approach to ensure that we can deliver on our ambition for WICAP.

Across people and processes, adaptation and mitigation, the WICAP will be delivered through a framework of Objectives and Key Results (OKRs). There are three elements within an OKR Framework:

- Objectives – describe what we are seeking to achieve
- Key Results – are measurable outcomes or milestones essential to achieving the objective.
- Initiatives – Action Areas are the areas for which initiatives are required to deliver 'key results'.

The Waterways Ireland Climate Action Plan details the objectives and key results, and sets out action areas where initiatives are required to deliver the results. Embracing an OKR framework brings teams and partners together around common objectives, recognising that the results are what matters, and there is no monopoly on wisdom in how we get there.

Adopting an OKR approach for this Climate Action Plan reflects a commitment to continuously review the actions and initiatives that are most effective and efficient in delivering results, enabling Waterways Ireland to revise, renew or scale up the actions and initiatives that will help us to deliver on 2030 and 2050 targets. Progress in achieving key results will be measured quarterly, which will also ensure that our processes are agile and can keep pace with carbon budgets and other measures developed for our sector. Such processes will support reporting requirements and wider transparency in relation to progress, offering a dashboard reporting framework in relation to achieving key results and the progress in relation to objectives.

In support of this framework, our approach to governance (set out at Section 5, p.31) builds in the essential collaboration and feedback mechanisms that will enable the sharing of best practice and lessons learned, and the development of our adaptive capacity[3].

1.3 KEY POLICY CONTEXT

In line with the legal framework of the Paris Agreement[4], and the United Nations Sustainable Development Goals, Ireland and the United Kingdom share commitments to reduce greenhouse gas emissions as soon as possible, in order to achieve a climate neutral world by 2050.

In February 2022, the Intergovernmental Panel on Climate Change published a new assesment report "Impacts, Adaptation and Vulnerability". This report highlighted that global warming of 1.5°C in the near-term would present multiple risks to ecosystems and humans and that adaptation requires moving beyond short-term planning and ensuring timely and adequate implementation.

In Ireland, the National Adaptation Framework sets out practical steps to build climate resilience to extreme impacts of climate change such as flooding, drought and storms. A series of sectoral plans have been developed with Waterways Ireland having responsibilities in delivering against objectives in relation to a number of the plans, including built and archaeological heritage, biodiversity and flood risk management. Ireland's Programme for Government targets a 51% reduction in greenhouse gas emissions by 2030 and net zero emissions by 2050.

3 https://www.weadapt.org/knowledge-base/vulnerability/adaptive-capacity-an-introduction
4 https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

The updated Climate Action & Low Carbon Development (Amendment) Act 2021, establishes the legislative basis for climate action and the 2050 target. The goals for public sector decarbonisation include 51% emissions reduction and 50% improvement in energy efficiency by 2030. It also includes a roadmap to carbon neutrality by 2050.

As a public body, Waterways Ireland is required to deliver against these targets. Indeed the public sector received a mandate to provide leadership in this area and the proactive approach taken by Waterways Ireland epitomises the 'exemplar model' the Government wishes the public sector to adopt. The Irish Government is currently preparing a new Climate Action Plan which will detail how climate targets will be measured.

In Northern Ireland, the second Northern Ireland Climate Change Adaptation Programme (NICCAP2) focuses on key priority areas identified as requiring urgent adaptation action over the five years to 2024, including: natural capital; infrastructure, people and the built environment, disruption to business and flood security. Climate Action in Northern Ireland operates in line with the 2008 UK Climate Change Act.

As of March 2022, The Climate Change (no. 2) bill passed the final stages in Northern Ireland Assembly and this sets greenhouse gas reduction targets for 2050, 2040 and 2030 for the reduction ofemissions. The bill also includes a system of carbon budgeting and climate change reporting duties on public bodies. Under this bill all departments in Northern Ireland must ensure that net-zero emissions are achieved by 2050.

The policy context in Ireland and Northern Ireland remains dynamic and targets will be challenging. This places a responsibility on the Waterways Ireland Climate Action Plan to be highly ambitious, while remaining open to incorporating best practice to achieve and exceed statutory targets.

View Annex 1 for more details on the policy context.

2. PROCESS AND PARTICIPATION IN DEVELOPING THIS PLAN

Photo: Walkway at Acres Lake

PROCESS AND PARTICIPATION

The Waterways Ireland Climate Action Plan (WICAP) benefitted from an extensive development process, through which research and analysis were supported by a strong emphasis on engagement.

Climate change requires transformative action and all members of our organisation will have a role to play. For these reasons, it was essential that our approach to developing the plan was guided by cross-organisational expertise, reached across each team and engaged with external partners and stakeholders. This collaborative approach to the development of the Climate Action Plan comprised the following elements:

Pre-plan Survey

Prior to embarking on the development of a Climate Action Plan, Waterways Ireland carried out a climate change survey with stakeholders and users. The survey highlighted user-concerns in relation to climate change and its impact on the use and enjoyment of the inland waterways network. Respondents also considered a range of options in relation to climate action, with strong support for climate adaptation measures which could take account of climate change, as well as for enhanced research into the impact of climate change on the inland waterways network.

Appointment of Consultants

Following a public tendering process, Waterways Ireland appointed M-CO to manage the development process for this Climate Action Plan. The brief for this work highlighted the value of ensuring that the expertise, experience and insights of our staff could be brought to bear in the development of the plan, as well as the importance of engaging with external stakeholders.

Climate Action Plan Core Team

A WICAP Core Team was established, bringing together representatives from across the organisation (See Annex 3). The core team supported the process and the work of M-CO across staff and stakeholder consultation, analysis of inputs and framing the approach to WICAP and its objectives and key results.

Institutional Mapping, Research and Analysis

In parallel with this work, a review was undertaken of the policy context for climate change and climate action in Ireland and Northern Ireland. Research was also undertaken into climate and sustainability initiatives being undertaken by other navigational authorities and water management organisations across Europe. Existing and available data on Waterways Ireland current performance in relation to energy and emissions was also taken into account.

Engagement across Waterways Ireland

Guided by the core project team, extensive research and engagement was undertaken across Waterways Ireland. This was achieved through:

- **Social media communication** in relation to the climate action plan, key areas of focus and the importance of the plan and the process benefitting from the first-hand knowledge of staff across the organisation, in particular via the core team.
- **Communication from the CEO** in relation to the challenges and the opportunities of climate action for Waterways Ireland.
- **A Climate Action Plan survey** of individuals across the organisation, to which there were 107 responses.
- **Climate-focussed team meetings** for each team across Waterways Ireland, with a structured agenda designed to capture actions already being taken that could be built upon; identify key priorities for climate action; and consider short, medium and long-term actions/projects that could be advanced.

- **Interactive webinar** – with a further 40 staff (additional to the core team) in follow-up to the staff survey and team meetings; presenting on the emerging framework and priorities and obtaining feedback and insights.
- **Engagement with Heads of Teams** in relation to draft objectives and key results; ensuring that the ambition of the plan is aligned for implementation.
- **Senior Management Team** consideration of the process and approach, and review of each objective and key result prior to approval of the draft plan for public consultation.

Stakeholder Engagement

The process for developing the climate action plan was also supported by a number of online presentation and feedback sessions with external stakeholders. These sessions took place in July 2021 and included Waterways Ireland's sponsor departments, other departmental and state agency experts relating to climate action and environmental protection, trade unions, non-governmental organisations engaged in areas of climate, sustainability and biodiversity, and representatives from local authorities, commercial organisations and users with an interest in the waterways.

Technical Advisory Group

Waterways Ireland also brought together a Technical Advisory Group for the WICAP. This group included experts on climate adaptation, mitigation and climate governance from Ireland, Northern Ireland, as well as international contributors (See Annex 4). This group met on two occasions in guiding development of the draft plan and were consulted on the content and framing of the draft plan prior to its adoption.

Drafting and Public Consultation

This Waterways Ireland Climate Action Plan was opened to public consultation and presented through a community webinar. Following a 12-week period of consultation, submissions were reviewed and the final Climate Action Plan was prepared.

