

UK-EU IRISH SEA RIM

A TRANSNATIONAL INVESTMENT
INNOVATION AND ENTERPRISE ZONE

STRATEGIC ECONOMIC REPORT

SUMMER 2026

IRISH
SEA
RIM

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INTRODUCTION FROM OUR CEO

Professor Phil Leigh

Chief Executive Officer and Founder
Irish Sea Rim Ltd.



This report has been over a decade in the making. The Irish Sea Rim concept and story began in 2013 and evolved through my lived experiences and a sense of place that ties together the coastal cities and communities that face the Irish and Celtic seas. Over time, various iterations, ideas, models and values that underpin the Irish Sea Rim have been shaped and developed through countless meetings, collaborations, workshops, presentations, and consultations with stakeholders across the region.

The Irish Sea region, home to over 23 million people, has long been defined by its resilience. Forged over a millennium of political and economic change, its unique capacity not only to withstand shocks but to gain strength from them has been proven time and again, most recently by the upheavals of Brexit and the accelerating climate crisis. These challenges have inadvertently catalysed beneficial adaptations, from new trade routes to a renewed focus on energy security. However, this adaptive capacity has largely been reactive. We now stand at a critical juncture where we can transition from passively absorbing shocks to proactively shaping our future. The Irish Sea Rim provides the strategic architecture for this transformation to harness our region's vast latent potential and turn the sea that separates our six nations into a bridge for shared growth and prosperity.

At the heart of our mission is a fundamentally different approach to regional development. For too long, the focus has been on the 'triple helix' of government, business, and academia, a model that risks leaving behind the very people and communities that give our region its identity. We champion a 'quadruple helix' approach, bringing Place in as the fourth integral partner. For us, economic growth is not the end goal; it is the means to the more meaningful ends of community wellbeing, environmental sustainability, and a worthy future for all. By embedding this principle in everything we do, we ensure that the benefits of a rebalanced economy are felt in our coastal towns and post-industrial heartlands, not just our thriving urban centres.

This report details the tangible opportunities that our collaborative model unlocks. The Irish Sea region is already a global powerhouse in key sectors from the pioneering green shipping corridors between our dual anchor hubs of Liverpool and Dublin to our world-leading offshore wind and tidal energy projects. Our region is the epicentre of the UK's advanced maritime manufacturing, a globally significant life sciences hub, and a critical conduit for the world's data through our dense network of subsea cables. By acting as a trusted, apolitical broker, the Irish Sea Rim connects these assets, creating a cohesive innovation 'supercluster' that can compete on a global scale and deliver a powerful economic complement and counterweight to London and the Greater South East.

The following report presents not just an analysis but a roadmap for transformation. It is an invitation to our partners across all sectors and nations to join us in building this new paradigm for regional growth. By working together, we can secure a resilient, prosperous, and sustainable future, cementing the Irish Sea's role as a vital link for economic wealth, cultural exchange, and a powerful sense of shared community.

This report has been a collaborative approach and the team behind the Irish Sea Rim has been instrumental in supporting, researching, and delivering it. We hope you enjoy reading it as much as we have in researching and writing it. We also thank our key partners the Connected Places Catapult, Liverpool City Region, the University of Cumbria, ARUP, GM Insights and Growth Flag, and the many stakeholders who have contributed to this report, and to the Irish Sea Rim more widely.

LIST OF ABBREVIATIONS

5GIR	5G Innovation Region
AI	Artificial Intelligence
AUKUS	Australia-UK-UK Security Pact
BESS	Battery Energy Storage System
BBC	British Broadcasting Corporation
BDFI	Bristol Digital Futures Institute
BITA	British Irish Trading Alliance
BRCD	Belfast Region City Deal
BRT	Belfast Rapid Transit
CACR	Cork Area Commuter Rail Programme
CAGR	Compound Annual Growth Rate
CC	Chamber of Commerce
CEO	Chief Executive Officer
CCR	Cardiff City Region
CCS	Carbon Capture and Storage
CPC	Connected Places Catapult
CPD	Continuing Professional Development
CRU	Commission for Regulation of Utilities (Ireland)
DAM	Digital Asset Management
DBEC	Dublin-Belfast Economic Corridor
DISC	Developing Irish Sea Cooperation
DSIT	Department for Science, Innovation, and Technology
DTC	Doctoral Training Centre
EA	Environment Agency
ETIC	Electech Innovation Cluster
EU	European Union
EV	Electric Vehicle(s)
FE	Further Education
FLOW	Floating Offshore Wind
FSB	Federation of Small Businesses
G7	Group of Seven
GCID	Glasgow City Innovation District
GCR	Glasgow City Region
GDP	Gross Domestic Product
GERD	Gross Expenditure on Research and Development
GM	Greater Manchester
GNI	Gross National Income
GNI*	Modified Gross National Income (Ireland)
GRID	National Electricity Distribution Grid

GVA	Gross Value Added
GW	GigaWatt
HEI	Higher Education Institution
HEPI	Higher Education Policy Institute
HIRANI	Health Innovation Research Alliance Northern Ireland
ICFGF	Inverness and Cromarty Firth Green Freeport
ICT	Information and Communication Technology
IoM	Isle of Man
IoT	Internet of Things
IP	Intellectual Property
ISF	Irish Sea Framework
ISMF	Irish Sea Maritime Framework
ISR	Irish Sea Rim
ISR50	Irish Sea Rim 2050 Strategic Vision
ISRESO	Irish Sea Rim Environmental and Scientific Observatory
IUK	Innovate UK
KEF	Knowledge Exchange Framework
KTP	Knowledge Transfer Partnership
LCR	Liverpool City Region
LJM	Liverpool John Moores University
LIPF	Local Innovation Partnerships Fund
MCZ	Marine Conservation Zone
MNE	Multinational Enterprise
MNZ	Morecambe Net Zero
MW	MegaWatt
NCF	National Cyber Force (UK)
NDP	Net Domestic Product
NEET	Not in Education, Employment, or Training
NESO	National Energy System Operator (UK)
NHSA	Northern Health Sciences Alliance
NI	Northern Ireland
NWNA	North West Nuclear Arc
NWRDSC	North West Regional Defence and Security Cluster
NZNW	Net Zero North West
OEA	Offshore Energy Alliance
OECD	Organisation for Economic Cooperation and Development
ONS	Office for National Statistics
ORE	Offshore Renewable Energy
OSW	Off Shore Wind
PIM	Project Information Management
PwC	PricewaterhouseCoopers LLC
QR	Quality-Related Research
R&D	Research and Development

Irish Sea Rim Investment, Innovation and Enterprise Zone

REF	Research Excellence Framework
RoRo	Roll-on, Roll-off (Ferries)
SMART	Specific, Measurable, Achievable, Relevant, Time-Bound
SME	Small and Medium-Sized Enterprise
SMTP	Scottish Marine Technology Park
SODA	School of Digital Arts (Manchester Metropolitan University)
SOSE	South of Scotland Enterprise
STEM	Science, Technology, Engineering, Maths
STFC	Science and Technologies Facilities Council
SWAP	Sector-Based Work Academy Programme
SWRDSC	South West Regional Defence and Security Cluster
TL	Tech Lancaster
TPI	The Productivity Institute
UCI	Union Cycliste International
UK	United Kingdom
UKRI	UK Research and Innovation
UK-SHORE	UK Shipping Office for Reducing Emissions
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
UoC	University of Cumbria
US	United States

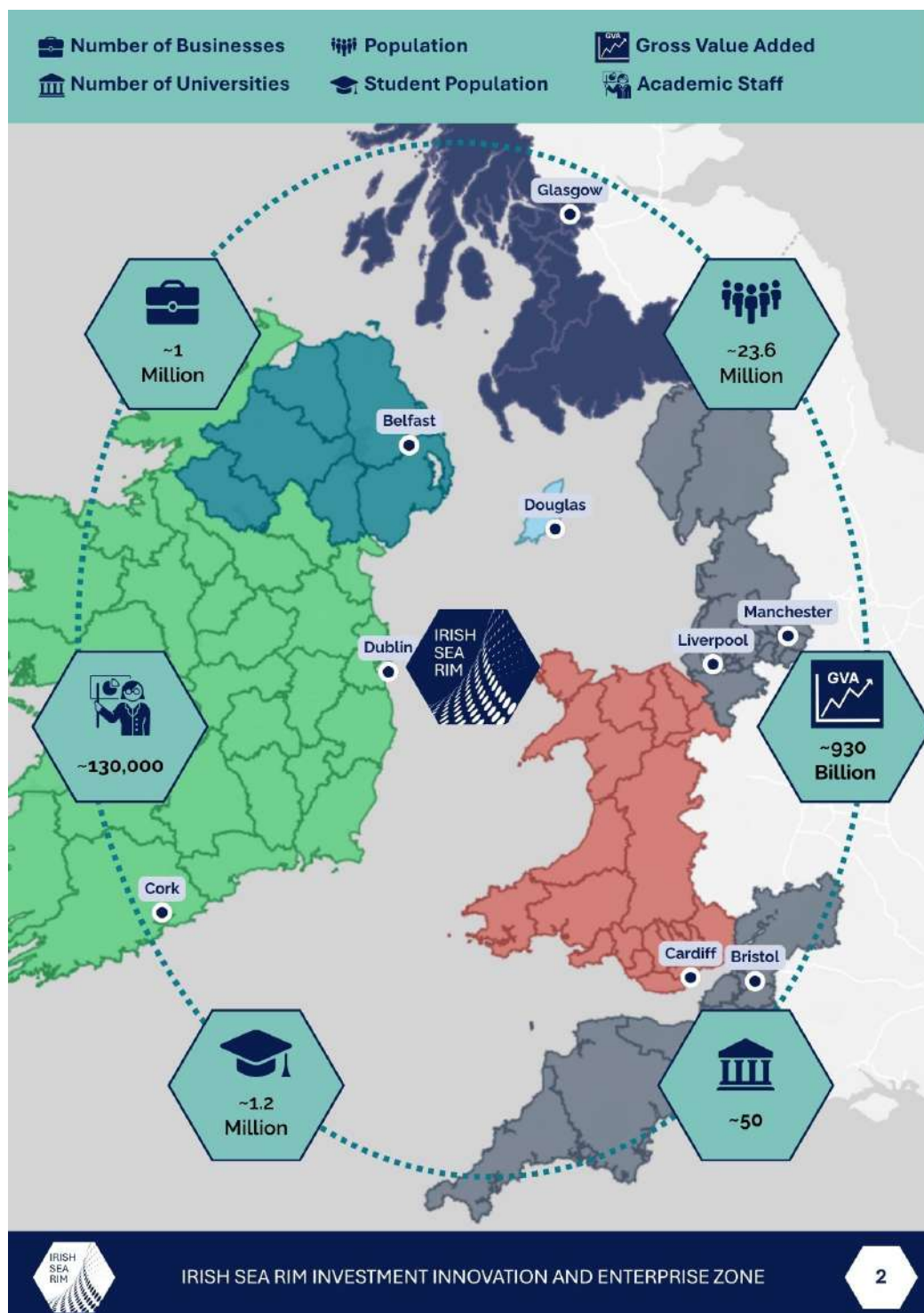
IRISH SEA RIM

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

A. IRISH SEA RIM OVERVIEW



Irish Sea Rim Investment, Innovation and Enterprise Zone

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B. THE NEED AND OPPORTUNITY

The Irish Sea Rim represents a groundbreaking new approach to **place-based regional development**, connecting the nation states and governments of the UK and Ireland, the devolved administrations of Scotland, Wales, and Northern Ireland, and the self-governing Crown Dependency of the Isle of Man in a powerful economic and cultural partnership, providing a critical route for delivery of the priorities identified in the **UK-Ireland Summit**, and a bridge between the UK and EU.

In March 2025, the landmark **UK-Ireland Summit** heralded a new era of strategic cooperation, creating a critical opportunity to forge a more resilient, prosperous future. The **Irish Sea Rim** answers this call by proposing and establishing a unified transnational **Investment Innovation and Enterprise Zone** to provide a vital complement and counterbalance to the economic concentration in London and the Greater South East.

