

PEATLANDS AND PEOPLE



LIFE IP Peatlands and People

Ireland's Climate Action Catalyst

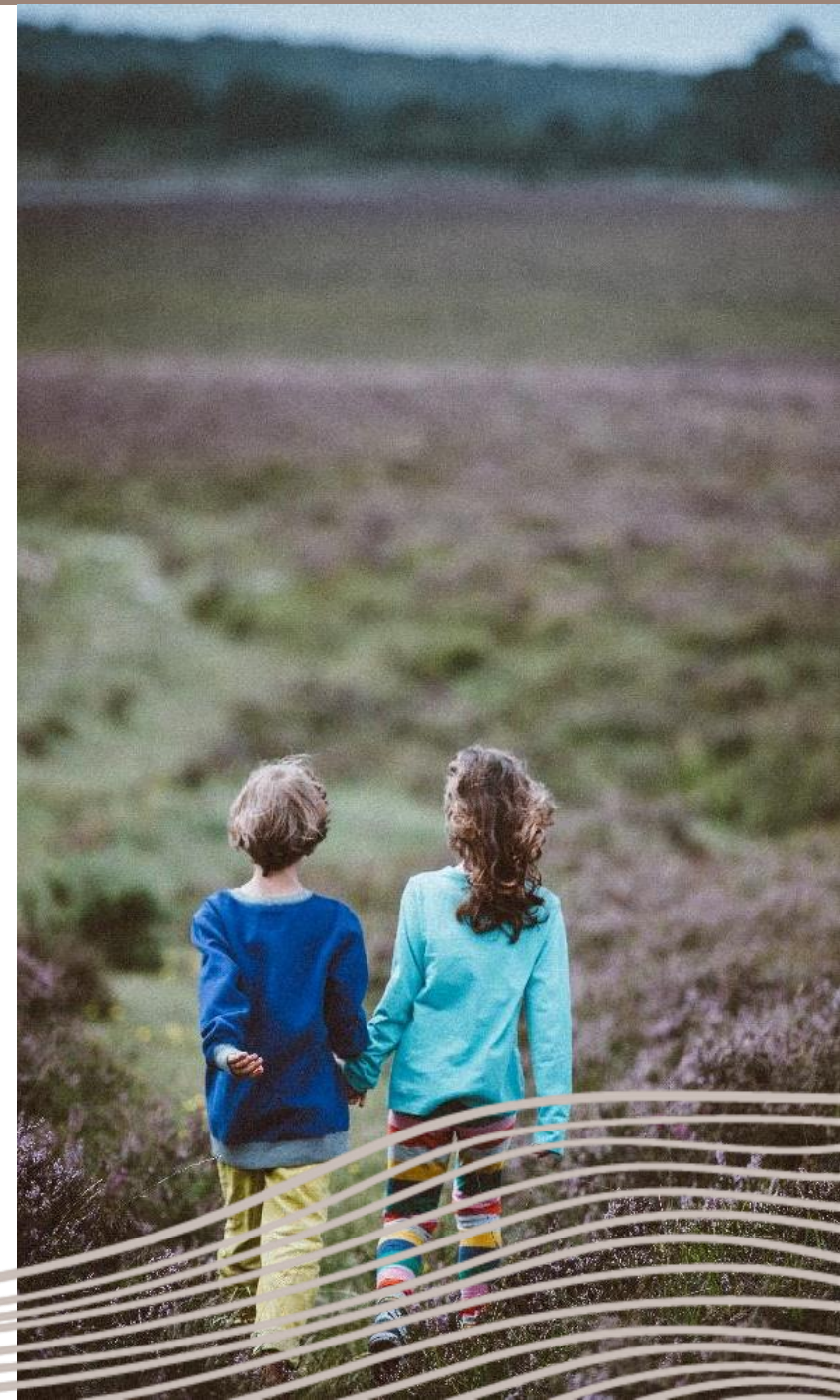
Rebecca Doyle

Environmental knowledge transformation to agricultural sector (Finland)



This project has received funding from the European Union's LIFE Programme under Grant Agreement No. LIFE19 IPC/IE/000007 (LIFE IP Peatlands and People). This output reflects only the author's view; the European Climate, Infrastructure and Environment Executive Agency (CINEA) and the European Commission cannot be held responsible for any use that may be made of the information contained therein.

www.peatlandsandpeople.ie



ERINN's Mission: Guide
and Accelerate Research
& Innovation to achieve
impacts that support a
sustainable future for all



Building on Experience

- **Founded in 2017** by the senior management of a highly successful Irish science communication company (AquaTT)
- **Head office in Dublin, Ireland.** Team members also based in Norway, Spain, France, Germany and UK
- **Active in several sectors;** marine, food, wetlands, energy, health, climate...
- **Multi-disciplinary team** of 27 staff
- **2 main strands to business**
 - Participating in Projects
 - DEC, KT
 - Services to support others
 - Proposal writing, proposal reviews, training, funding mapping, funding strategies, Knowledge Transfer



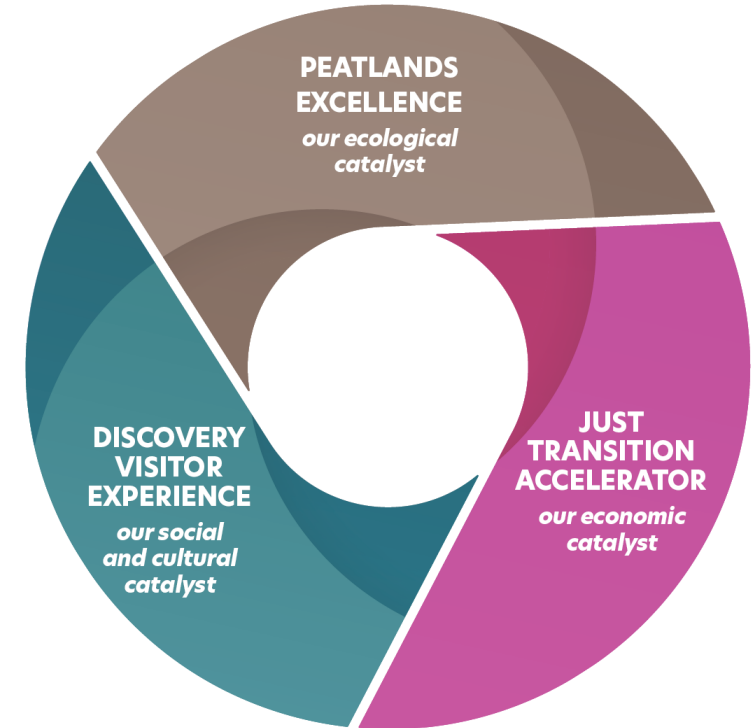
Introduction to LIFE IP Peatlands and People – Ireland's Climate Action Catalyst