3. PERFORMANCE AND TARGETS

Photo by: Waterways Ireland

3.1 ENERGY AND EMISSIONS TARGETS

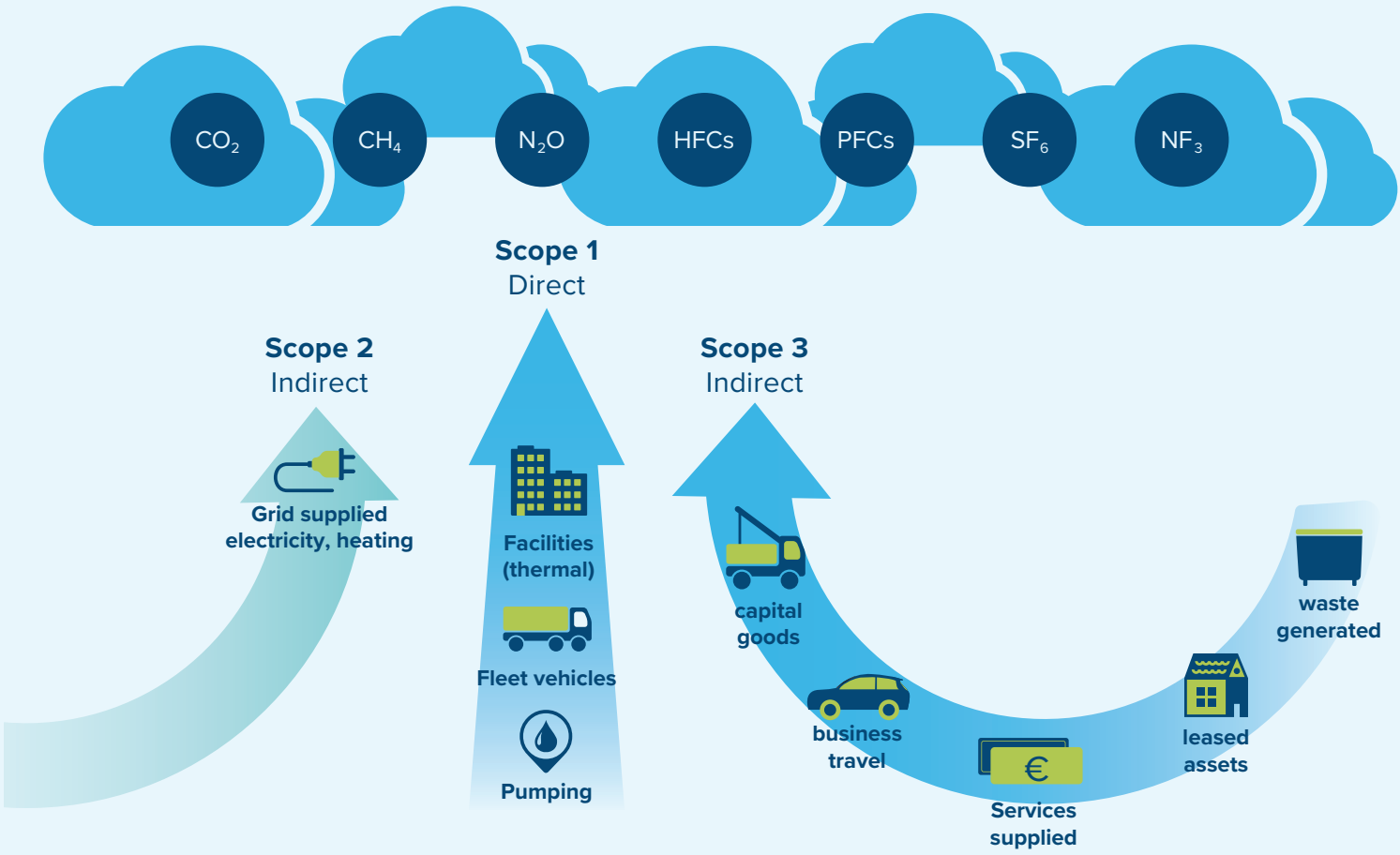
The key targets of the Waterways Ireland Climate Action Plan are that, by 2030, we will have achieved at least:

- 51% reduction in emissions; and
- 50% improvement in energy efficiency.

As an organisation we need to be consistent with the objectives of the Paris Agreement and ambitions of the governments of Ireland and Northern Ireland, Waterways Ireland will reach carbon neutrality by 2050. We will do this by meeting and, where possible, exceeding our statutory targets in line with jurisdictional climate action targets and carbon budgets.

We will achieve a measurable reduction in our emissions over the period of this Climate Action Plan. We will target the decarbonisation of the buildings, infrastructure, assets and fleet responsible for the greatest proportion of our emissions.

Fig.3: Adapted from World Resources Institute Greenhouse Gas Protocol, indicating scopes of emissions to be targeted and related activities



In order to meet the huge challenge of achieving emissions neutrality our Climate Action Plan sets out a methodology for prioritising and accelerating actions that will deliver transformational action. Our initial focus will be on minimising Scope 1 and Scope 2 emissions (per Fig.3) while working with partners and regulatory authorities to identifying the best means to measuring and targeting Scope 3 emissions.

A net zero Waterways Ireland by 2050 will mean:

- Net zero Greenhouse Gas emissions from energy use in buildings, infrastructure and transport (Scope 1 emissions);
- Net zero Greenhouse Gas emissions from the energy we purchase from the grid (Scope 2 emissions);
- Net zero Greenhouse Gas emissions from the treatment of waste generated by Waterways Ireland (Scope 1 and 3 emissions)
- Minimised GHG emissions related to emissions from goods and services consumed by Waterways Ireland, staff commuting and the use of our waterways (Scope 3 emissions).

Commitment to Third Level Collaborations such as with the James Madison University Study Abroad Programmes from Virginia, USA

3.2 OUR ENERGY USE

Waterways Ireland uses multiple types of energy to run our offices, depots, vehicles, plant and machinery, pumping systems and other infrastructure critical to the functioning and enjoyment of the waterways. Taking pre-COVID data into account, we consumed almost 7.4m kWh of energy and emitted 1.5m kg CO2 in 2020.

Of the three key areas of our energy use in 2020, transport accounted for 55.7% of energy consumption (Fig. 4):

2020 WATERWAYS IRELAND ENERGY CONSUMPTION - TOTAL PRIMARY ENERGY REQUIREMENT KWH

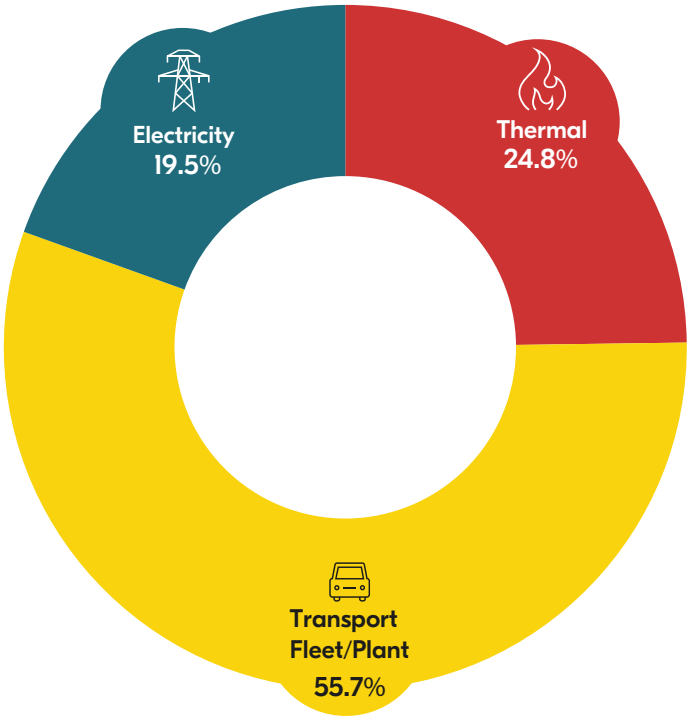


Fig.4 Waterways Ireland – Key energy uses by energy type (2020)

In terms of our energy types, it is evident that we are still dependent on fossils fuels for transport and heating our offices and this is something we must continue to address.