The **Irish Sea Rim** provides a strategic framework to deliver on UK-Ireland Summit priorities by connecting a network of world-leading assets into a cohesive and globally competitive innovation zone. Assets include globally significant life sciences hubs in Liverpool and Manchester, the world's first compound semiconductor cluster in Wales and Dublin's digital economy.



UK MODERN INDUSTRIAL STRATEGY PRIORITIES



ADVANCED MANUFACTURING



CLEAN ENERGY INDUSTRIES



CREATIVE INDUSTRIES



DEFENCE



DIGITAL & TECHNOLOGIES



FINANCIAL SERVICES



LIFE SCIENCES



PROFESSIONAL & BUSINESS SERVICES

As climate change places increasing pressure on the Greater South East, the **Irish Sea's natural assets and concentration of high-value jobs** make it a secure and attractive destination for investment, talent, and sustainable living.

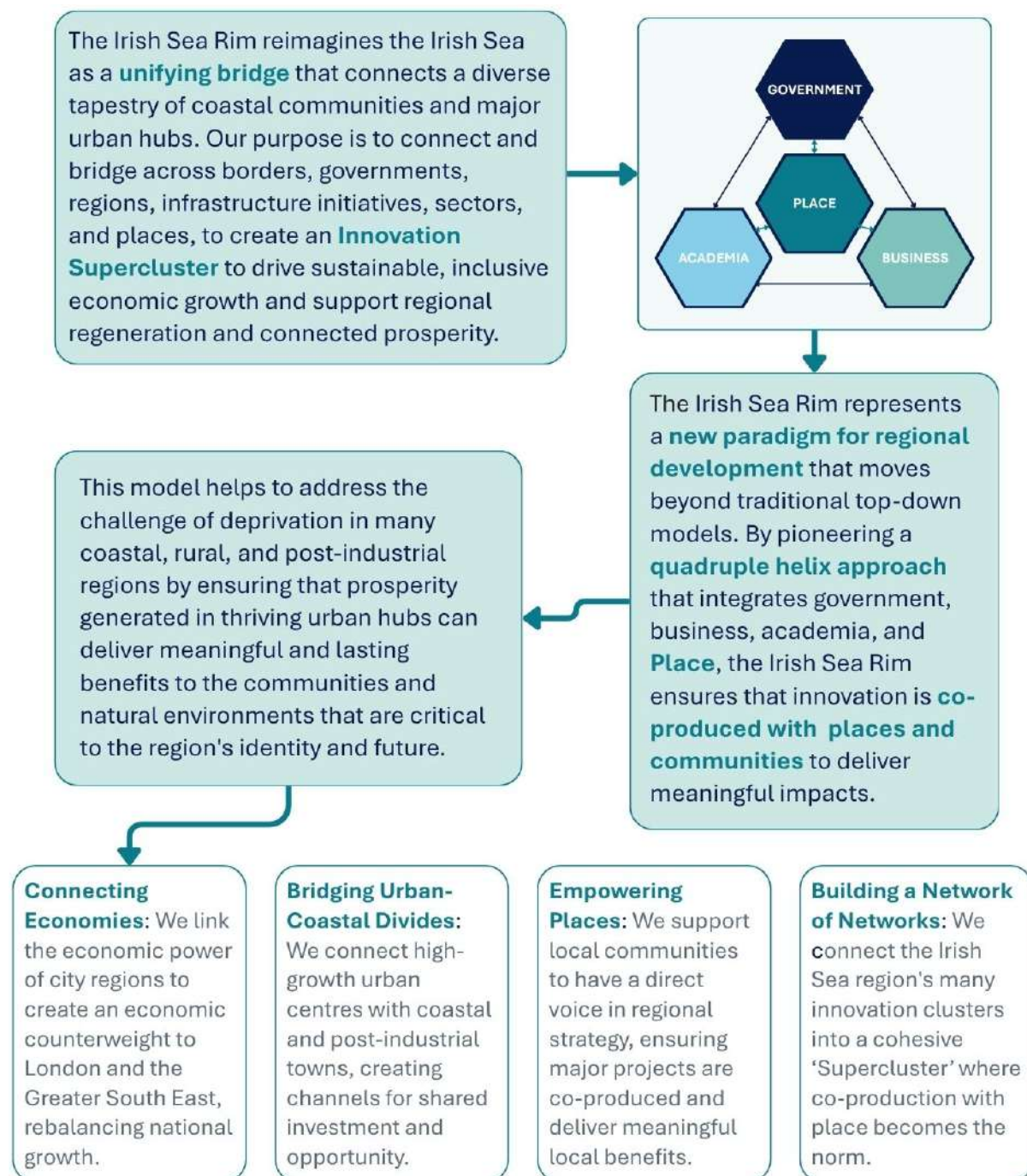
By harnessing the opportunities for a **clean, green, and blue transformation** - from developing green shipping corridors to leading in offshore and tidal energy, the Irish Sea Rim can drive **sustainable, inclusive economic growth** for all who live here.

EXECUTIVE SUMMARY

C. IRISH SEA RIM STRATEGIC OVERVIEW

PRIORITY	IMPORTANCE	HOW THE IRISH SEA RIM CONTRIBUTES
Regional Rebalancing and Connected Prosperity	Significant imbalances in regional prosperity and investment remain, with coastal and post-industrial areas lagging.	The Irish Sea Rim's vision is to develop economic growth through collectively engaged and enriched communities to build a regional counterweight to London and the Greater South East.
Post-Brexit UK-Ireland trade links	UK and Ireland are important trading partners. Given current global political and economic turbulence, it is critical to strengthen partnerships and international trade links in a strategic and structured way.	The Irish Sea Rim's mission is to connect and catalyse cross-border collaborations that transcend political boundaries and agendas, providing a platform for economic, research, and community initiatives.
Innovation Skills and Ecosystems	Funding is currently fragmented and highly competitive, with large anchor institutions sometimes dominating the agenda. A new approach to skills development which serves underrepresented communities is needed urgently.	The Irish Sea Rim provides vertical integration of national, regional, and local innovation ecosystems and communities for joined-up innovation and skills development to drive inclusive economic growth and societal benefit.
Net Zero / Blue and Green Transition	Infrastructure and strategic projects such as offshore wind, marine energy, and green shipping corridors require coordinated marine planning, cross-region partnerships, and environmental consideration.	The Irish Sea Rim's coastal innovation focus and Spherical Economy model aligns capital, industry, supply chains, services, world-leading research, and communities behind the clean growth agenda.
Values-Led Partnerships	Cross-border, multi-jurisdiction projects can face challenges in differing priorities, structures, and cultures.	The Irish Sea Rim's apolitical position, and its principles of partnership, vision-led leadership, consideration, values, and accountable governance allow us to be a trusted relationship broker.
Shared Placemaking, Activation and Storytelling	Each region has its own international reputation, defined by its past, present, and future.	The Irish Sea Rim will activate places, communities and vision in connected sport, creative and placemaking initiatives, strengthening connection, sustainability and people-focused growth.

D. CONNECTING PLACES & SHARING GROWTH



E. LIVERPOOL AND DUBLIN – DUAL ANCHORS

The reactivated twinning arrangement between **Liverpool and Dublin** is a pivotal moment for the Irish Sea region, building on deep cultural and historical links to unlock significant economic opportunities. This powerful synergy is poised to drive innovation and attract investment by leveraging the cities' complementary strengths across key priority sectors. The partnership is already pioneering advancements in **maritime decarbonisation** through the planned development of future **green shipping corridors**, advancing the **digital and data economy** with cutting-edge technology, and accelerating the **net-zero transition** with ambitious renewable energy projects.

By acting as twin anchor hubs, Liverpool City Region and the Greater Dublin Area will spearhead wider **regional rebalancing and connected prosperity** through creation of a resilient and interconnected regional economy. The collaboration, working in alignment with the cities and regions across the Irish Sea Rim has the potential to ensure that the economic, social, and environmental gains are felt across all communities of the Irish Sea, transforming prospects in areas that have previously been underserved.



Safeguarding and developing British-Irish trade in the post-Brexit scenario: employment and markets



Creating a new dynamic for business which promotes intra-state collaboration and international innovation

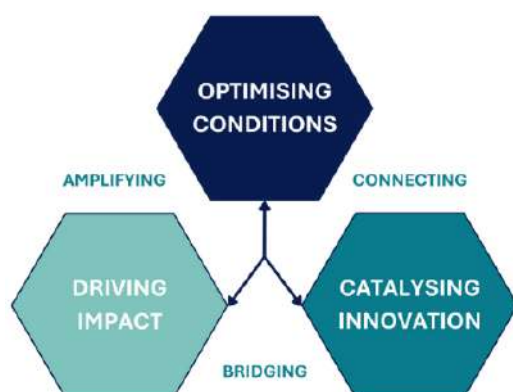


Connecting public, private, academic, and place sectors

The Irish Sea Rim is the crucial enabler that **connects, bridges, and amplifies** the power of this partnership. By fostering a **collaborative, transnational innovation supercluster**, the Irish Sea Rim catalyses the transformation of the Irish Sea from a barrier into a bridge for shared growth, securing a sustainable future for the entire region.

F. A NEW PARADIGM FOR REGIONAL GROWTH

The **Irish Sea Rim Strategic Vision** is embodied by the **ISR50 Spherical Economy**, creating a bold new paradigm for regional growth, designed to transform the Irish Sea region into a **digitally enhanced, human-centric ecosystem**. This model connects fragmented business services, supply chains, and places to tackle socio-economic inequalities and foster inclusive prosperity. It addresses the critical governmental priority of regional rebalancing while strengthening post-Brexit UK-Ireland trade and delivering sustainable growth for all communities.



Our **Operational Framework** provides a systematic approach to harnessing the region's complexity and its full growth and impact potential. Organised around the three pillars of **Optimising Conditions, Catalysing Innovation, and Driving Impact**, the framework fosters a holistic, self-organising ecosystem to catalyse innovation and create powerful policy, funding, and industry feedback loops to ensure strategic interventions are effective, impactful, and resilient across the Irish Sea Rim.

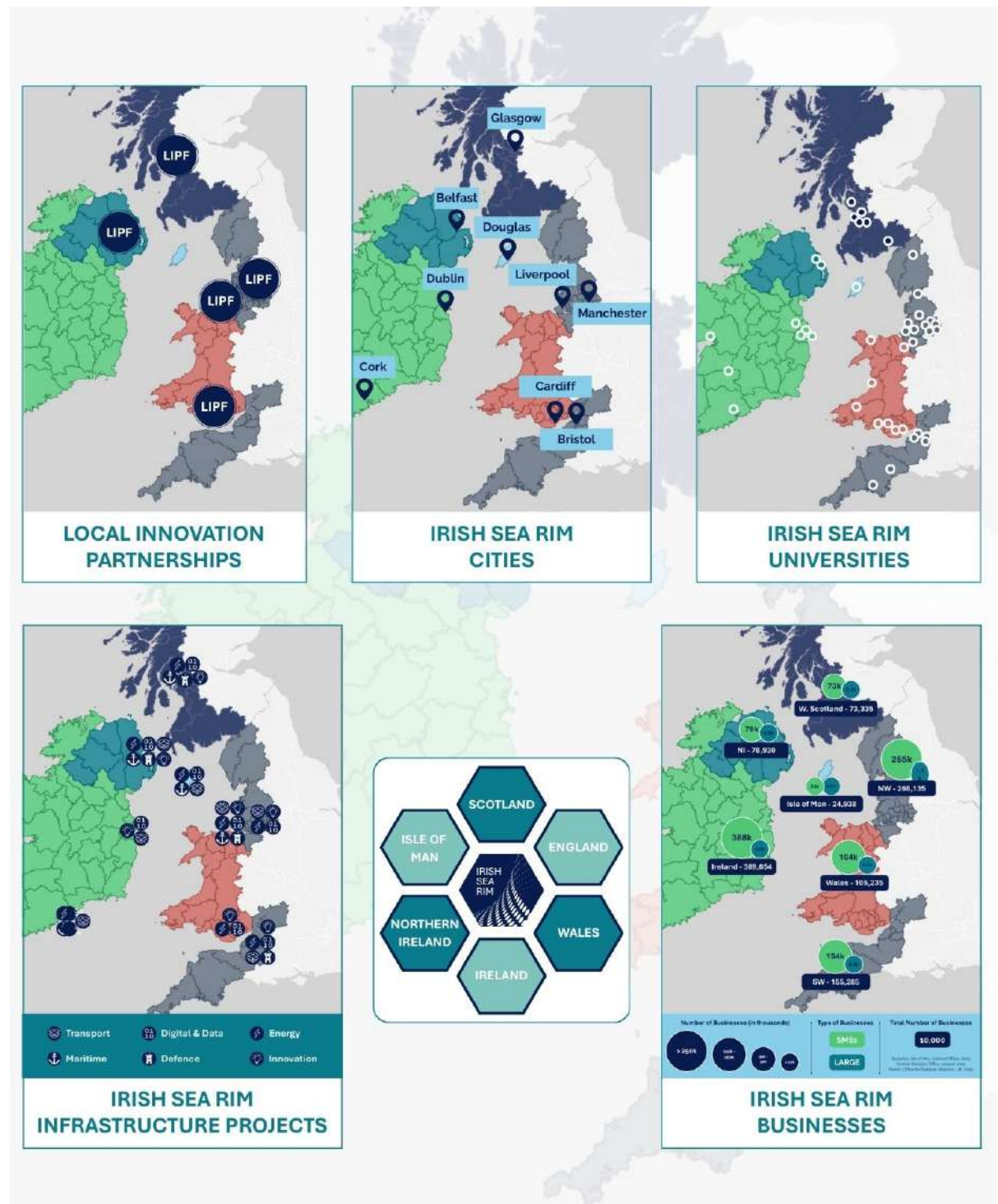
The **Bridge Framework** is an iterative process, providing a uniquely powerful and reproducible mechanism for building resilient partnerships and driving sustainable growth. Connecting across the **quadruple helix**, the Bridge Framework ensures co-production with local stakeholders is grounded in real-world needs and gains place-based support, transforming governmental strategic priorities into **quantifiable economic and social benefits** and connected prosperity across the whole Irish Sea region.