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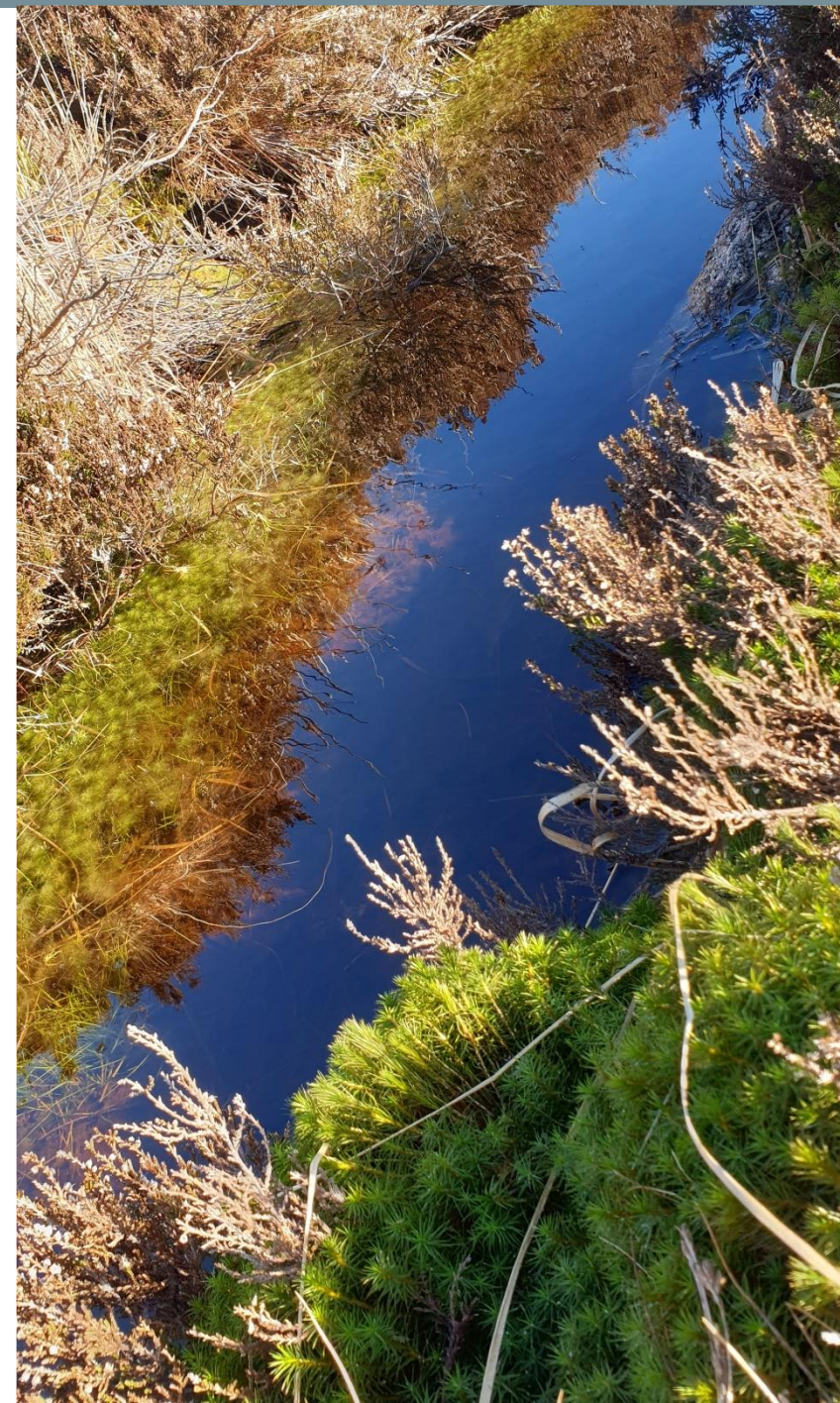
The Partnership

- Bord na Móna
- National Parks and Wildlife Service (DHLGH)
- Environmental Protection Agency
- University of Galway
- ERINN Innovation
- Co-financing from Department of Agriculture, Food and the Marine



An EU-funded LIFE Integrated Project

- LIFE is the **EU's funding instrument for the environment and climate action** created in 1992.
- Integrated projects are **strategic projects supporting EU Member States to achieve full implementation of Strategies or Action Plans** required by the EU environmental and climate legislation.
- **LIFE IP Peatlands and People** activities focus on Ireland's midlands. With a budget of €9,894,803 from October 2020 – September 2027 the partners will work across three Pillars to support the delivery of **Ireland's Climate Action Plan**.
- **Seeing our landscapes and our lives transition and transform before our eyes to a sustainable society.**



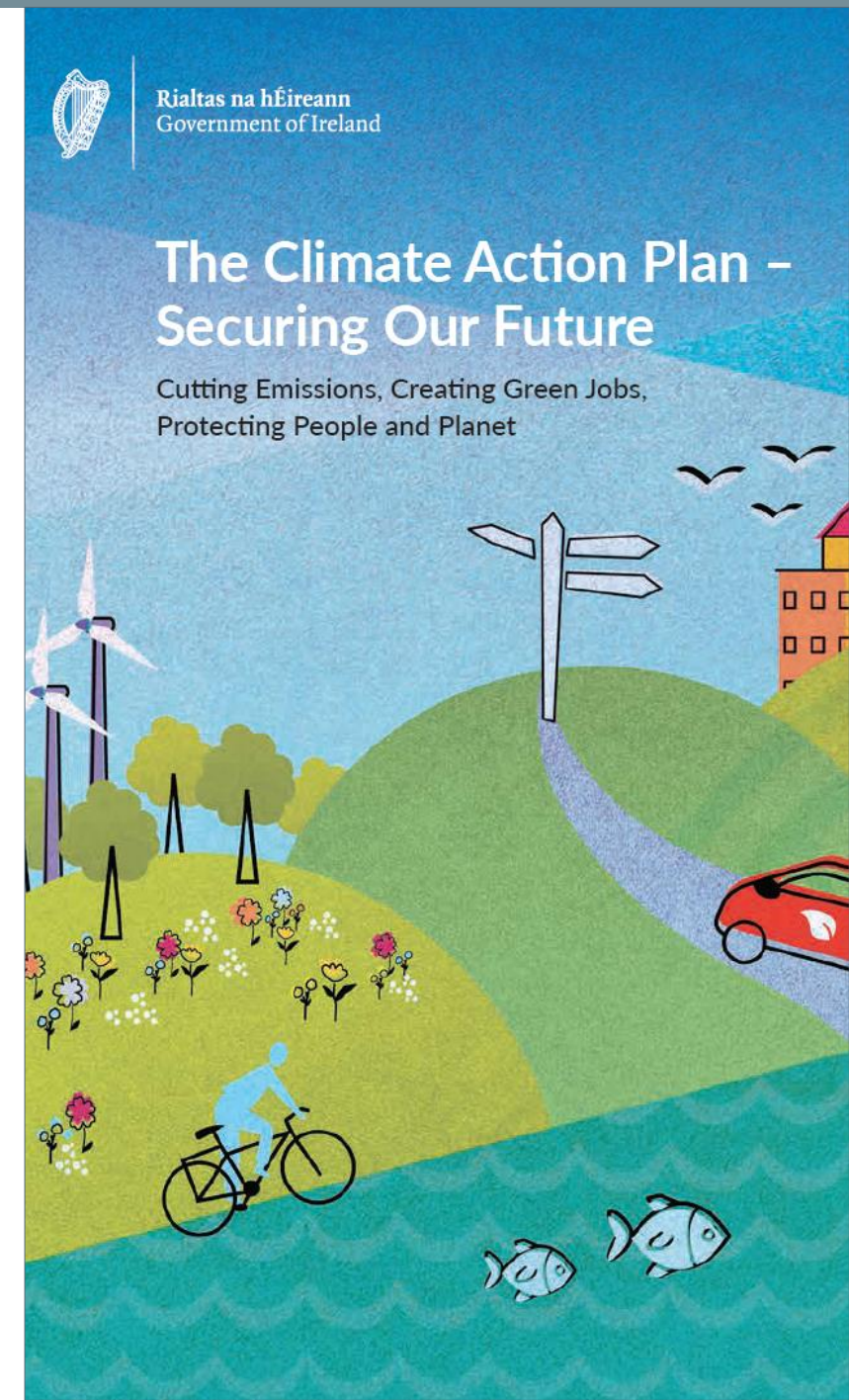
Ireland's Climate Action Plan

It provides a detailed plan for taking action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting us on a path to reach net-zero emissions no later than 2050.

Using **peatlands as a theme**, **Peatlands and People** results and outputs will be transferred through capacity building, stakeholder engagement and complementary actions to play a role in **supporting the overall implementation of the Climate Action Plan**.

The project contributed to five sections of the **2019 Plan**: Agriculture, Forestry and Land Use; Waste and the Circular Economy; Enterprise; Citizen Engagement, Community Leadership and Just Transition; and Public Sector Leading By Example.

Peatlands and People contributes to various activities in the updated **2021 Plan** but is also named as a **separate action (#22)**.