3.3 OUR ENERGY EMISSIONS

In terms of energy-related emissions in the same year, transport accounted for 61.6% of our energy-related carbon emissions (kg CO_2) taking mineral oil fuels and biofuels into account (Fig. 5):

2020 ENERGY RELATED EMISSIONS kg CO_2

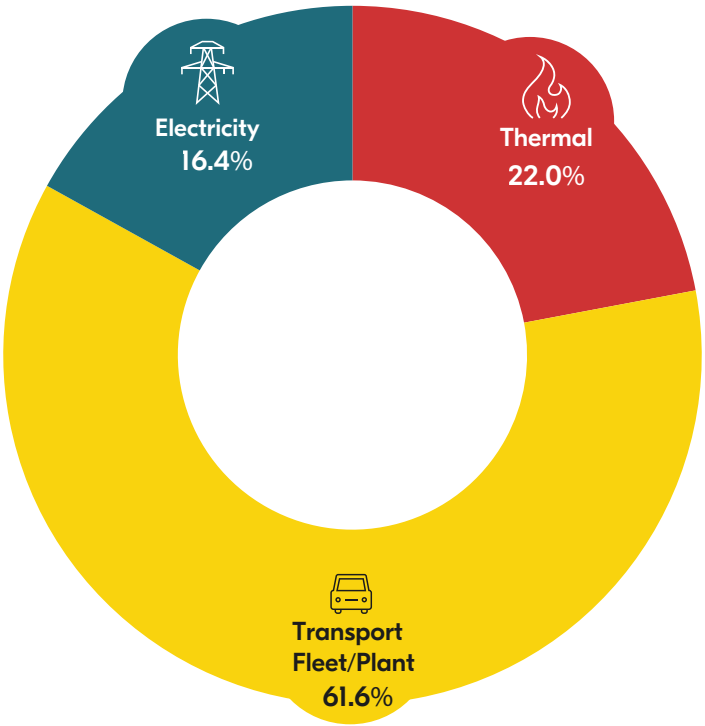


Fig.5 2020 Waterways Ireland energy related emissions (kg CO_2)

3.4 PERFORMANCE 2010 - 2020

Looking at our total energy consumption over a longer timeframe, Waterways Ireland has used 9% less energy overall since 2010. The chart below (Fig.6) shows how our energy usage has fluctuated across that timeframe. Breaking the uses down shows that energy consumption for heating (thermal) reduced by 4% compared to 2010 but our transport energy consumption reduced by 1% compared to 2010.

2010-2020 WATERWAYS IRELAND TOTAL FINAL ENERGY CONSUMPTION (kWh)

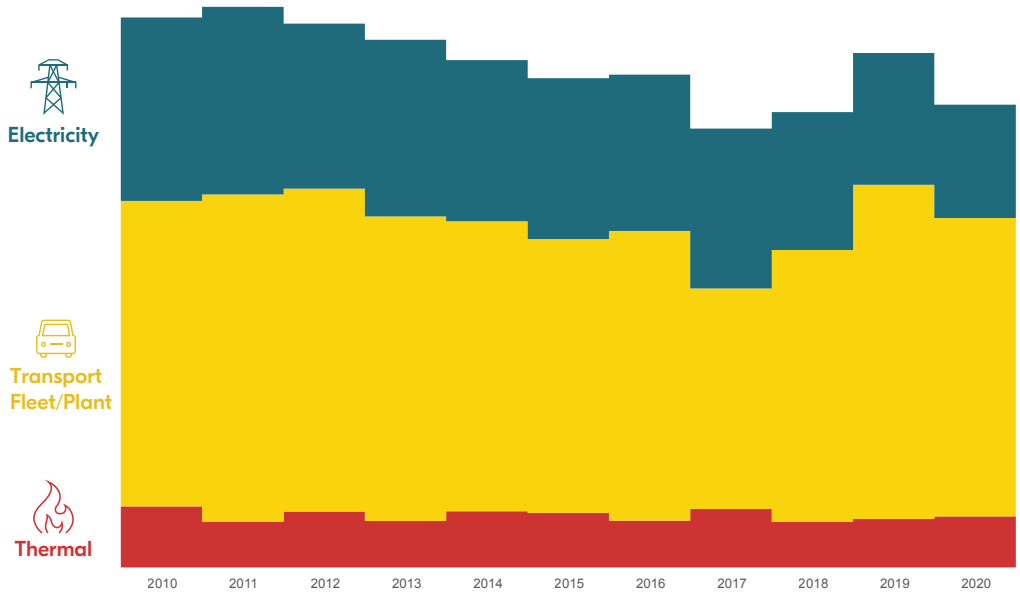


Fig.6 2010-2020 Waterways Ireland Total Final Energy Consumption (kWh)

While our energy consumption has not decreased significantly since 2010, our total CO_2 emissions have declined by 19.8% in that timeframe. What the chart (Fig.7) demonstrates, however, is that much of the decrease is attributable to the electricity and biofuel blended transport fuels we purchase, which is being decarbonised through increases in renewables on the grid.

It is clear that transport remains the key driver of our emissions and 95% of our transport uses are currently reliant on fossil fuels.

3.5 CHALLENGES AND OPPORTUNITIES

The 19.8% reduction in CO_2 emissions achieved in the previous decade indicates the challenge that lies ahead to 2030.

The analysis nonetheless indicates some immediate opportunities to model our pathways towards achieving our 2030 and 2050 and to decarbonise our organisation. Key areas include electrifying our fleet, fuel switching (high blend biofuels, hydrogen) and fleet management, moving to renewable heat and energy efficient heating (such as retrofitting heat pumps) and scaling up energy efficient operations (e.g. equipment, lighting etc).

If we proceed on a 'business-as-usual' model further emissions reductions are anticipated through the decarbonisation of the electricity that Waterways Ireland uses (Indirect / Scope 2 emissions). Figure 8 presents the pathway of our emissions under a 'business-as-usual' scenario. What is clear, however, is that these reductions alone are insufficient, with emissions remaining at more than 500,000kg CO2 above the 2030 target. Urgent action in transport and thermal uses will be necessary to achieve the targets set out, and additional efficiencies in electricity use will also be required.

Implementation of the Waterways Ireland Climate Action Plan will enable us to achieve and potentially exceed our targets. Working from a 2016 – 2018 baseline, Fig.9 sets out the glidepath required to achieve our targets in terms of direct emissions (thermal, transport, fleet and plant) and indirect emissions (electricity).

2010-2020 WATERWAYS IRELAND TOTAL ENERGY RELATED EMISSIONS (kg CO_2)

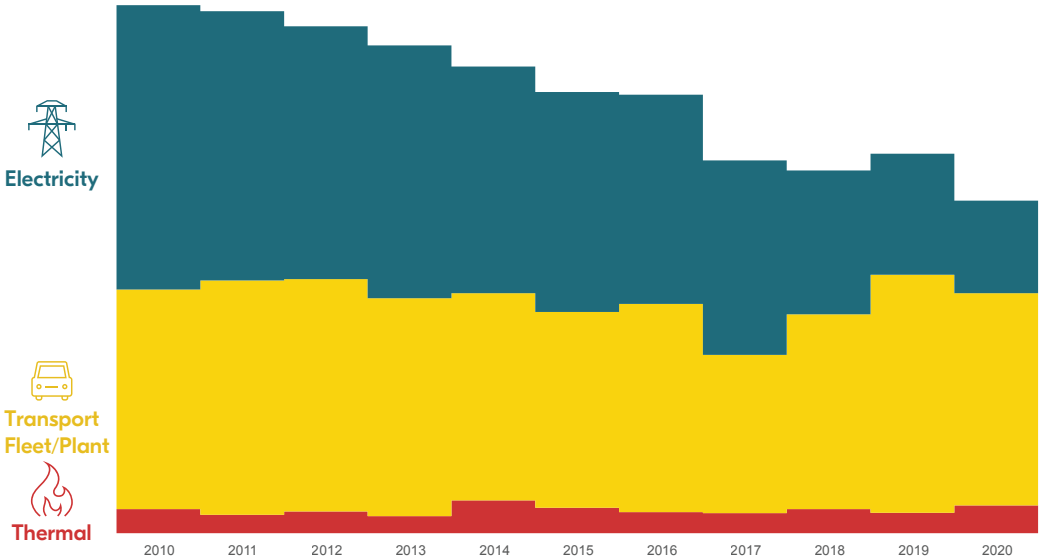


Fig.7 2010-2020 Waterways Ireland Total Energy Related Emissions (kg CO_2)

2016 - 2030 GREENHOUSE GAS EMISSIONS IF WATERWAYS IRELAND EMISSIONS REMAIN THE SAME AS 2020 (kg CO_2)