Irish Sea Rim Investment, Innovation and Enterprise Zone

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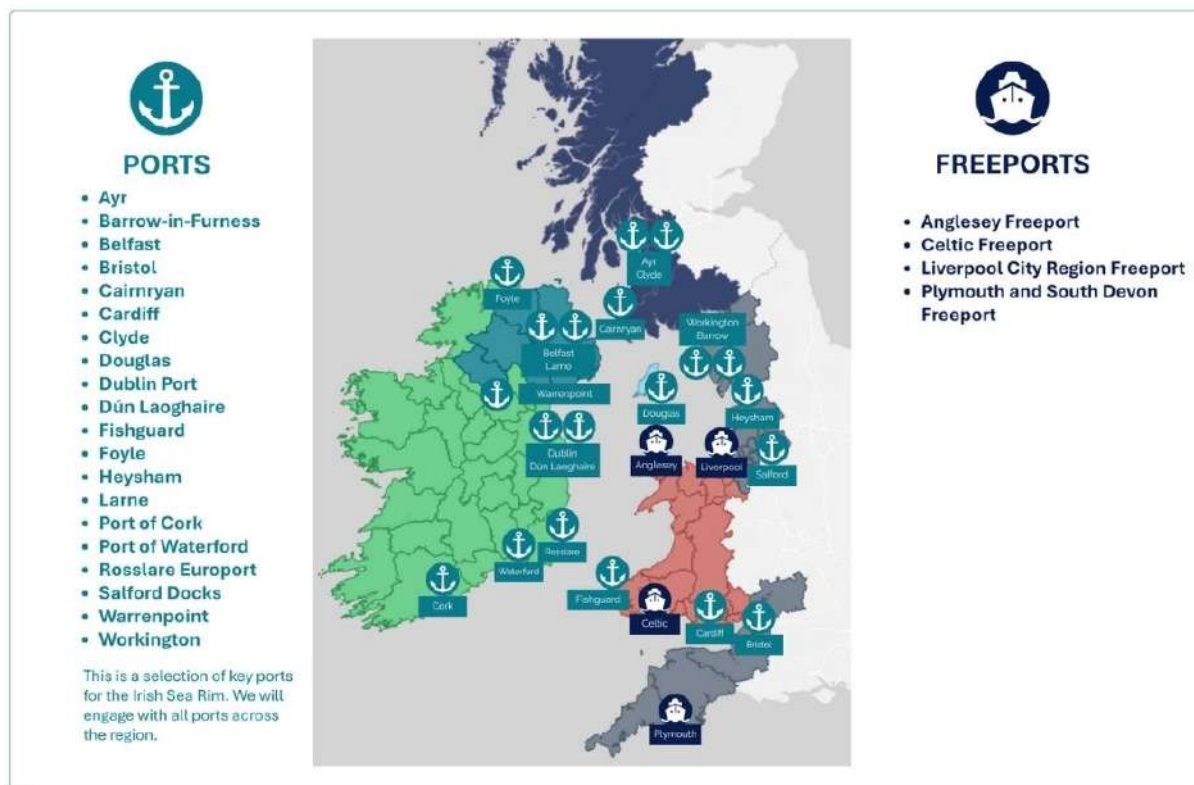
G. THE IRISH SEA RIM AT A GLANCE



Irish Sea Rim Investment, Innovation and Enterprise Zone

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H. MARITIME AND THE IRISH SEA RIM



The Irish Sea Rim is rooted in the region's maritime identity. By acting as a cross-border convener, we will catalyse the strategic transformation of the Irish Sea into a **globally competitive and sustainable maritime supercluster**. The Irish Sea Rim will support key initiatives, including the **Liverpool-Belfast Green Shipping Corridor** and the region's **Ports and Freeports**. We will establish the **Irish Sea Rim Environmental and Scientific Observatory** to de-risk investment in offshore energy and port modernisation while safeguarding Marine Conservation Zones. The proposed Irish Sea Rim **Doctoral Training Centre in Maritime and Marine** will build a pipeline of world-class talent and unlock the region's economic and environmental potential.



Irish Sea Rim Investment, Innovation and Enterprise Zone

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I. MARITIME AND GREEN SHIPPING

The Irish Sea is rapidly transforming into a global leader in **maritime decarbonisation**, leveraging its role as a vital UK-Ireland trade artery. This economic powerhouse is creating a **blueprint for zero-emission shipping** that cements the region's international reputation and attracts global investment.

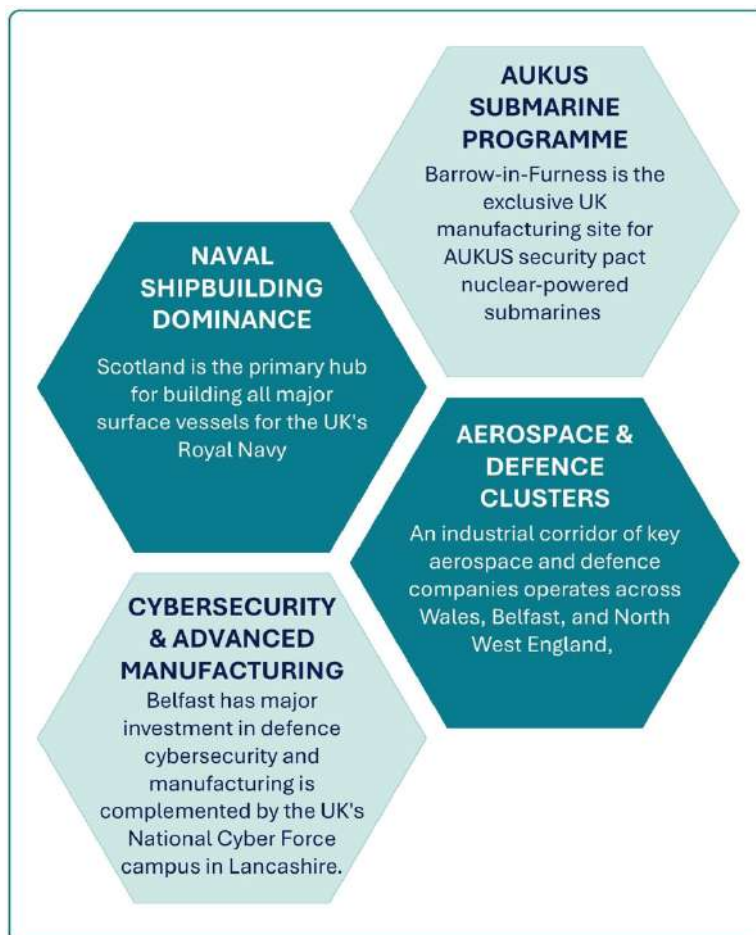
The Irish Sea Rim is the catalyst to deliver this vision. As a **neutral and cross sector apolitical convening mechanism**, we can help dissolve barriers across borders, sectors, and places to maximise collaboration, and connect expertise. We help **accelerate the adoption of green technologies** and **build essential skills pipelines**, while also working with academia and places to support the monitoring and evaluation of the environmental impacts and gains of Green Shipping initiatives.



Seatruck roll on-roll off freight Ferry. Image credit: Alistair Eagles

J. DEFENCE & SECURITY

The Irish Sea region is a globally significant powerhouse for the defence and security sector, underpinned by the **AUKUS security pact** and a concentration of critical national assets. It is the epicentre of the UK's advanced maritime manufacturing, with Scotland building all major **surface naval assets for the Royal Navy** and Barrow-in-Furness serving as the sole site for constructing nuclear-powered submarines for both the Royal Navy and AUKUS partners. This industrial base is enhanced by **major aerospace clusters** across Wales, Belfast, and North West England, particularly the **North West and the South West Regional Defence and Security Clusters**. The Irish Sea Region also has substantial investment into **defence-related cybersecurity** in Belfast and the establishment of the **UK's National Cyber Force campus** in Lancashire, cementing its international reputation and influence.



The Irish Sea Rim acts as a strategic enabler to help connect and bridge across the region's defence assets to support a cohesive, transnational industrial base. By brokering **relationships** and creating **trusted shared forums**, it connects Scotland's naval shipbuilding yards, Barrow's AUKUS submarine programme, and the aerospace and cybersecurity clusters. This integration enables a more **resilient and innovative supply chain for the UK's most critical national security programmes**. The Irish Sea Rim's unique, apolitical role allows it to bridge key stakeholders across governmental, industrial, and academic divides - linking key industrial partners with specialist university research and regional security clusters. This targeted collaboration accelerates the translation of cutting-edge R&D into operational capability and strengthens the UK-Ireland security partnership. In doing so, the Irish Sea Rim is a key partner in realising the vision of the Irish Sea as a **Safe Lake - a secure, collaborative maritime environment** - and ensuring that the region's strategic importance delivers tangible economic resilience and high-value jobs to its coastal communities.

K. ENERGY AND NET ZERO TRANSITION

NORTH WEST NUCLEAR ARC:

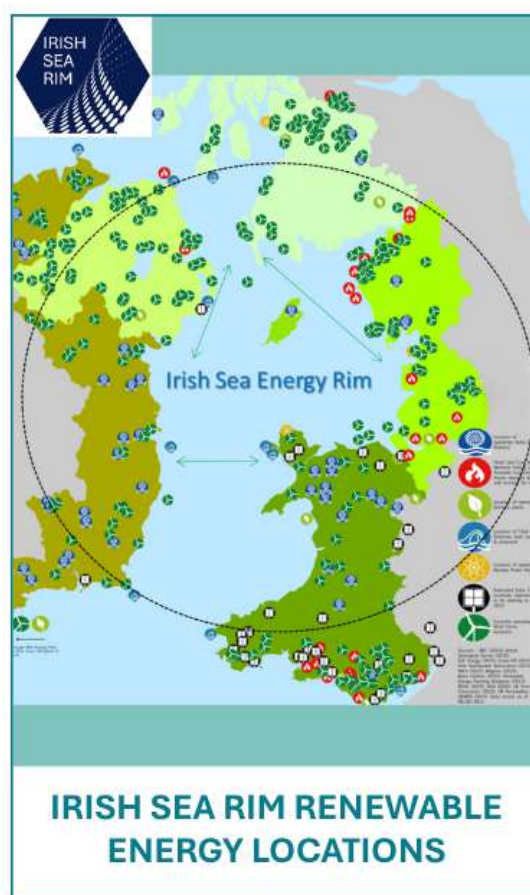
World-class nuclear cluster in North West England and North Wales, incorporating new builds, fuel production, and decommissioning.