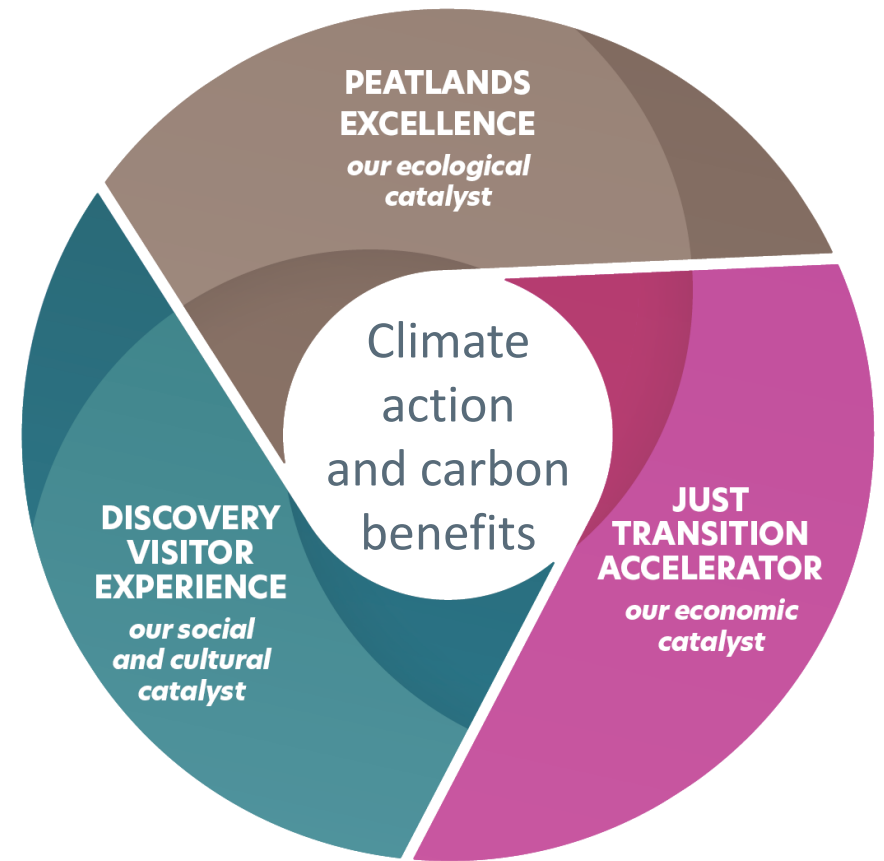


Ireland's Peatlands

Peatlands cover 21% of Ireland's land area. They help fight climate change by capturing and storing carbon, but also improve water quality, reduce the risk of flooding, support habitats and protect biodiversity, as well as being places for amenity use and opportunities around sustainable tourism and low-carbon energy.

Three Powerful Catalysts

- **Peatlands Excellence** will, through the large-scale restoration and rehabilitation of peatlands, combine and exhibit knowledge on climate change mitigation and adaptation, biodiversity and water quality.
- A **Just Transition Accelerator** programme for innovation will focus on low-carbon and circular economies to support the region economically.
- A **People's Discovery Visitor Experience** will be designed, a new flagship experience in Ireland's Midlands to showcase Greening Ireland and the world, where visitors can experience sustainable living in action and how we can co-exist in harmony with nature.