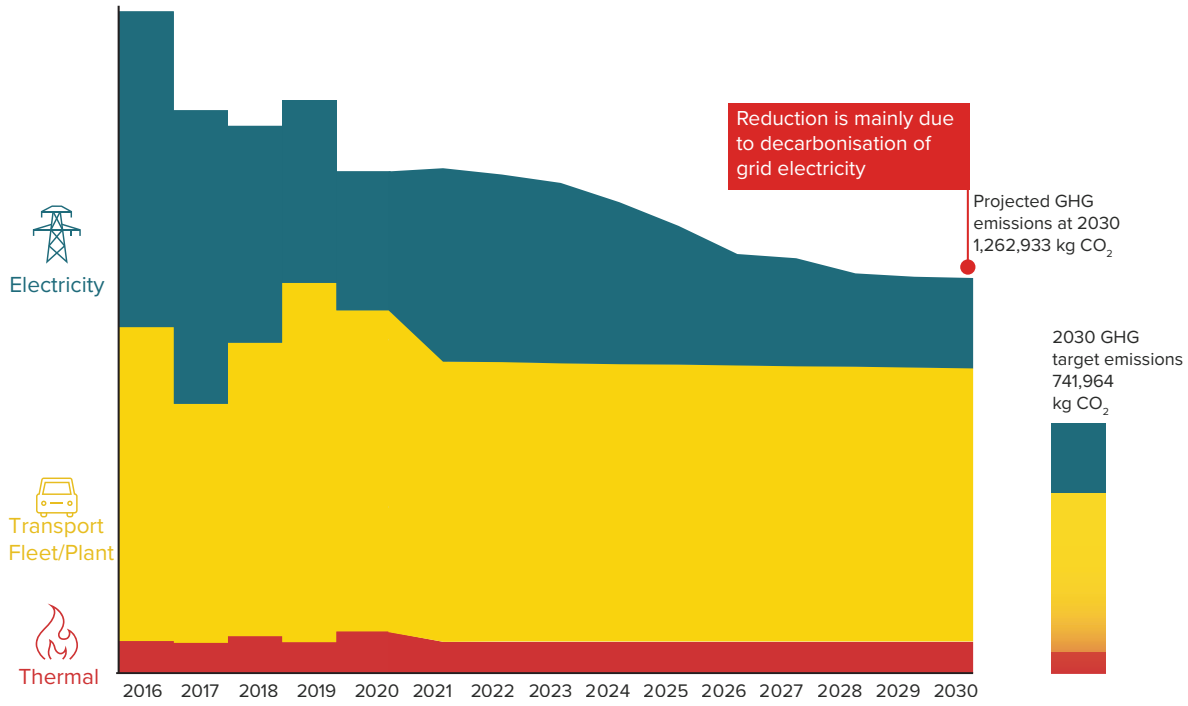


Fig.8 Waterways Ireland – Business as usual emissions and gap to target (2021 – 2030)

WATERWAYS IRELAND – MODELLED SCENARIO TO MEET 2030 EMISSIONS TARGETS (2021 – 2030)

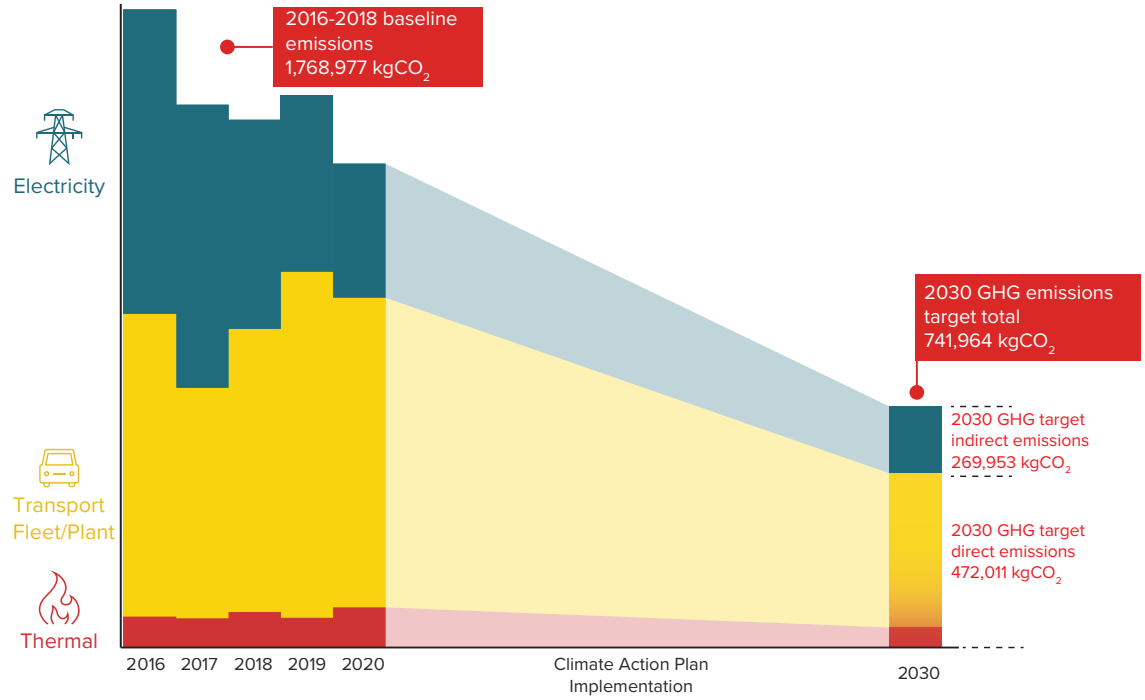


Fig.9 Waterways Ireland – Modelled scenario to meet 2030 Emissions Targets (2021 – 2030)

It is essential that we take transformative action in the coming years (2022, 2023 and 2024) in order that reductions can be achieved to meet our targets in the years thereafter.

4. OBJECTIVES AND KEY RESULTS

Photo by: Waterways Ireland

Based on input from Waterways Ireland staff, the Technical Advisory Group and External Stakeholders, seven objectives have been identified for delivery. This section sets out these objectives, with key results and a proposed timeframe within which key results will be achieved.

4.1 COLLABORATION AND ENGAGEMENT

1

Objective 1: Deliver the Waterways Ireland Climate Action Plan through empowerment of staff and proactive engagement and collaboration with our stakeholders.

The development of the Waterways Ireland Climate Action Plan has been led by a core project team with representatives from across the organisation. Each and every team has also shared their experience and expertise in the development of this Climate Action Plan and its success will depend on staff who are informed and empowered to act.

We will build capacity within our staff, recognising this is a shared ambition and responsibility for the organisation. We will also ensure that those with first-hand experience are to the fore in the development, delivery and sharing of solutions that can contribute to the ambitious targets we need to achieve.

We realise that climate action is not something we can achieve alone. We also know that we do not have all the answers and we want to ensure that we are benefitting from, and sharing, best practice and the most up-to-date thinking. Delivery of our Climate Action Plan will be in collaboration with key national and local partners and with communities. We will also work to cultivate opportunities for climate related education and research.

Key results for Collaboration and Engagement:

- KR 1.1: A governance framework is established that engages staff, drives change, co-ordinates energy management and decarbonisation activities, and shares feedback and learning from projects, processes and research carried out under this Climate Action Plan (See Fig.10)
  - Timeframe: 2022
- KR 1.2: A Climate Action Manager is appointed (with support staff) to coordinate information and capacity-building, which promote the integration of processes and a culture of research, learning and sharing in pursuit of climate action
  - Timeframe: 2022
- KR 1.3: A long term training programme is developed for relevant supervisors and managers to undertake energy management and climate risk audits
  - Timeframe: 2022 - 2024
- KR 1.4: Staff empowered through development of employee-led ‘task and finish’ groups to identify and implement climate action measures across all work areas
  - Timeframe: Annually from 2022
- KR 1.5: Opportunities to partner in climate action initiatives with public, private and education sectors are identified by the Climate Action Steering Group, particularly in research and technical projects, including citizen science
  - Timeframe: Annually from 2022

4.2 ASSET AND RESOURCE MANAGEMENT

2

Objective 2: Embed climate action processes and investment through effective integration with asset and resource management systems.

Delivering an effective Waterways Ireland Climate Action Plan means integrating climate-first processes across our systems. This will ensure that climate-proofed elements are integrated across new and existing waterway assets (design, materials, skills). The monitoring and review systems we have in place will also be adapted to include assessment of environmental and energy performance and climate resilience of Waterways Ireland's assets, including asset lifecycle extension and reuse.

We will also strengthen our procurement decisions and processes to ensure that they are climate-proofed and support the circular economy. Economic appraisals of significant expenditures, projects or proposals will include the shadow price of carbon as set out in the Public Spending Code.