Heysham Port and Heysham Nuclear Power Station

The Irish Sea is rapidly establishing itself as a **global epicentre for net-zero transition**. The region is a major hub for renewable energy, with an ambitious portfolio of **pioneering tidal energy projects**. This includes the multi-billion-pound **Mersey Tidal Power Scheme**, which could power up to one million homes. Bolstered by a robust network of subsea electricity interconnectors and a long-established nuclear base, the region is uniquely equipped to meet the unprecedented energy demands of the digital age, including the rise of AI and data centres.

This energy revolution requires more than just infrastructure; it needs strategic coordination. The **Irish Sea Rim** helps overcome practical barriers to the energy transition by brokering and bridging relationships across regions and industries. In doing this we help catalyse large scale cross-border infrastructure projects like tidal barrages, helping to de-risk investment and accelerate timelines. Critically, the Irish Sea Rim supports **innovative and resilient supply chains** by linking clusters and assets, such as shipbuilding in Scotland with project needs in Wales. This matchmaking function saves time and money and helps to distribute the benefits of multi-billion-pound energy investments to the communities and businesses of the Irish Sea.



OFFSHORE WIND:

Developing approximately 6 GW of offshore wind capacity, making the Irish Sea a world-leading region for renewable energy generation.



Wind farm off Crosby Beach, north of Liverpool

EXECUTIVE SUMMARY

L. LIFE SCIENCES

LIVERPOOL CITY REGION LIFE SCIENCES INNOVATION ZONE

10-year programme aims to attract **£800 million investment**. Cutting-edge projects include the **Centre for Long-Acting Therapeutics** and the **Infection Innovation Consortium**.

The Irish Sea region hosts **globally significant innovation clusters**, including life sciences, combining world-leading research with industrial power, including the **Liverpool - Manchester corridor**, Ireland's base for **nine of the top ten international pharmaceutical companies**, hubs in Wales and Scotland and the **UK's third fastest-growing life sciences sector** in the South West of England. An unparalleled cross-border potential underpins the region's international reputation and influence.

NORTHERN HEALTH SCIENCE ALLIANCE

Anchors a **major cluster corridor** spanning from the Liverpool City Region through Cheshire to Greater Manchester, creating a **critical mass of world-leading research and commercial activity**.



M-SPARC Science Park, Wales. Image Credit: Irish Sea Rim

HEALTH INNOVATION RESEARCH NORTHERN IRELAND

Unites **17 research organisations** and **300 companies** to generate over **£1.1 billion in GVA**, showcasing a highly integrated and impactful regional ecosystem.

The Irish Sea Rim has a vital role to play in bridging industry, academia, and place across national borders to maximise the translation of groundbreaking research into tangible economic and health impacts. We help create a **unified ecosystem** to tackle shared challenges and seize investment opportunities. Our **place-based approach** helps ensure the benefits of this high-growth sector contribute to connected prosperity for all communities.

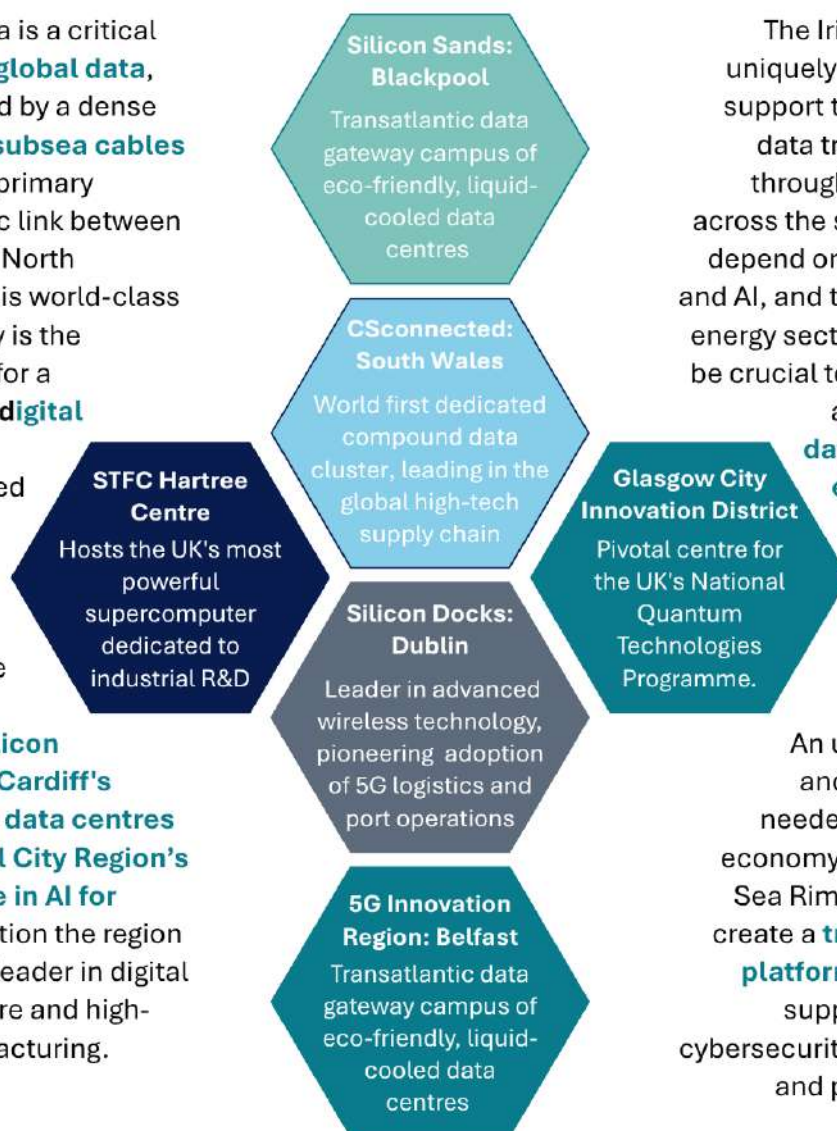
IRELAND'S GLOBAL PHARMACEUTICAL HUB

Hosts nine of the **world's top ten international pharmaceutical companies**, cementing its status as a **global leader in life sciences manufacturing and research**.

M. DIGITAL AND DATA ECONOMY

The Irish Sea is a critical conduit for **global data**, underpinned by a dense network of **subsea cables** that form a primary transatlantic link between Europe and North America. This world-class connectivity is the foundation for a burgeoning **digital economy**, supercharged by the growth of AI.

Powerhouse hubs - from **Dublin's Silicon Docks** and **Cardiff's hyperscale data centres** to **Liverpool City Region's leading role in AI for Good** - position the region as a global leader in digital infrastructure and high-tech manufacturing.



The Irish Sea Rim is uniquely positioned to support the digital and data transformation through its networks across the sectors which depend on data centres and AI, and the renewable energy sectors which will be crucial to establishing a **sustainable data and digital economy** and **maximising the region's global influence**.

An uplift in digital and data skills is needed to drive this economy, and the Irish Sea Rim is working to create a **trusted digital platform** to connect, support, and train cybersecurity researchers and professionals.

This concentration of assets creates a formidable ecosystem that is vital to the future of international data flow, trade, and technological innovation. By linking industry demand directly with academic powerhouses, the Irish Sea Rim addresses the region's skills development needs, building a crucial talent pipeline in high-growth sectors like AI and cybersecurity.

N. BLUE / GREEN REGENERATION



RHS Garden Bridgewater.
Image Credit: Irish Sea Rim

The Irish Sea region is undergoing a profound **blue and green regeneration**, with a dual focus on pioneering clean industry while enhancing community wellbeing. This is driven by a globally significant **green industrial revolution** which is powered by world-leading projects in **offshore wind, tidal power, hydrogen, and transport decarbonisation**.

This industrial ambition is matched by a wider **commitment to enhancing social and environmental prosperity**. Nations like Scotland and Wales are explicitly adopting a **wellbeing economy** model while city regions are investing heavily in public health and community connection by building **extensive new networks for active travel**. This is underpinned by a deep-rooted focus on environmental stewardship, including cross-border collaboration to protect the sea's rich biodiversity and Marine Conservation Zones.

At the **Irish Sea Rim**, our vision is driven by our commitment to shape a more prosperous and sustainable future by creating ambitious, future-facing strategies and projects designed to deliver **inclusive economic growth, societal benefit, and environmental sustainability**.

Through our **Connecting Places programme**, we unite government, industry, and academia with place to deliver **growth alongside clean, green wellbeing**.



Crosby beach. Image Credit: Irish Sea Rim

With the **Irish Sea Rim Cycle Race**, we combine an elite, six-nation sporting event with a **touring business expo**, designed to drive investment directly into coastal high streets and promote active lifestyles. Furthermore, we propose to lead the creation of the **Irish Sea Rim Environmental and Scientific Observatory (ISRESO)**, a major scientific project to provide the data needed to guide sustainable development across the region.

O. CONNECTING PLACES PROGRAMME

A key goal of the Irish Sea Rim is to connect the region's nations, businesses, academic institutions and distinctive high-growth innovation clusters and world-leading assets with **places**, to harness the wider strength of these places, and catalysing growth and investment in clean, green and wellbeing-focused innovation that benefits all. To realise the full potential of the Irish Sea region, place must have a central role and equal voice in supporting connected innovation, testing and driving place-specific **economic, social and environmental impact**.



As places change, communities must have a voice in the decisions and impacts that will define success. Engagement and co-production are key to harnessing **community voice** meaningfully, enabled by time, social infrastructure and expertise. Through the **Connecting Places programme**, the Irish Sea Rim will lead the way, building the infrastructure for long-term community voice, engagement and co-production. We will drive the place animation, visibility and storytelling of this landmark initiative to integrate innovation with the people and places which define and connect the Irish Sea.

EXECUTIVE SUMMARY

P. IRISH SEA RIM CYCLE RACE AND BUSINESS EXPO



The **Irish Sea Rim Cycle Race & Business Expo** is a landmark initiative designed to be the living embodiment of the entire Irish Sea Rim vision. For the first time, this pioneering, two-week international series of elite cycling events will connect the region's six nations through a single, highly visible narrative of **collaboration and shared ambition**. It moves far beyond a traditional sporting event by uniquely blending elite cycling with a touring business expo and cultural festival, creating a unique vehicle for profound **economic, environmental, and social development**.

The Cycle Race aligns with our core mission to **connect, bridge, and amplify opportunities across borders, catalysing a new model of regenerative growth and forging a cohesive identity for a region of immense untapped potential**.



The unique **Business Expo** provides a platform for SMEs to forge transnational collaborations and showcase innovations in green and blue economies and generate up to £100 million in direct economic activity.

The race routes through underserved coastal and rural communities, using an integrated **Innovation and Skills Roadshow** to create tangible career pathways, tackle regional inequalities, and support inclusive growth.

Through cycling, active transport, and nature-based tourism, the programme promotes **regenerative growth** that actively improves local environments and public health and supports sustainability goals.

The Cycle Race is a **strategic placemaking tool** that builds a legacy of cross-border investment, growth, and shared pride in place, cementing the Irish Sea as a resilient, connected, and globally significant region.