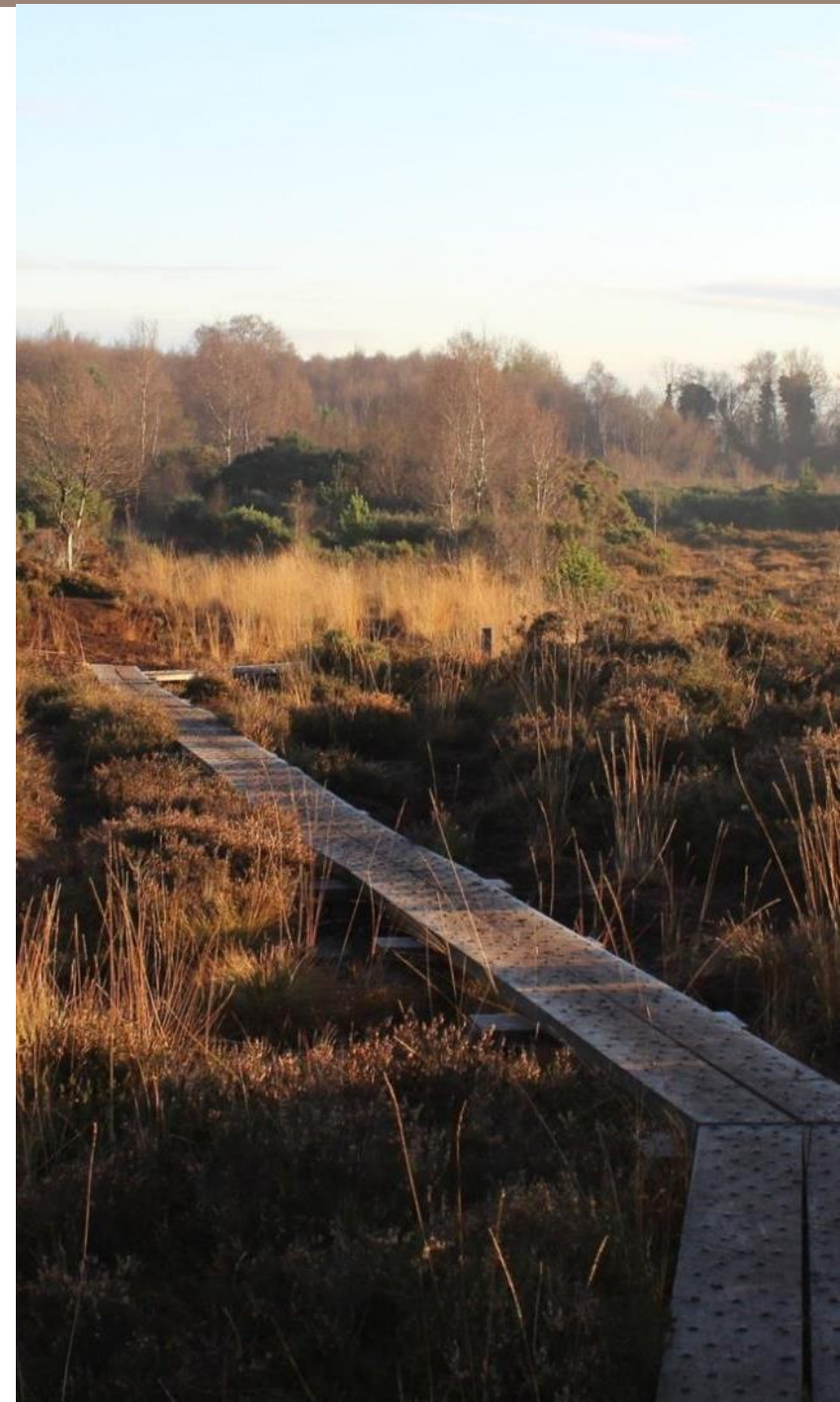


Pillar 1. Our Peatlands, An Enhanced Ecological Catalyst

Peatlands Excellence

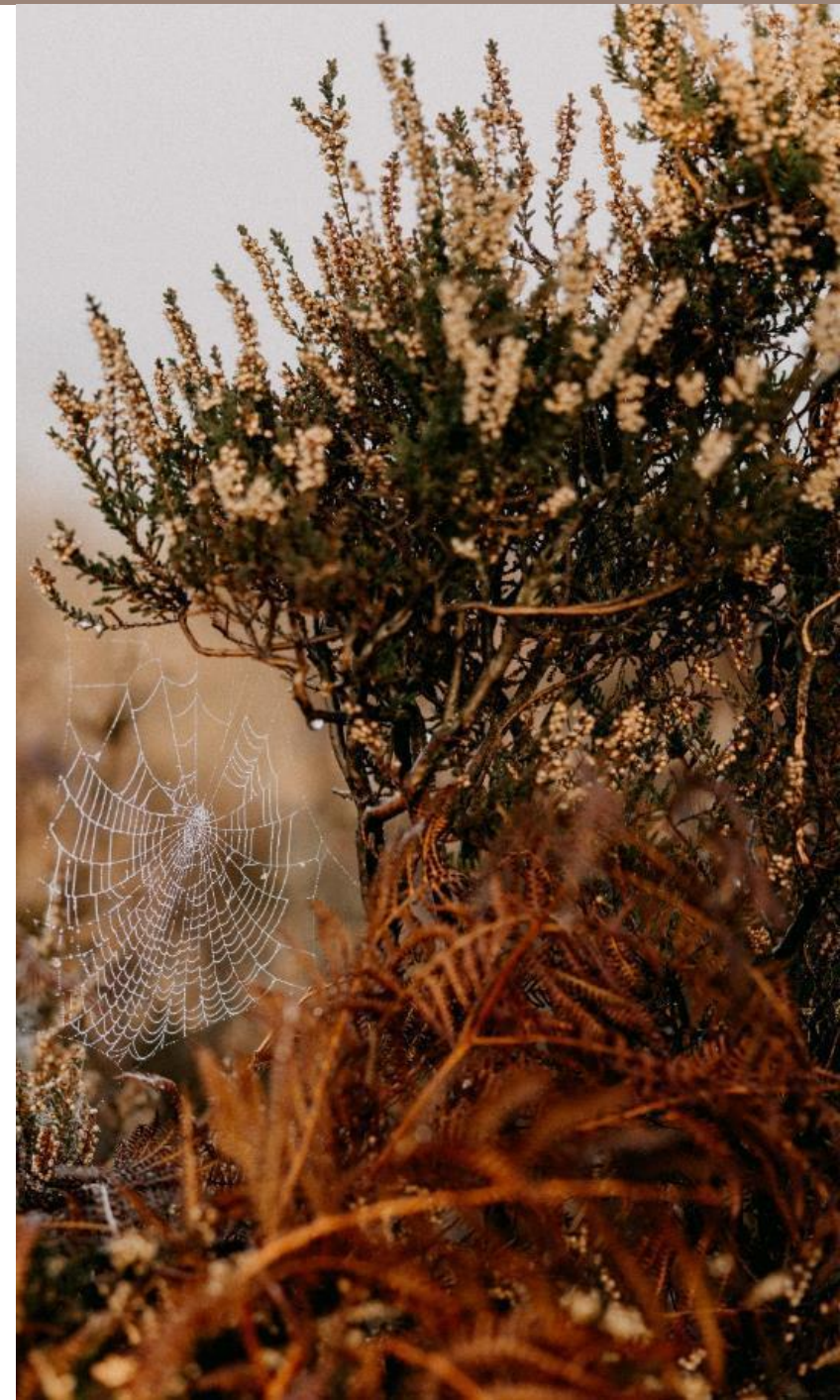
Develop a global 'Peatlands Catalyst' to combine and exhibit knowledge on peatland ecosystems, climate change mitigation and adaptation, biodiversity, and water quality. It will:

- **Deliver a network of over 30,000 hectares of peatlands** that are restored, rehabilitated and/or managed to the best possible condition for climate action, biodiversity and other ecosystem services; Peatlands and People (BnM and NPWS) and Bord na Móna PCAS
- Learnings also shared through the complementary restoration of **80,000 hectares of grassland**, supported by DAFM
- **Monitor and analyse carbon** fluxes in the peatlands;
- **Develop collaborative knowledge** management and capability



Expected Results

- **Restoration and/or rehabilitation on +30,000ha** with the aim of increasing carbon storage.
- Measurable **reduction of emissions, greenhouse gases and improvement in air quality (carbon dioxide, methane, nitrous oxide) and water quality.**
- Development of **best practice guidelines** for the delivery of enhanced rehabilitation and restoration measures.
- Establishment of long-term (post-project) **demonstration and research sites** to track various ecosystem service benefits.
- An **enhanced baseline level of knowledge** of peatland rehabilitation, enhanced restoration and management practices to disseminate for further peatland restoration/rehabilitation.
- **Lessons will be shared with other initiatives**, for example other Coal Regions of Transition.



Peatland Restoration and Rehabilitation

Variation in peatland sites from typical raised bog with restoration already in place to cutaway bog; from shallow peats to fen, reed swamp and wet woodland.

- Targeted measures to suit different environments.
- Optimise suitable hydrology for target habitats with bunding, wetland engineering.
- Accelerate natural colonisation – Sphagnum inoculation.
- Contour trench bunding to halt subsurface water loss.
- Barrier dams to create conditions for peat forming habitat.



Cell bunding on cutover bog at *All Saints Bog*. SAC. Carried out by BnM for NPWS

Bord na Móna

- Bord na Móna sites have generally been used for industrial peat extraction for many years.
- Previously, the largest professional peat harvesting company in Ireland.
- Brown-to-green strategy in 2021: cessation of peat harvesting, closure of peat burning plants
- Wind farms - at least 24,000 hectares. After the wind farms are established, surrounding peatlands can also be rehabilitated.
- Peatlands Climate Action Scheme (complementary) and Peatlands and People = over 30,000 hectares of peatlands to be restored
- Bord na Móna have now created a Land and Habitats Division to deliver professional peatland rehabilitation and restoration services.



Bord na Móna and the Peatland Climate Action Scheme

- Complementary to Peatlands and People
- 109 Million Euro investment
- Supported by the Government's Climate Action Fund
- Supports Bord na Móna/Midlands Just Transition – 350 jobs
- Climate Action benefits (carbon storage – residual peat, avoided emissions via new trajectory)
- Other ecosystem service benefits – biodiversity, water, landscape, communities



Bord na Móna and the Peatland Climate Action Scheme

- Main Objective – re-wetting 33,000 ha, optimising suitable hydrology for climate action benefits
- Maximizing the wet residual peat footprint
- Project started 2021
- Will extend to 2026
- So far, 10,000 ha has been re-wetted via PCAS



Ummeras Bog – rewetted in 2021

PCAS measures

- Focusing on creating flat surfaces where water levels can be brought up to the surface of the peat and maintained



PCAS and Peatlands and People



Moving from this condition (re-wetted bare peat)



.....to this condition (Sphagnum-rich vegetation) on deep residual peat

- Sphagnum inoculation measures can speed up and complement natural colonisation
- Faster development of stable peatland vegetation means faster delivery of reducing carbon emissions and other ecosystem services

PCAS and Peatlands and People



- Bord na Móna starting to carry out some Sphagnum inoculation

Re-wetting - developing sites with multiple benefits - biodiversity



National Parks and Wildlife Service

- Part of the Department of Housing, Local Government and Heritage
 - Manages the Irish State's nature conservation responsibilities
 - **Network of protected peatlands** sites established in Peatlands and People
 - 15 DHLGH sites- 2,700 hectares
 - Demonstration and Research
 - **Training** for landowners, **Compensation** and **Land Purchase**
 - **Engagement** during **Drainage Management Plan** process
 - **Community Involvement** in Peatlands Rewetting, increasing Climate literacy
 - **Amenity** Development – Tracks & Trails
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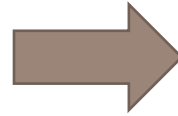
National Parks & Wildlife Service