Through the sustainable practices of our conscientious staff, a lot of excellent work is already ongoing and a key focus for this Climate Action Plan will be to ensure that we garner learnings from those with first-hand experience and share them across the organisation.

Key results for Asset and Resource Management:

- KR 2.1: Asset management processes are reviewed and refined to incorporate climate action (risks and opportunities) across the operation, maintenance and disposal of assets
  - Timeframe: 2022 - 2023
- KR 2.2: Life cycle value (whole life costing of assets or systems of assets) tools to support the climate-proofing of asset and resource management processes are implemented
  - Timeframe: 2022 - 2023
- KR 2.3: Climate focussed KPIs are developed for key asset types (high energy use / high emissions / high risk) to support climate-proofing of asset management systems and processes
  - Timeframe: 2022 - 2023
- KR 2.4: Remote and real time monitoring is implemented on key assets with decision support tools and data integration to mitigate against climate risks, such as shrink-swell subsidence
  - Timeframe: 2022 - 2025
- KR 2.5: An enhanced organisation-wide approach to sustainable procurement is developed and implemented in line with Government guidelines (to include capacity building in relation to procurement decision-making)
  - Timeframe: 2022 - 2023

4.3 ENERGY EFFICIENCY & DECARBONISATION

3

Objective 3: Achieve emission reductions and be a net zero organisation by 2050 at the latest.

Within this objective Waterways Ireland will deliver a series of actions to improve our energy efficiency and transition away from carbon intensive energy. These actions will be instrumental in enabling the organisation to achieve a 51% reduction of emissions and improve our energy efficiency by 50% by 2030, compared to the baseline.

This will see a focus on energy management, especially in the area of energy efficient operations for infrastructure, offices & depots. We will also research and identify optimum solutions for retrofitting our infrastructure and buildings, as well as exploring opportunities for 'on-site' renewables such as PV, micro-wind, and micro-hydro technology.

Underpinning all of this will be our commitment to collaboration and engagement, which will empower and enable our staff and stakeholders to mitigate, and adapt to, climate change.

Research, advocacy and partnership will be critical to exploring and establishing evidence-based approaches to reducing stakeholder and third-party emissions (Scope 3). This will see us working with key suppliers as well as stakeholders.

In delivering this objective, Waterways Ireland will proactively assess the potential to conserve energy, reduce energy usage and source heat from renewable energies such as solar panels, heat pumps, micro-hydro and Combined Heat and Power. We will follow public sector guidelines in measuring the carbon impact of our activities, and report regularly in relation to progress against targets.

This objective will ensure that Waterways Ireland meets statutory requirements such as the requirements that all public sector buildings[5] are retrofitted to a BER level of B by 2030 and the energy performance that requires new buildings to be "Nearly Zero Energy". To make our progress visible to staff and the public, we will display an up-to-date Display Energy Certificate that clearly shows energy use in all our key buildings and depots.

Key results for Energy Efficiency & Decarbonisation:

- KR 3.1: Energy demand and carbon emissions reduced annually in line with the glidepath (See Fig.9) required to meet our 2030 and 2050 targets
  - Timeframe: Annual from 2022
- KR 3.2: Annual programme of efficiency measures implemented on infrastructure with high energy demands e.g. specific pumps, buildings and depots
  - Timeframe: 2022 - 2024
- KR 3.3: 100% of Waterways Ireland electricity needs are procured from renewable sources
  - Timeframe: 2023

5 Guidance currently under development for application of retrofitting to heritage buildings and related structures

- KR 3.4: Waterways Ireland energy management programme fully operational, with a focus on resourcing and processes
  - Timeframe: 2023
- KR 3.5: Energy and emissions data quality improved and informing decision-making by comparing energy use against baseline (and, where possible, include asset level data, data integration and real time monitoring)
  - Timeframe: 2024
- KR 3.6: ISO 50001 certification for energy management achieved
  - Timeframe: 2025

4.4 TRAVEL & TRANSPORT

4

Objective 4: Enable staff, and stakeholders on our shared waterways to use lower carbon travel and transport.

Transport is a key target area of the Waterways Ireland Climate Action Plan. The bulk of our emissions are transport-related, and reducing emissions from our fleet and business travel is a top priority. In delivering on this priority, we will ensure that we actively support plans to decarbonise transport across the island of Ireland.

Electrification of our fleet will be the preferred option for smaller vehicles, but we will need to focus on alternatives (e.g. HVO or hydrogen) for larger fleet and plant. Indeed, Waterways Ireland has initiated a program of introducing hybrid and fully electric fleet to the organisation. Beyond this, we need to focus on identifying and implementing best-practice approaches to fleet management.

In delivering this objective, Waterways Ireland will ensure that the aims of the Clean Vehicles Directive regarding the procurement of Low Emission Vehicles by public authorities are delivered. To support this, we will prioritise the provision of adequate electric vehicle charging infrastructure where parking is provided for employees and encourage employee car-pooling, where appropriate. We will also continue to create active travel options for employees and waterway users.

We have made considerable progress in supporting active travel in recent years and have been instrumental in developing Ireland's Greenways and Blueways. Building on this investment, we will continue to create further active travel options for employees and waterway users in order to deliver on our commitment to sustainable tourism

Key Results for Travel & Transport:

- KR 4.1: Emissions from all business travel reduced in line with the glidepath required to meet our 2030 and 2050 targets (See Fig.9)
  - Timeframe: Annual from 2022
- KR 4.2: Fleet and plant management systems and processes are enhanced; strengthening data, transport planning and coordination, and incorporating climate-proofing into fleet replacement plans in line with Clean Vehicles Directive requirements
  - Timeframe: 2023-2024
- KR 4.3: Electric Vehicle charging infrastructure and active travel options for employees and waterway users are provided at key locations
  - Timeframe: 2022 - 2026
- KR 4.4: Achieve 20% digital and remote working, where appropriate, in order to reduce staff travel
  - Timeframe: 2022 - 2023

4.5 SUSTAINABLE WATER MANAGEMENT

5

Objective 5: Ensure our waterways are managed sustainably and resilient to climate and other environmental risks.

Water is our primary resource and it is in our interests and those of our stakeholders to ensure best-practice in sustainable water management. We recognise that real-time, reliable monitoring and robust data integration processes are critical to the management of this resource.

Although we do not have primary responsibility for flood risk management, Waterways Ireland has a vital role to play in informing risk assessments, ongoing projections and longer-term research related to flooding.

We also need to ensure that the planning and design of our infrastructure takes account of, and is adaptable to, the potential future impacts of climate change. In these ways, we will contribute to the Northern Ireland Climate Change Adaptation Programme, Ireland's Sectoral Climate Adaptation Plans, and land-use plans.

Key results for Sustainable Water Management:

- KR 5.1: Risk management processes are fully integrated into asset management and business planning, using consistent indicators of flood/drought resilience for assets and waterways network
  - Timeframe: 2022 - 2023
- KR 5.2: Develop accurate monitoring systems and processes to enable real-time hydrometric data to inform risks, opportunities and decision-making across our organisation
  - Timeframe: 2022 - 2024
- KR 5.3: Deliver a Water Resource Management Strategy, that focuses on sustainable water use and incorporates up to date climate risk assessments
  - Timeframe: 2022 - 2024
- KR 5.4: Artificial waterbodies under our remit are monitored in compliance with the Water Framework Directive
  - Timeframe: Annually
- KR 5.5: Good Ecological Potential in our artificial waterbodies is achieved on an ongoing basis
  - Timeframe: Annually

4.6 HERITAGE PROTECTION

6

Objective 6: Ensure our waterways heritage is climate resilient for the continued enjoyment of current and future generations.

The navigations under our remit are subject to numerous natural and cultural heritage designations. We must therefore be cognisant of our heritage in our climate action work and pay particular attention to the adaptation measures required to secure these assets for our user communities as well as future generations.

In line with Waterways Ireland Heritage Plan, we will promote the integrated management, and sustainable use of inland navigable waterway asset. Our focus will be on protection and preventive conservation and on restoration, remedial conservation and enhancement.

We will also promote awareness, appreciation and enjoyment of our waterway heritage with a focus on community engagement.