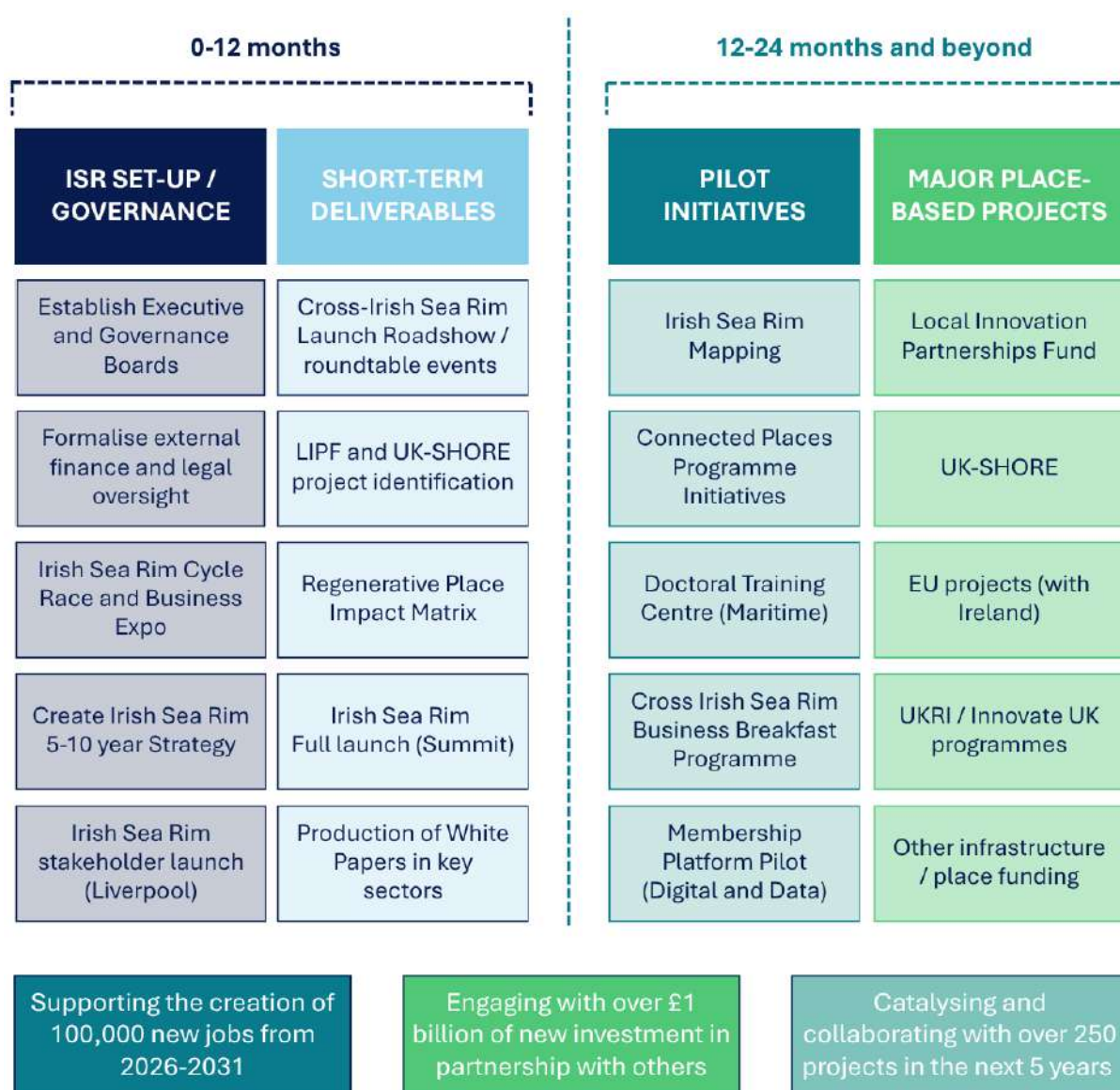
Gary McLroy, Tour of Ulster 2016

Irish Sea Rim Investment, Innovation and Enterprise Zone

EXECUTIVE SUMMARY

Q. ROADMAP TO TRANSFORMATION

The Irish Sea Rim is essentially a practical delivery vehicle for innovation at scale across the Irish Sea region, breaking down barriers and catalysing cross-border collaboration. This is our **roadmap for establishing the Irish Sea Rim, developing pilot initiatives, and contributing to major place-based initiatives**. This roadmap is a live plan and will be contingent upon establishing a sustainable funding base and on stakeholder opportunities and priorities.



PART ONE

INTRODUCTION AND CONTEXT



Liverpool waterfront and ferry port. Image credit: Visit Liverpool

INTRODUCTION AND CONTEXT

Section 1: The Irish Sea Rim

Section 2: ISR50 Spherical Economy

Section 3: Irish Sea Rim connectivity

Section 4: The Irish Sea Rim Supercluster

SECTION 1: THE IRISH SEA RIM

The Irish Sea Rim represents a groundbreaking new approach to place-based regional development, connecting three nation states and six governments in a powerful economic and cultural partnership, and providing a critical route for delivery of the priorities identified in the UK-Ireland Summit

The Irish Sea Rim is a unified, transnational Investment, Innovation, and Enterprise Zone based around the Irish Sea. Our purpose is to transform community co-produced economic and business growth and the development of world class collaborative research, through regional innovation excellence. The Irish Sea Rim will develop into an International, three-dimensional, multi-sector organisation and partnership network designed to deliver sustainable, inclusive economic growth and societal benefit across transnational boundaries while attracting increased inward investment.



Safeguarding and developing British-Irish trade in the post-Brexit scenario: employment and markets



Creating a new dynamic for business which promotes intra-state collaboration and international innovation



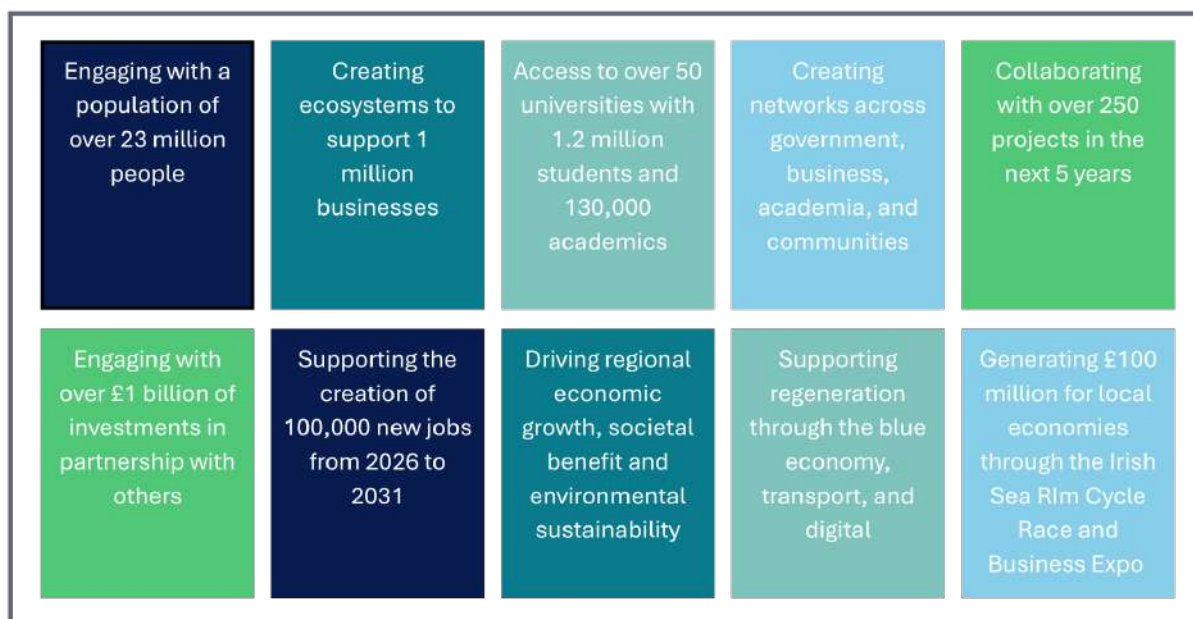
Connecting public, private, academic, and place sectors



The Irish Sea Rim encompasses three Nation States – the European Union (EU) member state of Ireland, the United Kingdom, and the Isle of Man, and the regional governments of England, Scotland, Wales, and Northern Ireland. This region has an estimated combined population of approximately 23 million people, GVA of approximately £940 billion, around 1 million businesses, and over 50 universities, with up to 1.2 million students and 130,000 academic staff.

The Irish Sea Rim has a coastal and maritime emphasis, centred around the key city regions of Liverpool, Manchester, Glasgow, Cardiff, Bristol, Belfast, Dublin, and Cork, and the Isle of Man.

Figure 1.1: Irish Sea Rim key facts and goals



A key characteristic of the Irish Sea Rim is its combined economic power and potential. Together, the cities and regions which comprise the Irish Sea Rim both complement and create a significant economic and innovation counterweight to the concentration of London and the Greater South East as illustrated in [Figure 1.2](#). This is despite receiving significantly less research and innovation investment ([Section 14](#)). As a unified economic zone, the Irish Sea Rim has a diverse and distributed portfolio of industries and world-leading research institutions, making it highly attractive to national and global investment and talent. In addition, through its climate and natural environment, the Irish Sea region is more resilient to the climate changes which threaten the security of London and the Greater South East.

The economic comparison should be viewed within the context of research and innovation investment. Traditionally, the Irish Sea Rim has received significantly less investment than London and the Greater South East (see [Section 15](#)). Formally establishing the unified, cross-border Irish Sea Rim Investment, Innovation, and Enterprise Zone, and targeting investment into its industries and regions therefore creates an unprecedented opportunity for delivering non-linear returns on investment in terms of sustainable, inclusive economic growth.

Figure 1.2: High-level summary comparison: Irish Sea Region vs Greater South East

Metric	Irish Sea Rim	Greater South East
Approx Population	~23.6 million	~24.8 million
Approx GDP (GVA)	~£930 billion	~£1.09 trillion
Approx Businesses	~1.0 million	~1.3 million
Universities	55-60	65-70
Student Population	~1.2 million	~1.2 million
Academic Staff	~130,000	~120,000

A. A NEW PARADIGM FOR REGIONAL GROWTH AND COLLABORATION

With the Irish Sea Rim, we are creating a groundbreaking new paradigm for place-based regional growth and collaboration, building a vibrant community that spans across waters, and bringing together over 23 million people in a shared vision of prosperity, collaboration, innovation, and investment. Operating as an umbrella organisation and portal for regional programmes, investment, and projects, the Irish Sea Rim can be framed as a model “Super Cluster”, and a practical pathway to catalyse place-based innovation, strengthen UK-Irish trade security, demonstrate values-led governance across devolved administrations, and drive community co-production.

What is the Irish Sea Rim?



The Irish Sea Rim will be a **membership organisation** with the objective of consolidating and developing trade initiatives between commercial organisations within the six jurisdictions comprising the Irish Sea region



Why is it needed?



To build a better understanding of existing trading relationships across the Irish Sea and the importance of UK-Ireland trade to the future of both states in the post-Brexit era. Together, the Irish Sea becomes a better defined and shared economic resource.



What can it achieve?



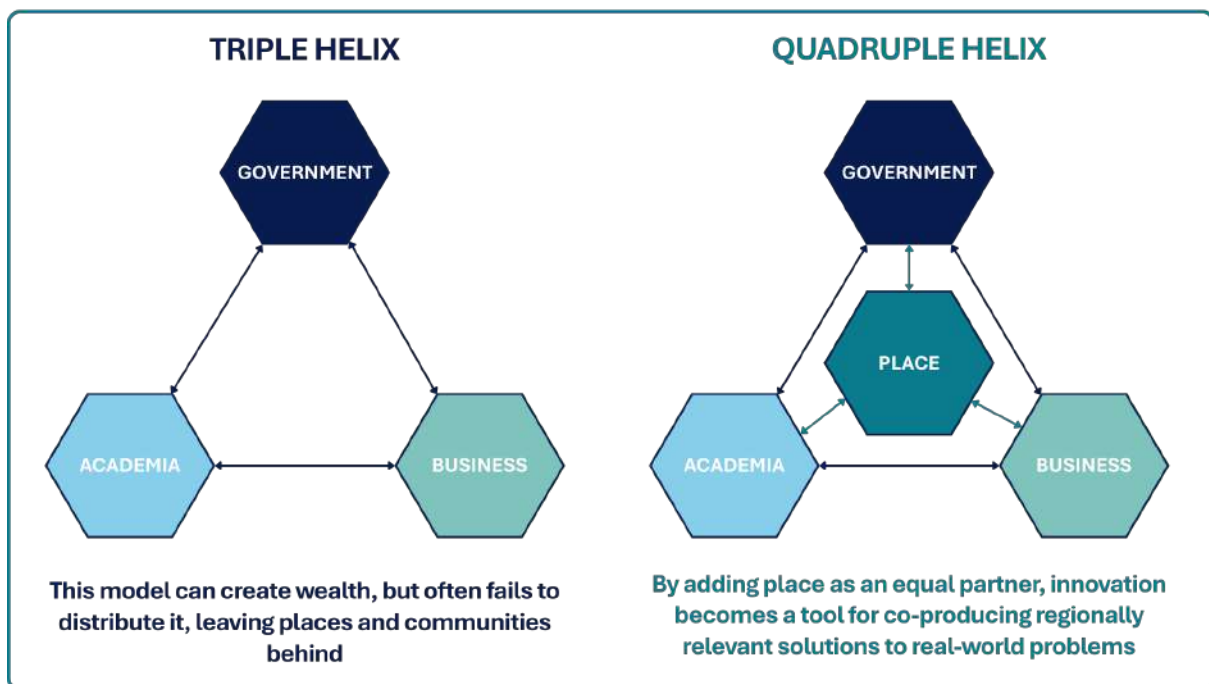
Economic growth by identifying cross-region **collaboration** opportunities between startups and businesses - **awarding** grants, highlighting best practice, hosting **conferences** to showcase policy development, new markets, and export prospects

B. PLACE AND COMMUNITY CO-PRODUCTION

The Irish Sea is a region of contrasts, encompassing a complex and diverse tapestry of communities, economies, and environments including major global cities, post-industrial towns, rural peripheries, and unique island jurisdictions, all bound by their proximity to a shared sea. The economic geography of the Irish Sea Rim is dominated by several powerful urban hubs that serve as the primary engines of growth and innovation. These cities have largely navigated the transition from industrial pasts to futures grounded in knowledge-intensive sectors, attracting investment and talent. The challenge is that the concentration of high-tech and high-finance sectors, while driving economic growth, often creates ‘islands of innovation’ which have only weak connections to local economies and can exacerbate regional economic inequalities. This creates a form of prosperity that may lack deep roots in place, creating a critical challenge for strategies aimed at delivering inclusive growth.