NPWS sites in CarePeat Interreg Project



Starting cell bunding Cloncrow Bog NHA



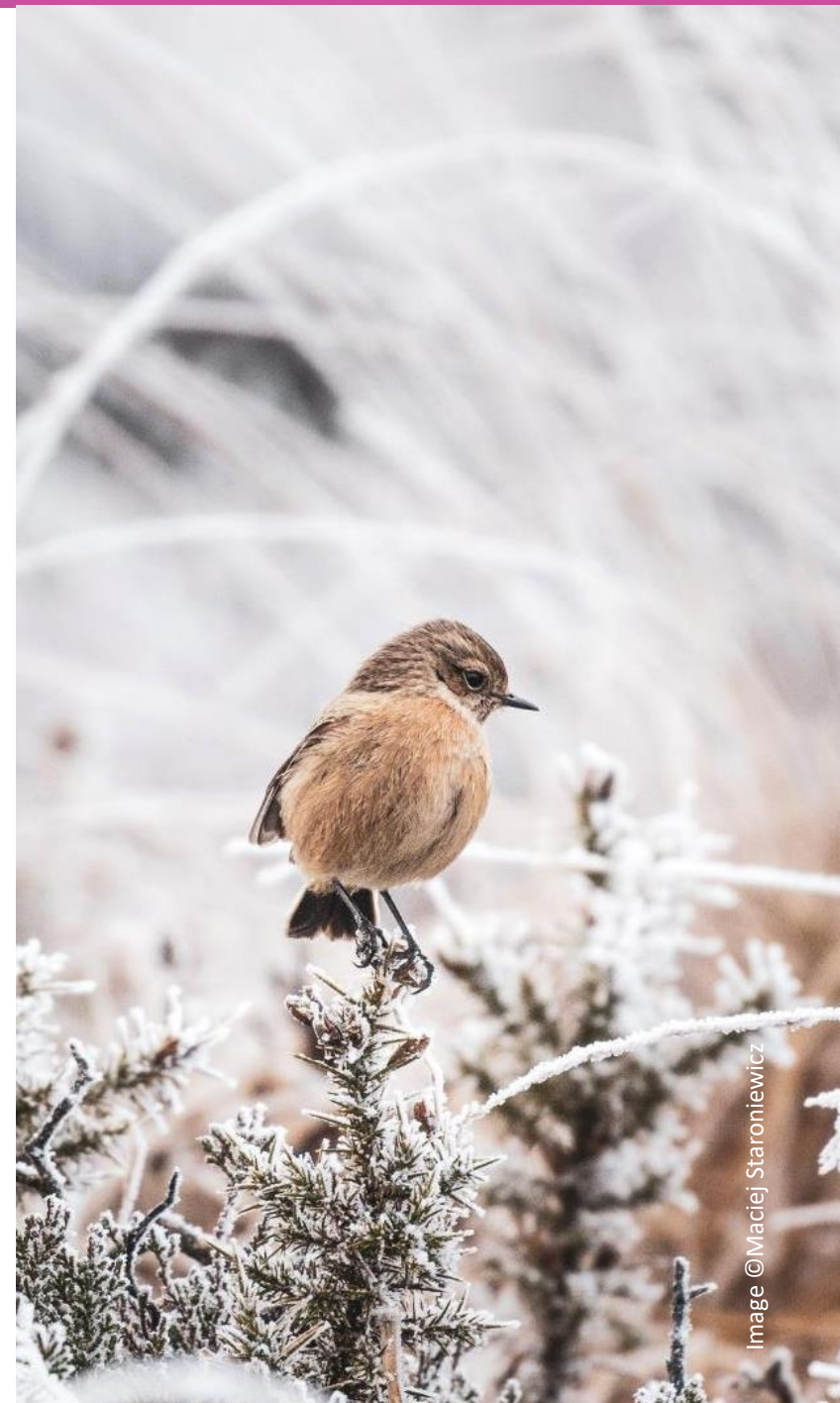
Results after 2 years

Pillar 2. A Just Transition Accelerator, Our Economic Catalyst

Just Transition Accelerator

Develop an **accelerator programme** for systemic innovation **focused on low-carbon and circular economies**.

- The Accelerator will **provide a range of supports and services** to SMEs to support the development from good ideas into new products, services and enterprises.




Innovation Ecosystem

The background image shows a vast landscape of rolling green hills. In the distance, several white wind turbines are visible against a sky filled with soft, white clouds. The hills in the foreground are covered in lush green grass, with some darker patches of soil or shadow visible. The overall scene conveys a sense of clean energy and sustainable development.

The first Irish accelerator dedicated to scaling companies leading the response to climate action and sustainability by developing products and services based on green innovation.


Accelerate Green

- First programme completed this year.
 - Offering participating companies the necessary tools, advice, mentoring and community of expertise that will allow them to grow their sustainable, climate friendly products or services.
 - Meet the Buyer event
 - Ireland's Sustainable Future conference
 - <https://accelerategreen.ie/>
- 
- A series of approximately ten wavy, horizontal lines in a light purple color, located in the bottom right corner of the slide, creating a decorative graphic element.


Accelerate Green 1

- **Borrisoleigh Bottling:** was founded in Dec 2018 on the site that was the source of Ireland's original multi-gold medal winning Mineral Water. Initially producing traditional PET and Glass products, the company, as Ireland's first producer of carton water products, has significantly extended its product range with more sustainable options.
 - **Positive Carbon:** Through the use of their patented food waste sensors and food detection AI, Positive Carbon provides high quality food waste reporting tools to hotels and food service providers to enable them to develop advanced waste reduction strategies which increases their food operations gross profits by 2-8% while hitting their sustainability goals.
 - **Real Leaf Farm:** is a new agri-tech company leading the development of sustainable hydroponic farming across Ireland and the UK. It is a pioneering and disruptive business which will be Ireland's first 100% hydroponic farm, growing delicious pesticide-free, salad vegetable produce, 365 days a year. This is smart farming for a sustainable planet in the 21st century.
 - **EpiSensor:** is building an IoT platform to make it 10x easier to manage energy usage and run grid support programs in commercial/industrial environments. They are enabling more renewable generation to participate on the grid, increasing energy efficiency and reducing costs for customers and partners.
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Accelerate Green 1

- **CameraMatics:** is a disruptive technology for Fleet and Driver Risk Management. It is a modular software platform based on camera technology, vision systems, AI, Machine Learning and Telematics, combined with fleet safety modules. Their technology also integrates directly with the vehicle to enable data to be pulled directly from the manufacturer.
 - **Jones Celtic BioEnergy:** is a JV company formed in 2011 between Jones Engineering and Celtic Bioenergy to commercialise technologies developed by Celtic in the waste to energy market. Since 2017, JCBE has focused its attention on the demonstration of a unique waste treatment technology that has the capacity to transform the emerging biomethane industry.
 - **Go Eve:** is helping to accelerate the transition to electric vehicles. The two lines of business make significantly better use of material and equipment, thereby reducing the cost and hassle of going electric. Their unique technology and service solutions focus on DockChain, the innovative solution for EV charging and on EV sharing.
 - **Automsoft:** provides leading edge data management technology to monitor, manage and maintain renewable energy generation and micro-grid installations. Automsoft's technology is used in over 1,000 sites globally and delivers value by providing accurate power generation data and reducing O&M costs through real time equipment monitoring, prediction of equipment failures and warranty management.
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Pre-accelerator

- **OptaHaul**: SaaS route optimisation platform for the dairy industry which reduces costs, saves planning time and minimises greenhouse gas emissions (GHGs) related to farm to plant milk transport.
 - **Addible** uses solvent recycling to remove the complexity of waste. Their solvent recycling method uses green solvents to separate the different components (plastics, metals, additives, etc.) from complex waste streams, allowing them to be easily recycled.
 - **KnowCarbon** provide an extensive carbon database to quickly calculate the carbon footprint of businesses' products and services, increasing their carbon competitiveness. The data reinforces the use of sustainable food and drink products, reducing waste and increasing benefits of circular economy. This work typically generates demand for lower carbon and more sustainable solutions.
 - **WoodCo Renewable Energy** are a biomass boiler manufacturer active in both the domestic and industrial sector, with a strong focus on R&D. WoodCo are currently developing a bio refinery solution to decarbonise the beef abattoir sector, and produce biochar.
 - **ChargeMe** promotes sharing of EV infrastructure to ensure easy access to chargers for all EV users, including corporate fleets. With this circular approach, waste and government investment will be reduced, companies can reduce their Scope-3 emissions, and the community of EV users can provide grid-balancing services through combined vehicle to grid.
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Pre-accelerator

- **Slán Eco** are establishing an internationally-traded and rural/bioeconomy/bio-based materials expert knowledge economy-based business. Solutions include: provision of training services and certification in energy efficient, no-carbon building design and specification; innovative materials research, development, manufacturing and international export sales; carbon credit measurement and trading; distributing and manufacturing building materials; and, full life cycle analysis and modelling.
 - **Carbon Harvesters** use satellite data to map and monitor land use/ land cover change to create biodiversity and carbon credits for landholders who rewet drained peatlands, creating revenue streams for land holders taking climate action.
 - **Digital Energy** delivers solutions related to 'Environomics', which unifies economic strategies with sustainability practices through AI. This is done by integrating analysis across a range of operations/processes, through multi-layered algorithms that identify and optimise relevant environmental/sustainable metrics while efficiently enhancing overall economics, operations and business value.
 - **Ethica Planet** was set up to develop Vegan Foods and Sustainable Packaging. Ethica Planet has concentrated on developing sustainable packaging using a variety of recyclable materials such as spent straw with mycelium, recycled cardboard and bagasse.
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Next steps

- Applications open for Accelerate Green 2!
- Continued conversations with the successful companies to monitor the impacts of participation in the accelerator and pre-accelerator.