Key results for Heritage Protection

- KR 6.1: Climate Action is incorporated into the Waterways Ireland Heritage Plan 2030
  - Timeframe: 2022
- KR 6.2: Climate change risk assessments for our heritage sites and assets have been incorporated into our asset management frameworks
  - Timeframe: Annually from 2023
- KR 6.3: Climate change risk assessments are used to inform decision making around the maintenance of heritage sites, with a focus on both preventative and remedial actions
  - Timeframe: Annually from 2024
- KR 6.4: The promotion of climate action is delivered annually through heritage events and initiatives
  - Timeframe: Annually from 2022

4.7 BIODIVERSITY AND NATURE-BASED SOLUTIONS

7

Objective 7: Continue to develop our waterways as biodiverse, healthy, vibrant and welcoming places.

Waterways Ireland will continue to work to enhance and promote biodiversity as core to the intrinsic value of our waterways system.

In managing, maintaining and developing our waterways, we will prioritise nature-based solutions which support climate adaptation, while also restoring habitats and strengthening biodiversity. Our work in this area will contribute to the delivery of the Northern Ireland Biodiversity Strategy and Ireland's Biodiversity Action Plan.

A key focus will be on best-practice in relation to green infrastructure and soft engineering and ecosystem services.

Key results Biodiversity & Nature Based Solutions:

- KR 7.1: Capital investment and maintenance plans are reviewed to ensure that soft engineering, nature-based and green infrastructure solutions are, where possible, prioritised
  - Timeframe: Annually from 2022
- KR 7.2: Natural capital accounting and carbon sequestration potential are measured across waterways and land owned by Waterways Ireland
  - Timeframe: 2026
- KR 7.3: Our commitments under international, European and national biodiversity strategies are delivered
  - Timeframe – Annually from 2022
- KR 7.4: Key approaches to protecting biodiversity and promoting biosecurity incorporated into strategic policies and plans
  - Timeframe: 2022

5. GOVERNANCE AND REPORTING

Photo by: Donal Dillon

5.1 STRUCTURED TO DELIVER

Governance is central to the delivery of this Climate Action Plan. Our approach builds on the Objectives and Key Results (OKR) framework; ensuring that responsibility is delegated across the organisation with results-oriented processes enabling those with specific experience and expertise to make the decisions that will make the difference required.

Our internal governance framework makes clear that Senior Management are responsible for determining and delivering objectives. They will also have a role to ensure that climate action – including opportunities for engagement, mitigation and adaptation – is integrated across other strategies and processes that can support the implementation of WICAP.

Heads of Teams are key decision-makers within Waterways Ireland, and they will be responsible for determining and delivering key results for climate action. Where required, Task & Finish Groups will be brought together from relevant teams to deliver initiatives required to achieve results. Task & Finish Groups may be small teams of two or three people and there may be initiatives which can be delivered by individuals.

While Heads of Teams meet and report quarterly, Task & Finish Groups will report more regularly. Each task and finish group will have a designated lead, appointed by the Head of Team whose area is most central to delivering the initiative. Given the scale and complexity of the challenge, it is recognised that multiple initiatives will be required to achieve some key results.

Our internal governance framework (Fig.10) also encompasses secondary feedback and review mechanisms through the retention of a core team, similar in nature to the cross-organisational core team that was instrumental in guiding the development of this Climate Action Plan. Our ongoing monitoring and reporting will continue to be important in guiding decision-making.

We also recognise that the initiatives in the WICAP will evolve and strengthen as we learn from experimentation, as climate policy requirements change and when we have developed capacity to go beyond targets. We will review and, if necessary, revise the WICAP on an annual basis.

Climate Action is an area where rapid progress is being made. It is important that the WICAP remains open to best practice and external insights and we wish to retain the technical advisory group structure, which has been so valuable in informing this Climate Action Plan. We also recognise that our work and the data we require may be valuable in supporting other research process.

5.2 INTERNAL GOVERNANCE FRAMEWORK

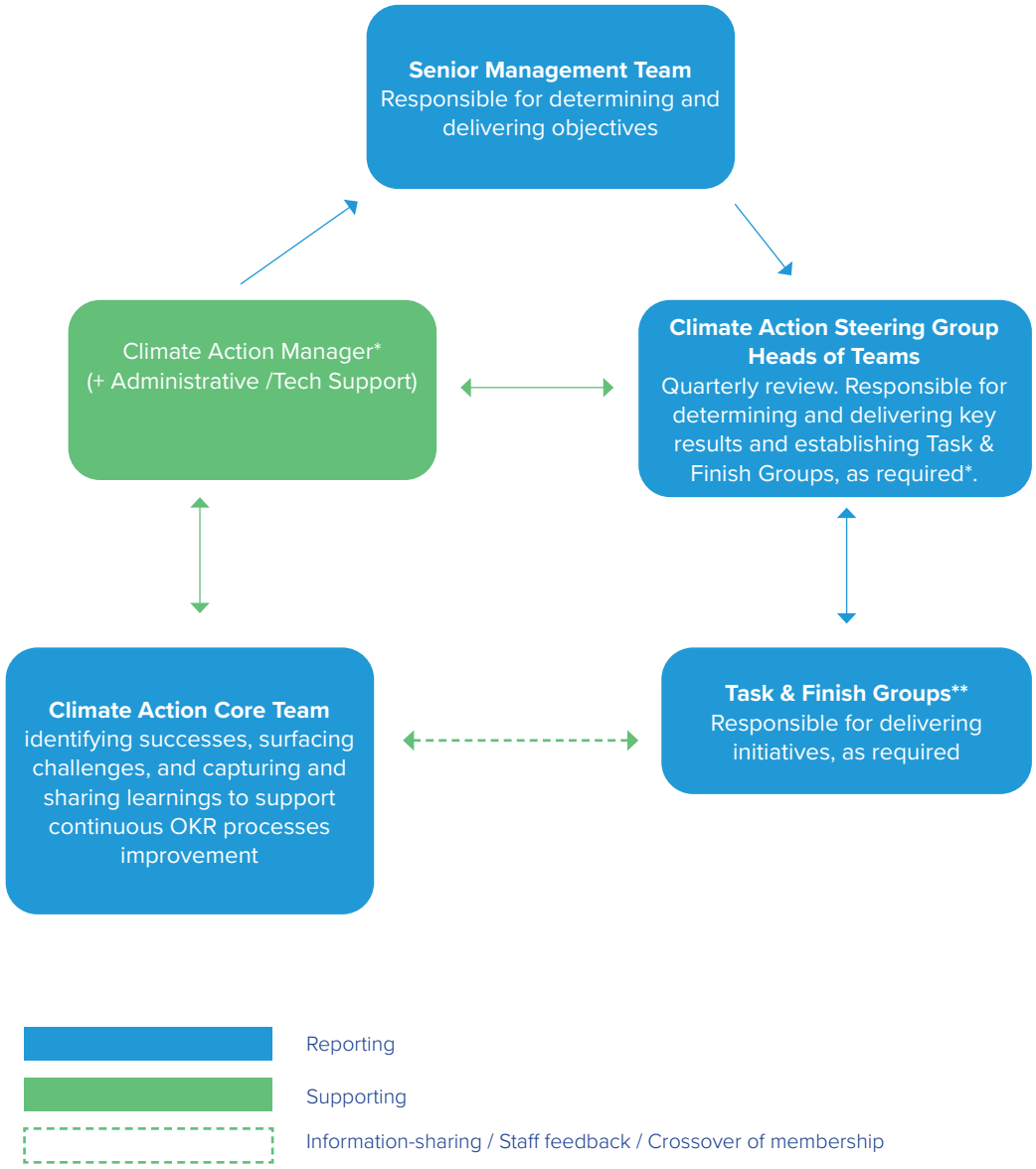


Fig. 10 WICAP Internal Governance Framework

*The Climate Action Manager will Chair the Climate Action Core Team and support them in tracking progress, tackling challenges and sharing learnings.

The Climate Action Manager will support the Climate Action Steering Group and feedback on progress to the Senior Management Team.

**Some initiatives will be delivered by individual teams and will not require cross-organisational Task & Finish groups.

5.3 EXTERNAL ENGAGEMENT FRAMEWORK

The Waterways Ireland Climate Action Plan will also communicate transparently with partners (per Fig.11). By developing a clear quarterly dashboard, we will be in a position to report on progress in relation to climate action in a open and timely manner.

Where our quarterly climate action dashboard will provide a summary overview of progress, we will also produce and annual climate action report.

Communicating our progress in this way will also provide a shared basis for collaboration, partnership and wider stakeholder engagement which will be essential to delivering on our ambition for climate action.