A significant percentage of places and communities that surround the Irish Sea are marginalised in a regional or national sense due to their geographical location and population size. These communities have an increasingly important role to play in supporting their more affluent and influential neighbours, yet often do not receive the benefit of economic, innovation or infrastructure investment as areas ‘outside’ the economic agglomeration cores. These places provide critical underpinning elements to urban communities, including energy, food, and water but often find that they have only a limited voice when it comes to influencing and creating new opportunities. As a result, these places receive only a fraction of the economic benefit created by the cities which they serve.

Figure 1.3: The Irish Sea Rim Quadruple Helix



The Irish Sea Rim's solution is to build the innovation ecosystem across a quadruple, rather than a triple, helix (Figure 1.3). Unlike most innovation organisations, we connect government, business, academia, and place (including communities and natural and built environments) across the six member countries through a holistic and inclusive approach, building cross-nation partnerships in a 'Confederation of Enterprise and Place'. In doing this, the Irish Sea Rim will transform the way in which places and communities are included as equal partners in regional development.

This will support the Irish Sea Rim to deliver its twin goals of creating a sustainable, inclusive economic and cultural counterbalance to the Greater South East (London, East of England and the South East of England) and ensuring that economic growth benefits all communities and places around the Irish Sea. The Irish Sea Rim focuses on meaningful engagement, co-production, co-delivery, and impact generation with stakeholders and communities, working across several key social, economic, and industrial sectors (Figure 1.4), focussing on: Maritime, Green Transport and Blue Growth; Digital and Data economy and Defence; Energy and Net Zero Transition; Life Sciences and Health; and Sport, Wellbeing, and Regenerative Tourism.

Figure 1.4: The Irish Sea Rim key sectors



In recent months, the authors have engaged actively with stakeholders across the Irish Sea region to understand priorities and co-develop this report. A list of key invited presentations and events is given below.

Location	Event	Month
Liverpool	Irish Sea Rim Strategic Economic Report Launch and Round Table – Liverpool Innovation Fortnight	June 2026
Leeds	Panel Member – UKREiiF	May 2026
Isle of Man	Interceltic Business Forum	April 2026
Liverpool	ISR Bonded Land Bridge scoping meeting	Apr 2026
Liverpool	Mersey Maritime Innovation Summit	Mar 2026
Liverpool	Irish Sea Rim Panel – Electech Innovation Cluster Annual Conference	Feb 2026
Online	ISR SME Co-Design Workshop	Jan 2026
Liverpool	Invited Demonstrator. Innovation & Disruptive Technologies for Future Engineering & Technology. IEEE	Dec 2025
Liverpool	Maritime Industry Day	Dec 2025
Cardiff	Developing Irish Sea Co-operation – Symposium	Nov 2025
Liverpool	Irish Sea Rim: A New Horizon for Business, Trade, and Net Zero. Labour Party Conference Round Table	Sept 2025
Dublin	Presentation to Dublin-Belfast Economic Corridor	Sept 2025
London	Mersey on the Thames event. London Shipping Week	Sept 2025
Dublin	Invited discussions with Dublin City Council	Jul & Sept 2025
London	Irish Ambassador invited event (London Shipping Week) – London Irish Embassy	Sept 2025
Glasgow	Invited Maritime Industry discussions	Aug 2025
Glasgow	Invited Glasgow City Region discussions	Jul 2025
Belfast	Panel member – PLACE RACE BELFAST	Jun 2025
Liverpool	Clean Maritime Assembly	Jun 2025
Leeds	Panel Member – UKREiiF	May 2025
Glasgow	Fusion Fest	May 2025
Anglesey	Discussions with M-SPARC and the Irish Sea Framework	May 2025
Preston	Convention of the North	Apr 2025
West Cumbria	BECBC Business Event	Mar 2025
Cardiff	Irish Sea Framework event	Feb 2025

C. THE UNIQUE VALUE PROPOSITION FOR THE IRISH SEA RIM

The strength and uniqueness of the Irish Sea Rim lie in our neutrality and independence. We are an apolitical organisation which transcends political borders for a common purpose, enabling us to be agents of positive disruption and deliver economic growth and societal benefit in communities across the entire Irish Sea Rim. Our distributed funding model and regional

locations mean we are not tied to any single government agenda, regional strategy, industry, university, anchor institution, or timeframe. We have created a vision for a shared common ground and are committed to working collaboratively with all parties who seek cultivate and build on that foundation.

We are a purpose and results-based organisation comprising strategists, innovators, and technical experts. We have track records in taking initiatives from concept to execution to impact across a wide variety of sectors, co-producing with stakeholders and user communities to generate powerful buy-in and meaningful benefits. Our flexible and adaptable structure gives us the ability to respond and deliver projects and programmes at the pace required by industry. Because of this, we have the vision and ability to apply policy, create buy-in and support from a diverse range of central- and place-based partners, and build the momentum needed to bring significant benefits to industry and places through increased socio-economic prosperity and sustainable, inclusive development across the Irish Sea Region.



Add **value**, provide **focus** across administrative boundaries and develop bespoke **commercial responses** to public policy initiatives



Development, administration, and governance of a privately financed **Irish Sea Rim Innovation Fund**



Advisory service and market appraisals for growing enterprises seeking **partnerships** and cluster development



Access to a **diverse network** of businesses spanning advanced manufacturing, agriculture, logistics, energy to solicit responses to engagement activity



Build **awareness** of the Irish Sea Rim construct in a post-Brexit world

D. OUR VISION AND MISSION, AND VALUES

OUR VISION

*Developing
economic growth
through collectively
engaged and
enriched
communities*

The Irish Sea Rim is committed to working in partnership with communities and in balance with the environment. We aim to establish the Irish Sea Rim as a globally recognised exemplar of sustainable and inclusive economic development, where innovative industries and communities thrive in balance with natural ecosystems, while driving quantifiable, non-linear returns on investment.

OUR MISSION

*Cross-border
collaborations
that transcend
political
boundaries and
agendas*

We are a **purpose-driven** organisation, established on a foundation of principles and values (**Appendices 1** and **2**) which underpin and drive delivery of our objective to build on existing, and develop new collaborative projects across public, private, and third sector organisations, within and around the Irish Sea Rim. This mission will be delivered through research, innovation, business engagement, societal and community activities, and local and regional public engagement initiatives.

IRISH SEA RIM VALUES AND PRINCIPLES

Vision-led
leadership and
ambitious
future-facing
strategies

Working in
partnership
with countries,
organisations,
communities,
and
individuals

Transparent
and **inclusive**
values-based
partnerships
and
collaborations

Rigorous and
open
evidence-
based
strategies
which give full
consideration
to past
experience

Accountable
governance,
benefit and
return on
investment

E. IRISH SEA RIM GOVERNANCE

The Irish Sea Rim has established an initial core leadership team who will drive the establishment of the initiative, engage stakeholders, and co-produce the initial projects with country leads and quadruple helix partners.

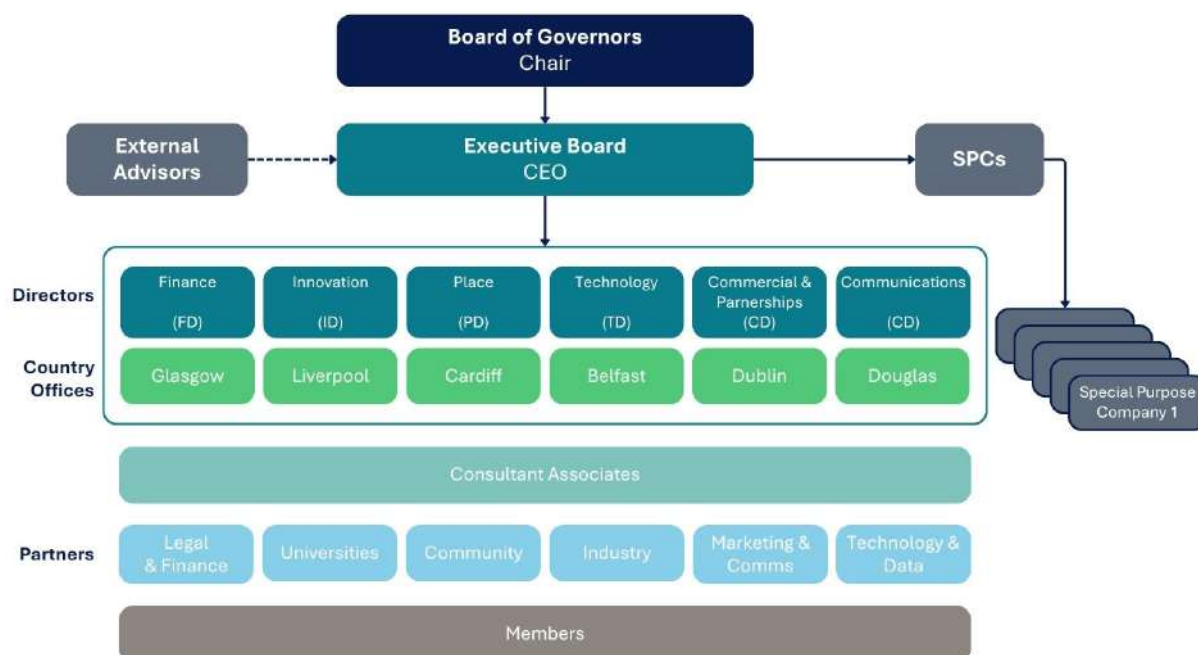
- Executive Director: Professor Phil Leigh
- Director of Innovation: Dr Jo Cresswell
- Director of Technology: Marco Rapaccini
- Director of Place: Sarie Mairs Slee
- Director of Commercial and Partnerships: Brendon Kenney



The Irish Sea Rim will work with the twin anchor hubs of Liverpool and Dublin to fully realise the opportunities and potential of cross-border collaboration between the UK and Ireland and support the conduit to and from the European Union. The shared and complementary expertise between the two city regions in maritime, tidal energy, and digital/data, combined with the proposed twinning arrangement and the opportunities presented by the Irish Sea Rim will create non-linear returns on investment and accelerate sustainable, inclusive economic growth across the whole Irish Sea region.

As outlined in [Section 29 \(Governance\)](#), we are in discussions with key organisations across the Irish Sea Rim countries to identify and establish individual country leads and Irish Sea Rim local officers who will sit on the Governance and Executive Boards respectively. Our commitment is to work with people based in country to ensure place-embedded knowledge and representation.