Pillar 3. A People's Discovery Visitor Experience: Our Cultural, Social Catalyst

People's Discovery Visitor Experience

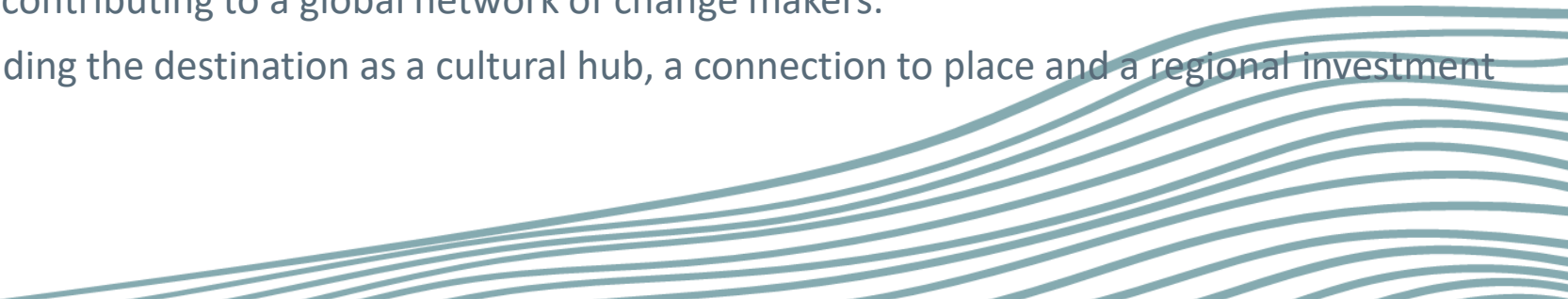
- Develop an **immersive, inspiring and magical world-class visitor attraction** with a focus on sustainable living and respect for the natural world. The People's Discovery Visitor Experience cares about humans living in harmony with nature, bringing an urgency and agency and “We make a difference”.
- **Co-create with and educate** communities and stakeholders through a financially sustainable, highly immersive and accessible tourist attraction of importance to climate action, peatlands, carbon, biodiversity, and renewable energy.



Pillar 3 People's Discovery Visitor Experience - Encounter

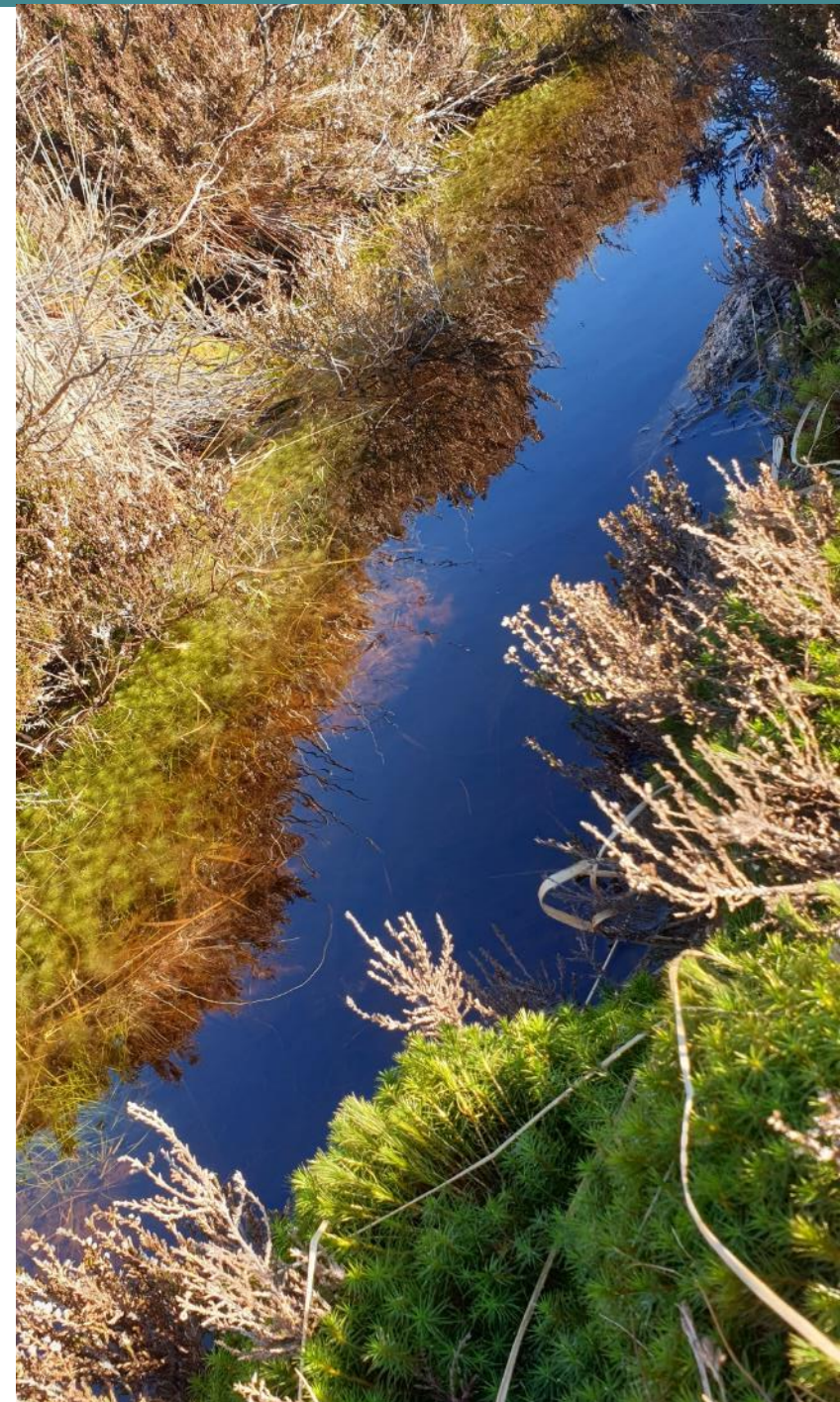
A place of fun, discovery and immersion in a vibrant, ever- changing natural ecosystem, where technology will make the invisible visible and exciting. A climate house to be explored through a series of iconic structures and landscapes that will help people make sense of climate change and sustainability

Vision and Mission

- Develop a **world-class destination** - a year-round, all-season, must-visit destination of international reputation with an iconic structure.
 - Provide a **place of natural wonder and fun** - for physical, mental, and spiritual connection to the natural world, to self and to others.
 - It will be led by a **global** perspective.
 - Be a place of **eternal energy** - story telling from our past and our future that will draw in large numbers of people from all age groups and from home and abroad.
 - Be a **regional catalyst** – creating employment opportunities and new supply-chain spend to stimulate economic prosperity for the local community and renewal for Irelands Hidden Heartlands.
 - Provide a **major events facility** for entertainment, conferences, festivals and gatherings.
 - Be a **regenerative sustainability leader** – biophilic-centric design, engineering and operations that minimize the use of waste and water and maximize resource and capital to drive adoption of behaviour change.
 - Be a **social enterprise**, inviting public, commercial, and non-profit partners from a variety of economic sectors (e.g., food, agriculture, transport, energy, tourism, construction) to demonstrate innovations, research and development and engage with the public.
 - Be a **foundation for learning**, research, training and development for all – for families, schools, community groups, workplaces, third level organisations and institutions - contributing to a global network of change makers.
 - Be a **unified community catalyst** – embedding the destination as a cultural hub, a connection to place and a regional investment asset.
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Expected Results