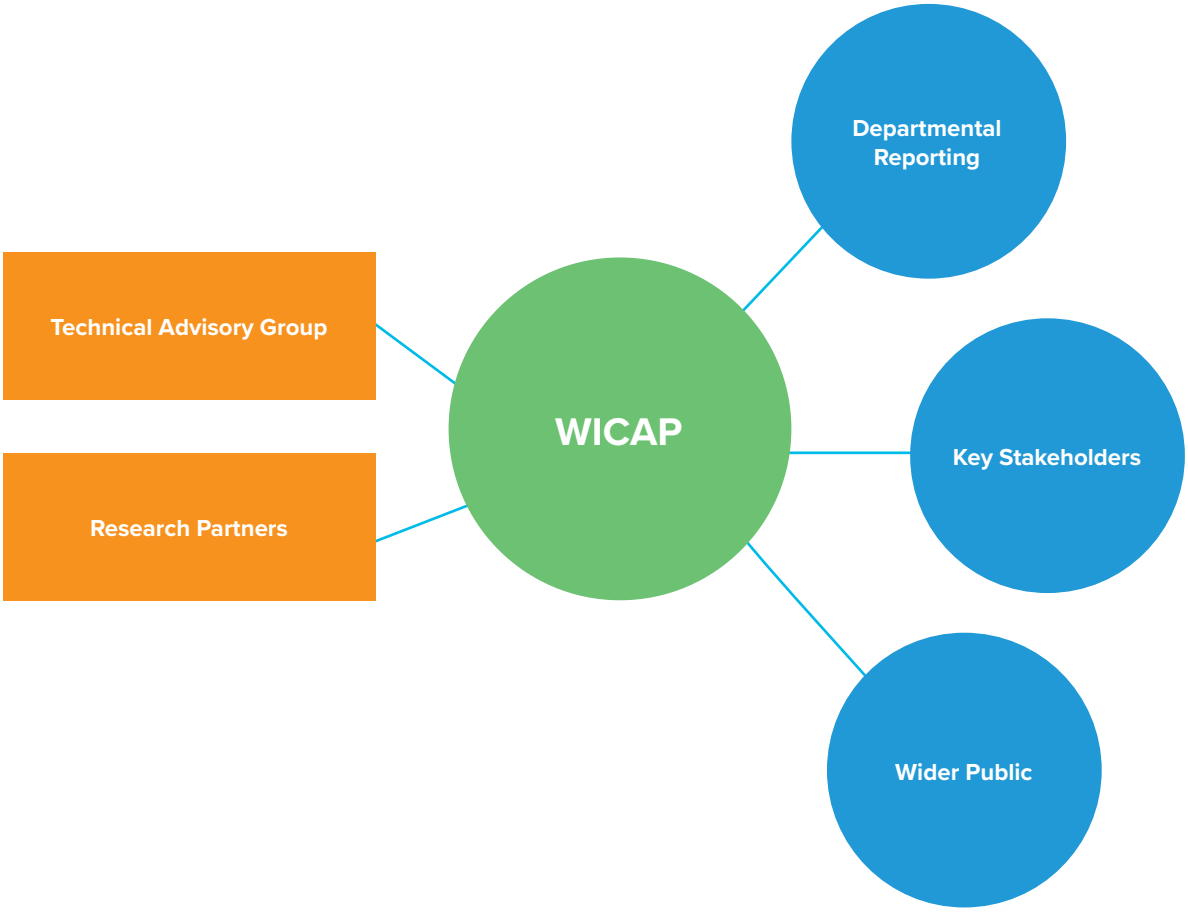


Fig. 11 WICAP External Engagement Framework

Photo: Community Biodiversity Training Event'

Photo:Sustainable Tourism

ANNEXES

Photo by: Paul Moore

ANNEX 1: POLICY CONTEXT

There are many shared climate change challenges in Ireland and Northern Ireland, particularly climate adaptation.

In Ireland there have been a number of advances in the governance structures for climate policy, such as the Climate Action Regional Offices and a Senior Officers Group and Joint Oireachtas Committee on Climate Action, as well as renewable energy, ambitious climate action and adaptation plans and strategies but there is an ongoing challenge of high emissions. Nationally, Ireland has been performing 'very poor' on emissions and 2020 targets were not met without relying on credits or allowances.

Emissions in Ireland have increased by 10.1% from 1990 to 2019 whereas emissions fell by 20% in Northern Ireland from 1990 to 2018. Per capita Greenhouse Gas emissions in Ireland was 13.3 tonnes in 2018 compared to 10.3 tonnes per capita in Northern Ireland.

Northern Ireland accounts for approximately 4% of the UK's Greenhouse Gas emissions. While Northern Ireland emissions reduced by 20% since 1990 they did not reduce at the same pace of England and Scotland. Yet, DAERA projects a further 23% decrease in emissions from 2017 to 2030 and this will be a total reduction in Greenhouse emissions of 37% against the 1990 baseline.

Some sectors remain challenging in terms of emissions, and there were increases in the agriculture and transport sectors. Agriculture produces the largest share of emissions in Ireland and Northern Ireland but the share of emissions in Ireland from agriculture is 35.3% in Ireland and 27% in Northern Ireland.

There has been a divergence in climate mitigation practice to date between the North and the South. In recent years there has been an increasing level of ambition for climate policy to drive significant levels of decarbonisation by 2030 and Net Zero emissions by 2050, at the latest.

Ireland and the UK have both ratified the Paris Agreement and this provides an international legal framework for global climate action and have declared climate emergencies.

Ireland

The legal basis for climate policy in Ireland is the Climate Action and Low Carbon Development (Amendment) Act 2021. This Act establishes the legislative basis of the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of 2050.

The Climate Action and Low Carbon Development (Amendment) Act 2021 established a number of legislative mechanisms such as carbon budgets and a sectoral emissions ceiling to apply to different sectors of the economy, reporting by Ministers of the Government to a joint committee of the Houses of the Oireachtas, and ensuring that local authorities, when making development plans, take account of their climate action plans, the continued development of the National Adaptation Framework and sectoral adaptation strategies that deal with the consequences of climate change and National Mitigation Plan that addresses the causes.

The National Adaptation Framework sets out practical steps to build climate resilience in light of regional and global trends with predicted changes in extremes such as floods,

precipitation and storms. A series of sectoral adaptation strategies and local authority-led adaptation strategies have also been developed.

The Act also set out a number of other policy instruments such as updating the functions of the Climate Change Advisory Council and the requirement of annual Climate Action Plans.

Climate policy and legislation has received increased public and political attention in Ireland such as through the Citizens' Assembly in 2018 and the Joint Oireachtas Committee on Climate Action.

The most recent Programme for Government commits to a 51% reduction in Greenhouse Gas emissions by 2030 and net zero emissions by 2050. This target requires an annual 7% reduction in overall Greenhouse emissions from 2021 to 2030.

This will be achieved through actions on decarbonisation of the electricity, climate governance, renewable energy, retrofitting of housing and buildings, a just transition, biodiversity and water.

The government is also committed to developing a new model of engagement with citizens, sectors and regions.

Northern Ireland

Northern Ireland does not have its own climate change legislation or long-term target for emissions but is included within UK targets and aligns to the UK Climate Change Act 2008 (2050 Target Amendment) Order 2019. This Climate Change Act established legally binding targets towards net zero emissions covering all sectors of the economy.

The Act requires the preparation of a Northern Ireland Climate Change Adaptation Programme (current phase 2019-2024). Climate Northern Ireland, funded by the DAERA, focusses on promoting climate adaptation action in sectors outside of Central Government.

The Act was amended in line with the Paris Agreement and 2050 targets. Importantly, the Act established 5-yearly 'carbon budgets' that set out pathways to meet the long-term targets.

The UK Committee on Climate Change, established through the UK Climate Change Act 2008, indicated that Northern Ireland should contribute to the overall UK net zero ambition by cutting Greenhouse Gas emissions by at least 82% by 2050.

As of March 2022, The Climate Change (no. 2) bill passed the final stages in Northern Ireland Assembly and this sets greenhouse gas reduction targets for 2050, 2040 and 2030 for the reduction ofemissions. The bill also includes a system of carbon budgeting and climate change reporting duties on public bodies. Under this bill all departments in Northern Ireland must ensure that net-zero emissions are achieved by 2050.

ANNEX 2: FLOOD RISK SECTORAL ADAPTATION PLAN – WATERWAYS IRELAND COMMITMENTS

This annex sets out the objectives and adaptation actions, from the Flood Risk Sectoral Adaptation Plan, in which Waterways Ireland is referenced.