Figure 1.5: Proposed Irish Sea Rim governance structure



To ensure that the Irish Sea Rim is adaptable, efficient, fit-for-purpose, and cost-effective, our organisation is designed to be as lean as possible. Beyond a focussed core team, we will recruit Consultancy Associates and SMART project teams as needed to deliver on specific projects. This allows the Irish Sea Rim to grow organically and evolve as necessary to meet the needs of the region and its stakeholders, while delivering the maximum return on investment. Individual budget and staffing plans will be created for each project, as well as for the Irish Sea Rim as a whole.



Heysham Port and Heysham Nuclear Power Station. Image Credit: Irish Sea Rim

SECTION 2: ISR50 SPHERICAL ECONOMY

The Irish Sea Rim combines an ambitious strategic vision to create a unique, cross-cutting transnational innovation supercluster, with bespoke delivery frameworks designed to harness and leverage the complexity and potential of the Irish Sea region. The leadership team comprises experts in innovation superclusters, research and innovation ecosystem development, place-based regeneration, and digital platform development. This section outlines our ISR50 Strategic Vision, and our 2-year action roadmap to establish the Irish Sea Rim and support regional rebalancing and connected prosperity across key sectors, including **Maritime and Green Shipping**, **Digital and Data Economy**, and **Energy and Net Zero Transition**.

A. ISR50: A DIGITALLY ENHANCED HUMAN ECOSYSTEM

We are proposing a bold strategic vision – the Irish Sea Rim 2050 (ISR50) Spherical Economy – to enable us to fully leverage and deliver on the economic, societal and environmental potential of the Irish Sea Rim Investment, Innovation, and Enterprise Zone. ISR50 is a multi-dimensional innovative and sustainable solution-led, digitally enhanced human ecosystem for developing economic growth and social cohesion (Figure 2.1). It provides a values-and purpose-led collaborative and open-innovative approach to integrating what has been achieved in the circular economy into wider accessibility and global impact.

Figure 2.1: ISR50 Spherical Economy – a Digitally Enhanced Human Ecosystem



ISR50 is designed to work at all levels and regions of the innovation ecosystem, with a 360-degree design accessible from any starting point or level. It is open to all and includes entrepreneurial small- to medium-sized enterprises (SMEs), industries, funding councils, innovation agencies, people and communities, regions and counties, developing countries and continents. It has been created in part to fill gaps and create behavioural change in the current post-Brexit innovation landscape, ‘join the dots’ between business services, supply chains, and places, address socio-economic inequalities, and improve access to opportunities for under-served communities.

B. HOW THE ISR50 WILL WORK

The Irish Sea Rim acts as an umbrella organisation, working in partnership with governments, businesses, academia, and places to further the economic, societal, and environmental interests of the whole Irish Sea region. Our aim is to connect, bridge, and amplify existing organisations and projects, as well as catalyse new innovations. Our 10-year strategic vision is outlined in [Figure 2.2](#).

Figure 2.2 The Irish Sea Rim 2026-2035 Strategic Vision:

ECONOMIC DEVELOPMENT - Supporting the creation of 100,000 new jobs from 2026-2035 - Facilitating over £1 billion in partnership investments - Developing centres of excellence for innovation and enterprise - Creating new trade routes and business opportunities - Supporting advanced manufacturing and higher apprenticeships	RESEARCH & INNOVATION - The Irish Sea Rim Environmental and Scientific Observatory (ISRESO) - Cross-border research partnerships - Innovation clusters and superclusters in key sectors - Knowledge exchange programmes - Development of the ISR50 Spherical Economy concept - Creation of a Doctoral Training Centre for Maritime / Marine	ISR50 PLATFORM - Opportunity marketplace: access funding, grants, and new business ventures - Partnership matching: connect with businesses, suppliers, collaborators - Research and Innovation hub: foster R&D partnerships between industry and academia - Skills and mentorship exchange: find experts and share knowledge across the system
ENERGY & BLUE GROWTH - Development of green shipping corridors - Development of renewable energy resources - Creation of an integrated energy network across the region - Implementation of innovative energy storage solutions - Promotion of sustainable marine resource management	COMMUNITY & SOCIAL DEVELOPMENT - Co-design and co-production of place activation with communities - Cultural and creative co-production programmes - Skills development initiatives - Health and wellbeing projects - Sport and community events - Social innovation programme	THE ISR CYCLE RACE & EXPO - A pioneering multi-stage cycling event uniting all six Irish Sea Rim countries - Promote regional economic growth through sport and outdoor initiatives and regenerative tourism - Showcase sustainable energy initiatives and clean, green, and blue innovation - Create a touring business expo for business networking - Create a six-nation initiative for connected place activation, social benefit, and globally relevant storytelling

We will deliver this vision in a number of ways, including (Figure 2.3):

- Creating multiple ‘Economic Engines’ which act as force multipliers for sustainable, inclusive economic growth
- Developing centres of excellence for innovation and enterprise in cities around the Irish Sea Rim.
- Determining new and innovative market opportunities using advanced data analytics.
- Enabling trading connectivity to ensure new and existing market sustainability.
- Integrating networks from every sector, exploring synergies and creating mutually beneficial relationships leading to growth, job creation, and skills transfer.
- Supporting needs- and evidence-based regional investment and sustainable development in under-represented communities across the Irish Sea region.
- Engaging and supporting people at all levels of the Spherical Economy, co-producing with places, communities and stakeholders across the quadruple helix to level the playing field.
- Developing a relevant and future-proofed innovative value proposition.

We will connect, bridge, and amplify collaboration between existing entities, including (but not restricted to):

The Great North partnership, The Great North and Place, Liverpool City Region (LCR), Culture North, the North West Business Leadership Team, North West Nuclear Arc, Place and Culture North, Mersey Maritime, Enterprise Ireland, NW Offshore Energy Alliance, Manchester Growth HUB, Dublin / Belfast Economic Corridor, Off Shore Energy Alliance, Innovation City Belfast, Freeports UK, Mersey Dee Alliance, Irish Sea Maritime Forum, Irish Sea Framework, South of Scotland Enterprise, Innovate UK, Invest NI, Belfast City Region Deal Partnership, InterTrade Ireland, Northern Ireland Chamber of Commerce, Freeport Network, Aerospace Wales, Northern Ireland Maritime and Offshore, British Irish Trading Alliance, Interceltic Business Forum, Irish and Celtic Sea Hub, Growth Flag, Celtic Sea Cluster (Great South West).

We will partner and collaborate with innovative entities such as:

Northern Reach, Electech Innovation Cluster, Tech Lancaster, Belfast Maritime Trust, Barclays Eagle Labs, Titanic Quarter, Eutopia, Belfast Chamber of Commerce, Digital Isle of Man, LYVA Labs. Irish Sea Framework, Invest NI, Enterprise Ireland, Enterprising Cumbria, Barrow Rising, British Ireland Chamber of Commerce, M-Sparc, Tourism NI, OCO Global, Belfast, North West Aerospace Alliance, and others.

C. ECONOMIC ENGINES

In March 2025, the landmark UK-Ireland Summit in Liverpool heralded a new era of strategic cooperation, creating a critical opportunity to forge a more resilient, prosperous future at a time when place-based innovation, regional rebalancing, and strong international partnerships are central to regional and national economic policy. The Irish Sea Rim answers this call by creating a practical delivery mechanism for cross-border growth, connecting and engaging with places sectors, industries, and institutions across the Irish Sea. This unlocks investable propositions, strengthens supply chains, supports inclusive regional rebalancing, and creates new routes for UK, Irish, Isle of Man, and European collaboration, and positions the Irish Sea Rim as a cross-border strategic economic framework.

The Irish Sea Rim therefore has a clear proposition – to transform the Irish Sea region into a transnational investment, innovation, and enterprise zone. Our approach is rooted in co-production and delivery, using ‘Economic Engines’ to turn strategic ambition into coordinated programmes of action. Each Economic Engine comprises a series of interlinked projects and initiatives, focussed on a defined development or policy priority. Operating across the quadruple helix of government, industry, academia, and place, these engines are designed to act as ‘force multipliers’ for sustainable, inclusive economic growth, by aligning capital, capability, research, infrastructure, skills, sectors, and community benefit around shared outcomes.



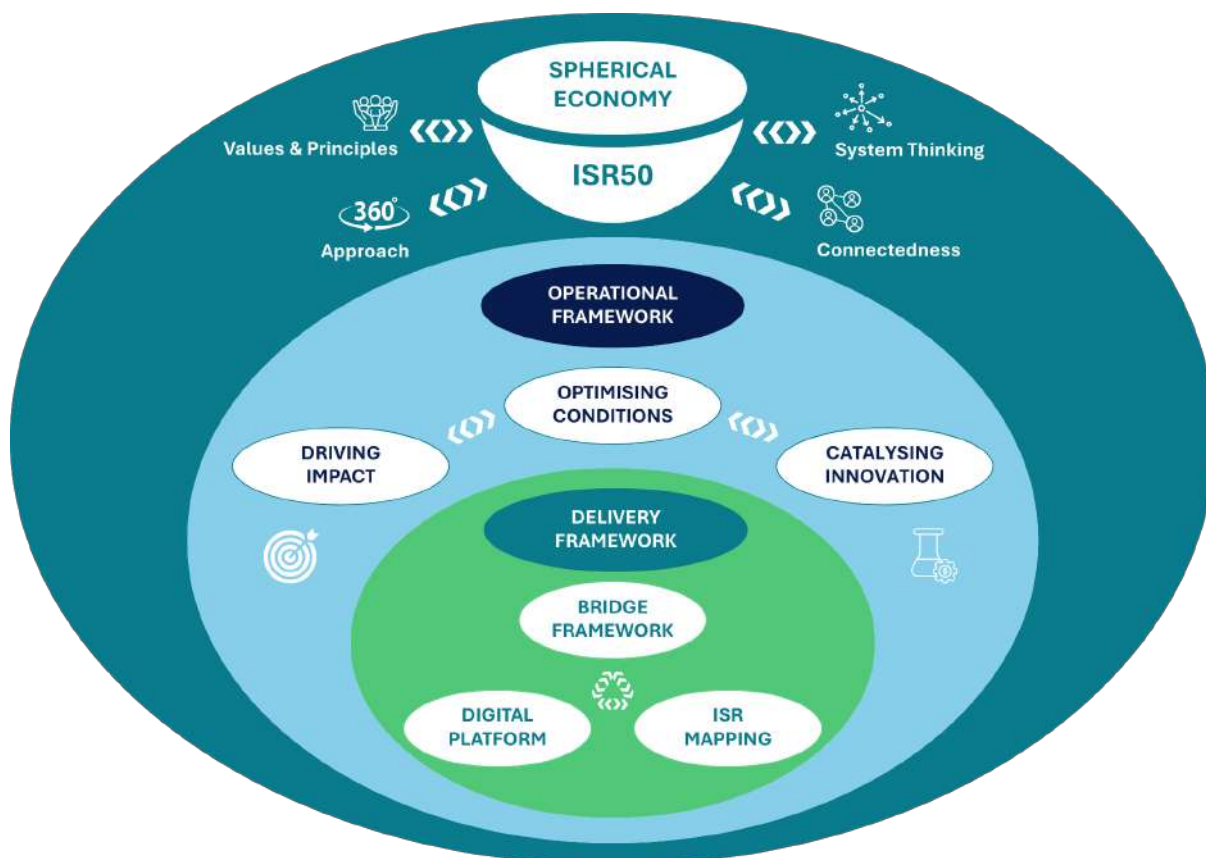
The Irish Sea Rim Bonded Land Bridge project ([Section 12](#)) and the Irish Sea Rim Cycle Race and Connecting Places Programme ([Section 28](#)) are two flagship Economic Engine projects currently under development.

D. A TRANSFORMATIONAL OPERATIONAL FRAMEWORK

The **ISR50 Spherical Economy Strategic Vision** will be realised through a unique Operational Framework, designed to embrace the complexity of the region and create a thriving, innovation supercluster across the Irish Sea Rim ([Section 21](#)). It will enable us to build multi-partner collaborations, identify and harness critical leverage points for intervention, and create powerful feedback loops into place, policy, and strategy. This framework offers a fundamentally different approach to growing innovation, and is designed to support holistic, integrated, self-organising, and scalable ecosystems. The operational framework is organised into three main priorities: Optimising Conditions, Catalysing Innovation, and Driving Impact ([Figure 2.4](#)).