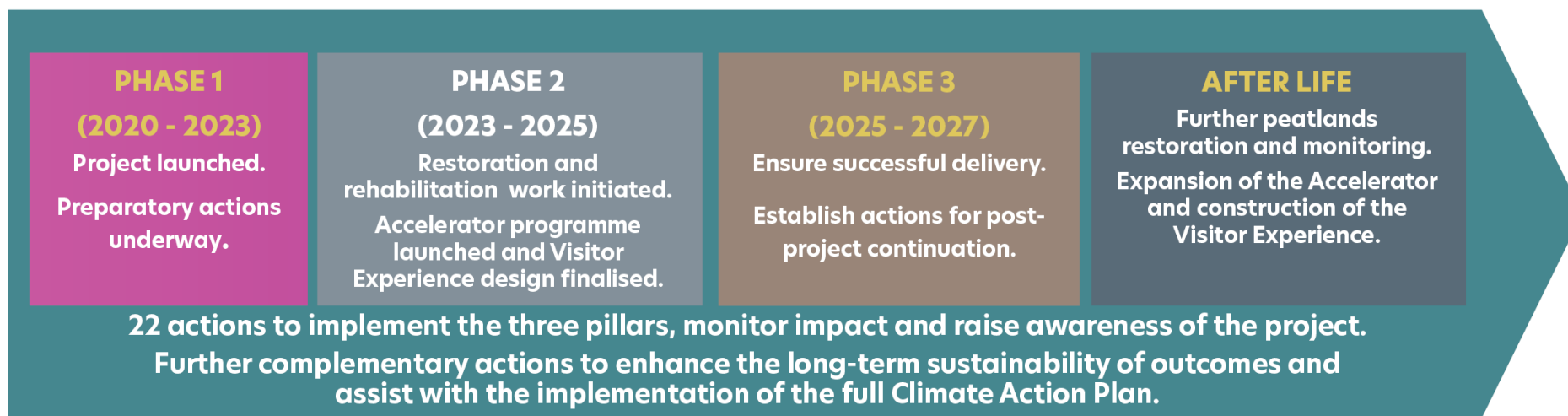
- A **fully developed business plan** for the People's Discovery Visitor Experience with a quantitated market analysis. This will include a fully developed financial, cost and revenue streams analysis.
- A technical report outlining **all feasible options explored** and detail of all measures implemented in linear/square meters for paths improved and bog bridges/board walks and car parks and units for signage for 6 sites as part of the Peatlands Tracks and Trails.
- Confirmed site and **development consent** secured.
- Final detailed masterplan for the People's Discovery Visitor Experience, which can act as a **blueprint for other such initiatives**, making this result directly transferrable.



Long-term Impacts of Peatlands and People

Supporting the delivery of Ireland's Climate Action Plan, as well as contributing and creating synergies towards numerous other National, European and Global policies and strategies.

- Restored and rehabilitated peatlands will continue to sequester and store carbon.
- The Accelerator will be designed to become self-sustaining, to continue to support the Just Transition.
- The Discovery Visitor Experience will continue to educate and inspire about carbon literacy.



Implementing Additional Policies

- *National:* **National Peatland Strategy; Project Ireland 2040** - National Planning Framework; the **EPA Vision**; and **Bord na Móna Sustainability 2030** and the **Biodiversity Action Plan 2016 – 2021**.
 - *European:* **EU Biodiversity Strategy**; the **EU Green Deal**; the EU Action Plan for Nature, People and the Economy, and the **EU Habitats and Water Framework Directives**; the **Climate Action & Low Carbon Development Act 2015**; the **EU Ten Priorities**; **EU Future of the Common Agricultural Policy**, and higher ambition on environmental and climate action.
 - *Global:* **UN IPCC** reports; **UN Sustainable Development Goal 13** on Climate Action; **UN FAO 10 Strategic Peatlands Actions**; the goals of the Paris Agreement; and the UNECE Air Convention regarding damage to biodiversity.
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Thank You

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PEATLANDS AND PEOPLE



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Social

 LIFE IP Peatlands and People

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Bord na Móna



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Department of Housing,
Local Government and Heritage



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine



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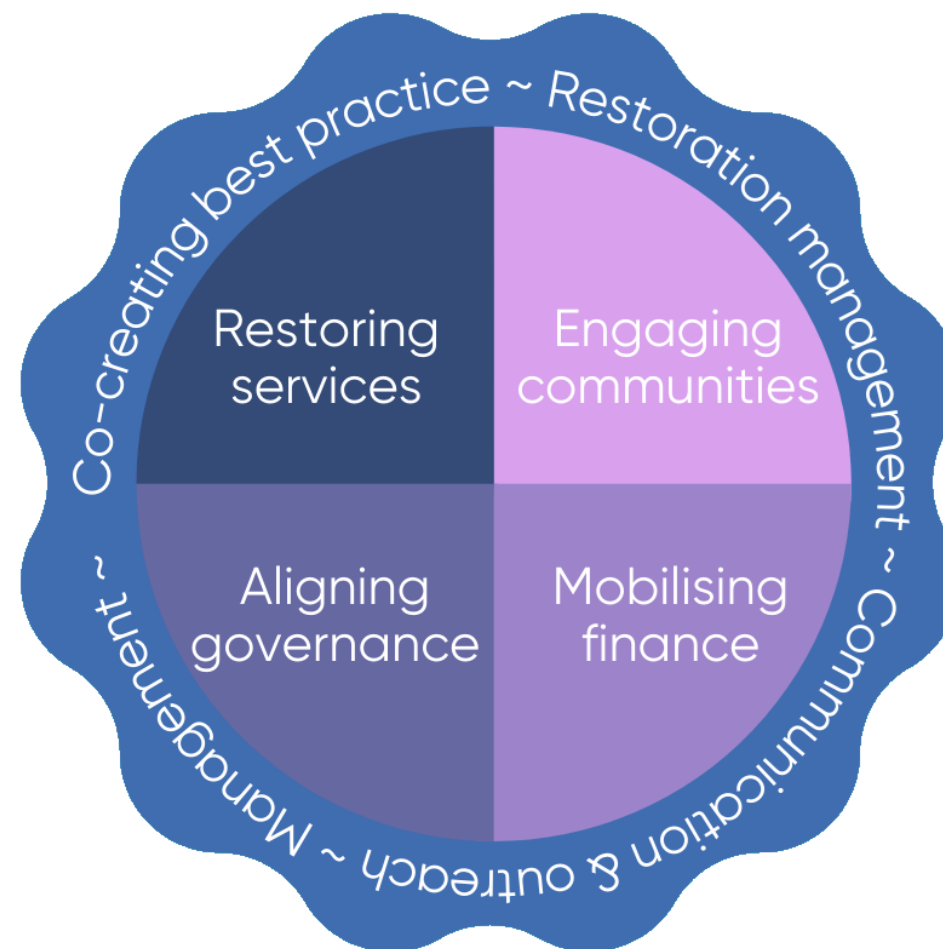
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036484 (WaterLANDS). This output reflects the views of the authors and the European Commission is not responsible for any use that may be made of the information contained therein.



At a Glance



- **Title:** Water-based solutions for carbon storage, people and wilderness
- **Programme:** H2020-LC-GD-2020-3
- **Type of action:** Innovation Action
- **Duration:** Dec. 2021 – Nov. 2026 (60 months)
- **Coordinator:** University College Dublin, Ireland
- **Consortium:** 32 partners from 14 countries
- **Total Budget:** €23,631,574
 - EU Grant: €23,068,483