Objective 1, Adaptation Action 1.D

Through reviews of the **Preliminary Flood Risk Assessment,** informed by the most up-to-date research and projections of climate change, **assess the potential risk of flooding from urban stormwater drainages systems and from water-bearing infrastructure.**

Who: Local Authorities, Waterways Ireland, ESB and Irish Water

When: 2024 and Ongoing

Objective 1, Adaptation Action 1.E

The **OPW will ensure that its six-yearly review** of the Flood Risk Management Plans will be informed by the most up-to-date **research and projections** of climate change on flooding and flood risk, and will include other sector led adaptation measures being implemented under the National Adaptation Framework.

Who: OPW, Local Authorities, Waterways Ireland, ESB and Irish Water

When: 2021 and Ongoing

Objective 3, Adaptation Action 3.C

The **planning and design of future assets** should take into account, and be adaptable to, the potential future impacts of climate change.

Who: Local Authorities, Waterways Ireland, ESB and Irish Water

When: Ongoing

The Flood Risk Sectoral Adaptation Plan also notes (p.22 Hydrometric Monitoring) the OPW and the EPA (jointly with local authorities) are the two main public bodies involved with surface water monitoring in Ireland, and between them maintain a network of approximately 640 surface water hydrometric monitoring stations. Other major bodies involved in monitoring include Waterways Ireland, the Marine Institute, Geological Survey Ireland, Irish Water and the ESB.

ANNEX 3: CORE PROJECT TEAM

The Core Project Team includes:

1. **Cormac McCarthy –** WICAP Project Manager
2. **Sharon Callanan –** Asset Management
3. **Phil Cargill –** Civil Engineering Design
4. **Stephen Deegan –** Grand Canal, Urban
5. **Stephen Douglas –** Northern Region Operations representative
6. **Jean Errity –** Eastern Region Operations representative
7. **Roisin MacRory –** Corporate Services
8. **Daireann McDonnell –** Environment & Heritage
9. **Theresa McElholm –** Property & Legal
10. **Katrina McGirr –** Marketing & Communications
11. **Michael McKiernan –** Western Region Operations representative
12. **David Mills –** Industrial Staff representative
13. **Paul Mulligan –** Finance
14. **Máirín O Cuireáin –** Dublin Docklands
15. **Adrian O'Reilly –** IT & GIS
16. **Michael Simon –** Mechanical & Electrical
17. **Paula Treacy –** Environment & Heritage

ANNEX 4: TECHNICAL ADVISORY GROUP

NAME	ORGANISATION	EXPERTISE
Dr Marcus Collier	Trinity College Dublin	Botany and social-ecological systems
Tadhg O'Mahony	Environmental Protection Agency	Strategic environmental assessments
Prof David Rooney	Queens University Belfast	Marine and renewables
Charlie Coakley	Irish Water	Energy efficiency and water management
Prof Brian Ó Gallachóir	University College Cork / MaREI	Energy engineering
Dr Jade Berman	Climate Northern Ireland	Marine policy and climate resilience
Prof Conor Murphy	NUI Maynooth / CrossDro	Hydroclimatology and adaptation
Perla Mansour	Climate Northern Ireland	Climate mitigation
Dr Susie Moloney	Royal Melbourne Institute of Technology	Sustainability and low carbon urban transitions
Alan Dunney	Climate Action Regional Office	Climate policy, planning and implementation
Prof Mark Emmerson	Queens University Belfast	Biodiversity and ecosystem services

ANNEX 5: GLOSSARY

Active travel – includes walking, running, cycling, scootering, skateboarding, low-speed electrical devices such as motorised wheelchairs, e-scooters, and electric-assist bicycles.

Adaptation – Adaptation seeks to mitigate, avoid harm or exploit beneficial opportunities from expected climate change and its effects.

Asset Management – The coordinated activity of an organisation to realise value from assets. This involves the balancing of costs, opportunities and risks against the desired performance of assets to achieve an organisation's objectives.

BER – Building Energy Rating (BER) indicates how energy efficient a building is and a scale from A1 to G, where A is the most efficient and G is the least efficient.

Biofuel – Biofuels are renewable fuels produced from biomass. Biofuels must be compatible with existing engine and fuel requirements; there are often similar properties between biofuels and their conventional fossil fuel counterparts.

Carbon Budgets – defines the total amount of greenhouse gas emissions that is permitted to emit during each carbon budget period.

Carbon neutral / Net Zero – Sometimes known as Net Zero Carbon, is where any Carbon Dioxide (CO_2) or Greenhouse Gas (GHG) emissions after decarbonisation are equal to or less than the emissions removed by carbon sinks and carbon sequestration e.g. through forestry or managed wetlands.

The targets set by the Government's of Ireland and Northern Ireland will require us to decarbonise our electricity, transport, buildings, infrastructure and establish interim targets and legislation. Net Zero Greenhouse Gas emissions from fuel use in buildings, transport, the use of grid-supplied energy, treatment of waste generated, goods procured.

Circular economy – Economic activity that is decoupled from the consumption of finite resources. A circular economy aims to keep resources in the economic system for as long as possible and phase waste out of the system.

Climate action – Any policy, programme, project, or activity initiated with the intention to provide some contribution to climate mitigation or adaptation.

Climate action plan – A strategic document (or series of plans and documents) that demonstrates how an organisation will deliver on its commitment to address climate change.

Climate change – A long-term shift in global climate patterns predominately attributed to anthropogenic, or human-induced, greenhouse gas emissions.

Climate-first process– The process of mainstreaming climate change mitigation and/or adaptation into strategies and programmes. The result is mainstreaming climate change into strategies and programmes, i.e. viewed through a climate change lens.

Climate risk assessment – An evaluation to understand the likelihood of future climate hazards and the potential impacts of these hazards.

Co-benefit – Non-greenhouse gas-related benefits of climate actions e.g. provision of basic services, health, prosperity, and other sustainable development agendas.

CO_2 equivalent (CO_2e) – The universal unit of measurement to indicate the global warming potential of each greenhouse gas.

Community – A group that is bound together by a common interest, characteristic and/or place.

Decarbonisation – Process of reducing greenhouse gas associated with energy consumption, industry, and transportation.

Energy efficiency retrofits – Upgrading inefficient buildings, equipment, or appliances by replacing them with more efficient systems or appliances, insulation changes and envelope improvements to reduce heating and cooling demand.

Glide Path – The 'glidepath' is the estimated path towards the 2030 and 2050 target based on known emission reductions.

Just transition – A framework for social change that provide socially and economically just pathways for workers to transition away from carbon intensive employment.

Mitigation – Any process of limiting greenhouse gas emissions.

Natural Capital Accounting – Natural Capital Accounting is a tool to measure the changes in the stock of natural capital at a variety of scales and to integrate the value of ecosystem services into accounting and reporting systems.

Nature-based solutions – The use of natural systems to address climate challenges; e.g. restoring wetlands in catchment areas to minimise the impact of flooding and runoff pollution.

Resilience – The ability to anticipate, prepare for, and respond to hazardous events, trends or disturbances related to climate.

Scope 1 emissions – Greenhouse Gas emissions from sources located within the organisation

Scope 2 emissions – Greenhouse Gas emissions occurring because of the use of grid supplied electricity, heat, steam and/or cooling within the organisation

Scope 3 emissions – All other Greenhouse Gas emissions, besides scope 1 and 2, that occur outside the organisation because of activities taking place within the organisation (e.g. procured products and services, construction materials etc.) and/or services provided by the organisation.

Total primary energy requirement - A measure of energy consumption that accounts for the energy that is consumed and/or lost beyond the boundary of an organisation.

UN SDGs – The United Nations Sustainable Development Goals (SDGs) The 17 global goals for development for all countries established by the United Nations, including poverty and hunger; health and well-being, education, gender equality, clean water and energy, decent work; resilient and sustainable infrastructure, cities and consumption; inequalities; land and water ecosystems; peace, justice and partnerships; and urgent action on climate change.

Water Framework Directive – The EU Water Framework Directive (2000/60/EC) requires all Member States to protect and improve water quality in all waters so that we achieve good ecological status by 2015 or, at the latest, by 2027. In the case of Artificial Water Bodies (AWBs) such as canals, the target is Good Ecological Potential (GEP).

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SUSTAINABLE DEVELOPMENT GOALS