Project Network

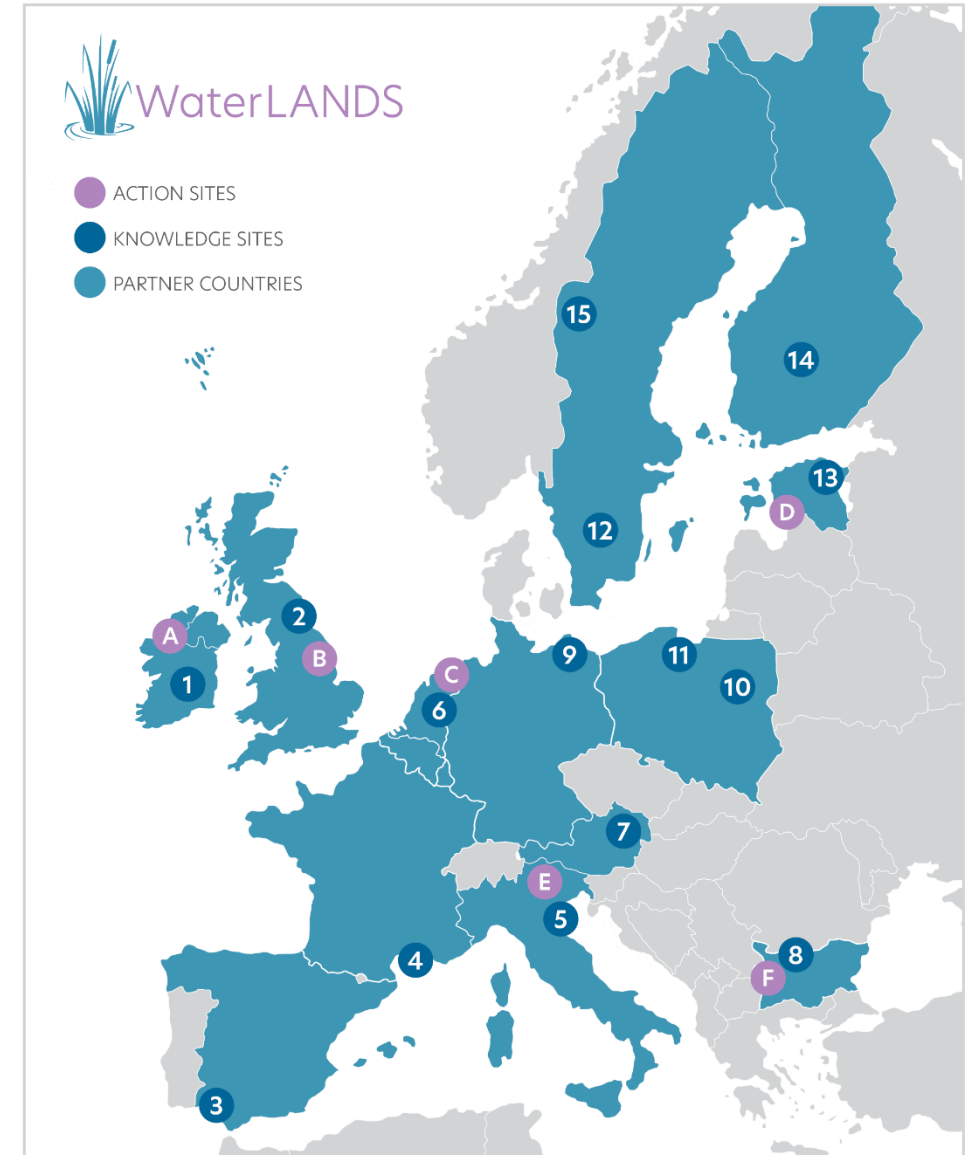
- Building a Legacy across
 - **15** Knowledge Sites
 - **6** Action Sites
 - **14** Partner Countries

ACTION SITES

- A** LIFE-IP Wild Atlantic Nature (Ireland)
- B** Yorkshire iCASP (The United Kingdom)
- C** Eems-Dollard Estuary (The Netherlands)
- D** Pärnu Catchment (Estonia)
- E** Venice Lagoon (Italy)
- F** Dragoman Marsh (Bulgaria)

KNOWLEDGE SITES

- 1** Abbeylax Bog (Ireland)
- 2** Water@Leeds (The United Kingdom)
- 3** Doñana Wetland (Spain)
- 4** Camargue (France)
- 5** Venice Lagoon (Italy)
- 6** Engbertsdijkvenen (The Netherlands)
- 7** Landscape Finance Lab (Austria)
- 8** Belene Island (Bulgaria)
- 9** M. Succow Foundation (Germany)
- 10** Wetlands around Warsaw (Poland)
- 11** Mazury Forest Mire (Poland)
- 12** Store Mosse (Sweden)
- 13** Sirtsu and Tudusoo Mires (Estonia)
- 14** Siikaneva (Finland)
- 15** Jämtland Mountains (Sweden)



Project Network

- Finland:
 - Geological Survey of Finland (GTK)
 - University of Eastern Finland
- Finland Knowledge Site: Siikaneva Fen and Bog
 - largest continuous wetland area and the most significant wetlands conservation area in the Tampere region
 - Siikaneva is part of the Integrated Carbon Observation System (ICOS), managed by the University of Eastern Finland
 - An important stopping point for migrating birds, particularly during the spring

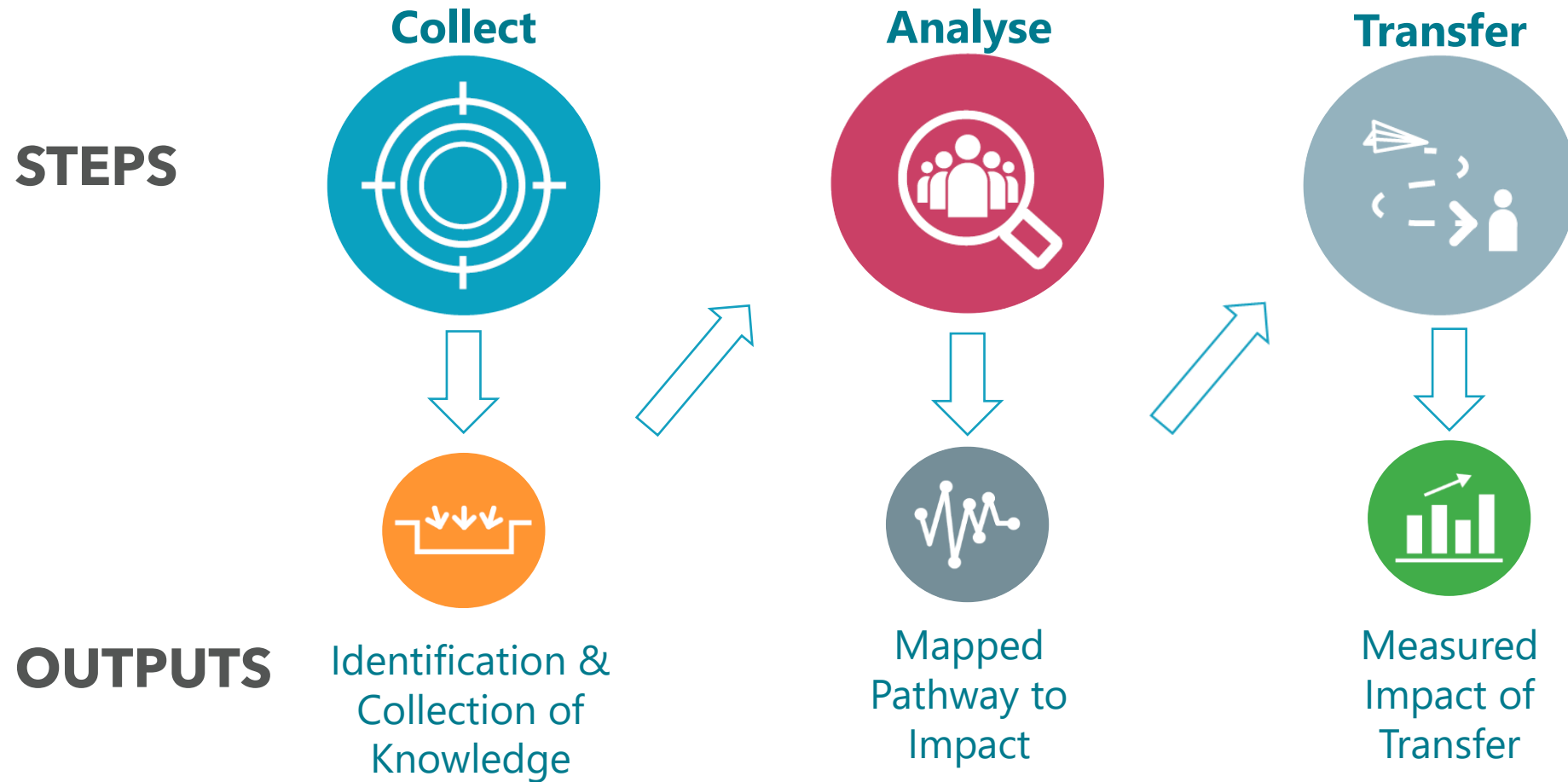
Project Objectives



The partners will work together to:

- **Demonstrate** large-scale wetland restoration (10,500 hectares).
- **Overcome** barriers to restoration and develop integrated solutions for upscaling.
- **Foster** cross-sectoral and interdisciplinary collaboration to co-create restoration.
- **Apply** a community-led paradigm in the co-design of restoration.
- **Maintain** wetland carbon storage and enhanced natural carbon sequestration services.
- **Provide** tailored financial solutions and resources for restoration.
- **Incubate** a restoration legacy by showing the basis for upscaling.

Knowledge Transfer – ERINN’s Methodology



Art Residency



Call for Artist in Residence

WaterLANDS SAC, Co. Leitrim, Ireland

Application to

**DETAILS TO BE
ANNOUNCED**

waterlands.eu/

Water-based solutions for carbon
storage, people and wilderness
www.waterlands.eu



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European Union's Horizon 2020 research
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