Delivery of Irish Sea Rim operations and the ISR50 Spherical Economy will be achieved via three main strands: the unique iterative **Cresswell-Leigh Bridge Framework** for regional development ([Section 21](#)), which will provide the vehicle for place-based engagement, co-production, and delivery, and of the Irish Sea Rim as a whole. The Bridge Framework will be supported by comprehensive mapping project ([Section 25](#)) and a bespoke Digital Membership Platform ([Section 26](#)).

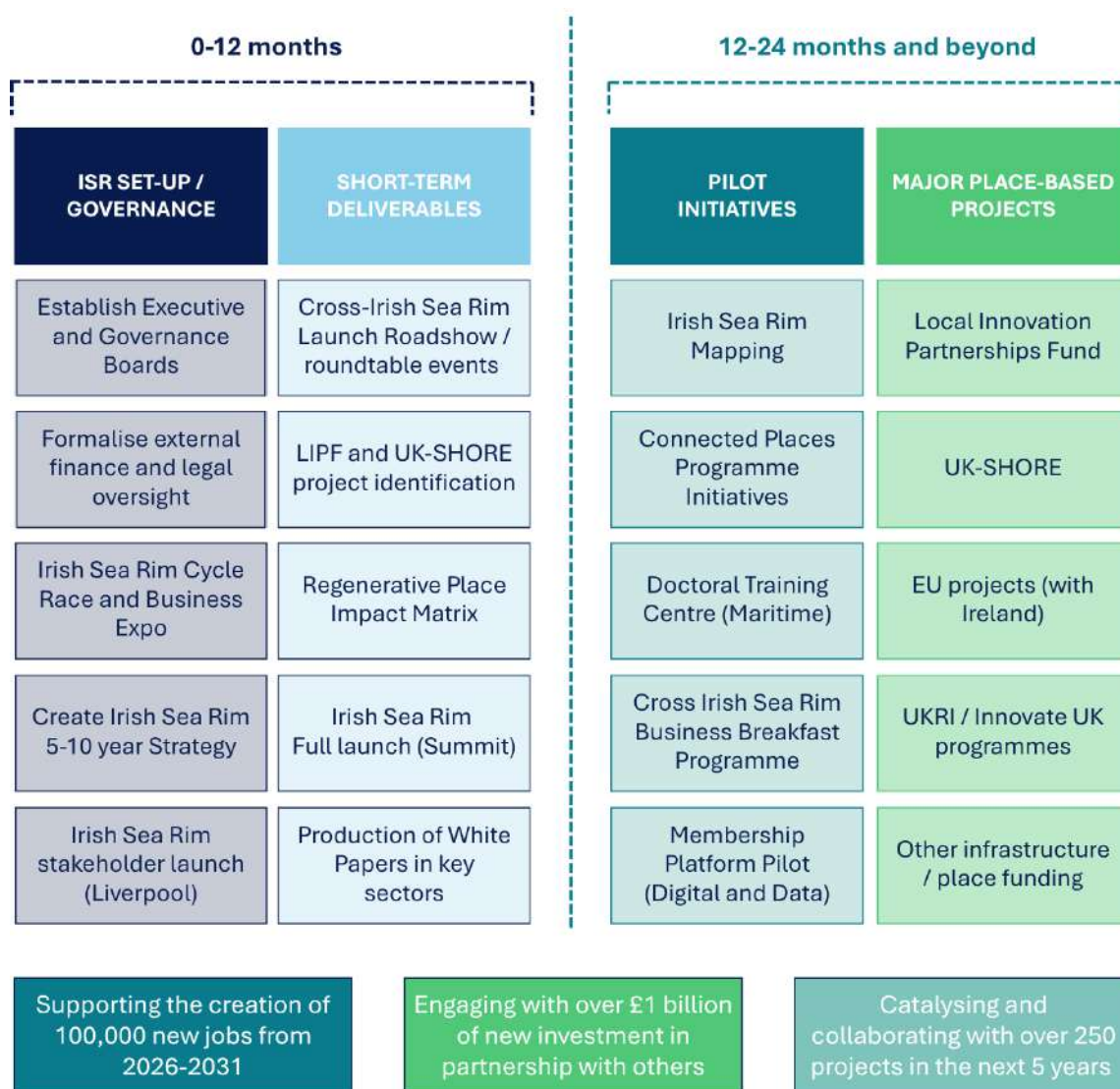
Figure 2.4: The ISR50 Strategic Delivery Framework



E. DELIVERING THE IRISH SEA RIM

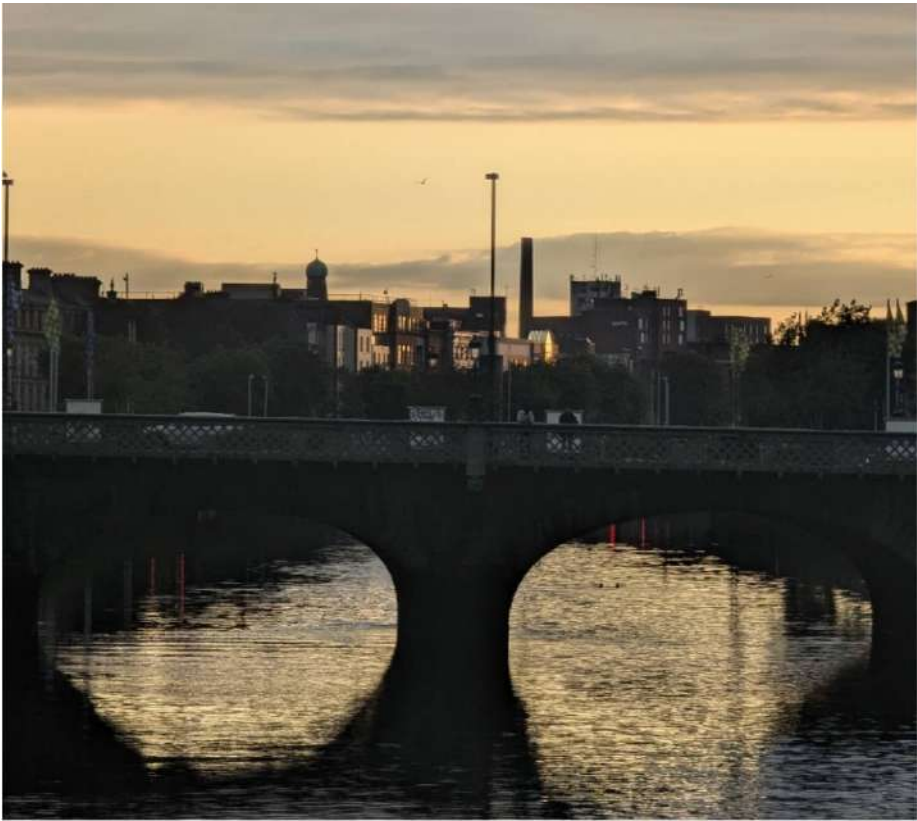
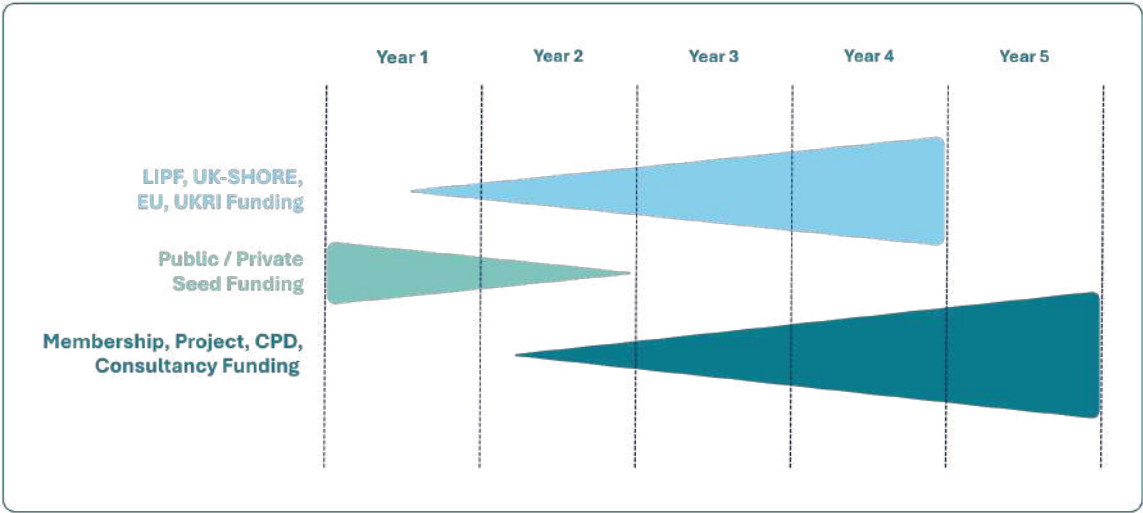
Sections 23-27 outline the plans and pilot projects for establishing and delivering on the ISR50 Strategic Vision and the aims and priorities of key stakeholders and partners across the quadruple helix. **Figure 2.5** outlines the key deliverables and place-based projects on which the Irish Sea Rim will focus in the first 2-3 years. Projects will be contingent upon funding, and we will work closely with key stakeholders and partners to co-produce and co-deliver these initiatives.

Figure 2.5: Irish Sea Rim initial delivery roadmap



The Irish Sea Rim sustainable funding model is outlined in **Section 28**, and comprises a distributed range of funding sources, from core seed funding to place-based infrastructure project funding, consultancy, CPD, and a recurrent membership model. The roadmap from seed funding to sustainability is given in **Figure 2.6**.

Figure 2.6: Irish Sea Rim sustainable funding roadmap



Dublin and bridge over river Liffey. Image Credit: Irish Sea Rim

SECTION 3: IRISH SEA RIM CONNECTIVITY

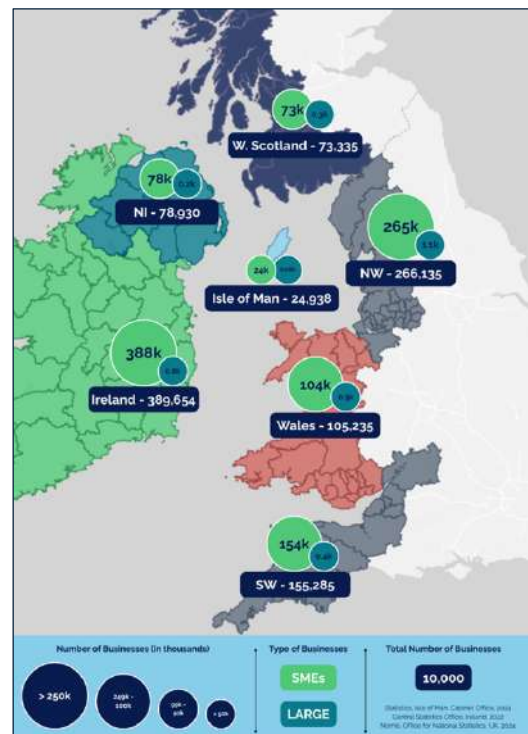
Innovation happens at the intersection of ideas, people, skills, funders, purposes, and places. Meaningful impact happens when we don't just join dots, but work across the whole innovation and place ecosystem to connect, bridge, and amplify opportunities to create needs-based solutions.

The power of the Irish Sea Rim lies in our ability to connect across countries, sectors, talent, governments, capital, businesses, academia, places, and communities to transform the region from a collection of separate innovation hubs into a single, interconnected nationally and globally relevant supercluster. This is a positive-sum game where strategic collaboration ignites a virtuous circle of shared success, making every member stronger and the entire region more competitive on the global stage.

A. CONNECTING THE IRISH SEA RIM

The Irish Sea Rim's extensive network of connections and partnerships makes us a critical enabler for creating sustainable, inclusive regional development and economic growth. We work in partnership with key stakeholders and places to enhance access to talent and skills, improve physical connectivity, connect businesses with capital, support local leadership and drive a vibrant culture of innovation across the region¹.

The Irish Sea Rim is home to around one million small, medium and large businesses (Figure 3.1) with potentially up to another 800,000 sole traders, freelancers, and single-person operators. Through the ISR50 Spherical Economy (Section 2) and Digital Membership Platform (Section 26), the Irish Sea Rim provides a new paradigm for business connectivity across the region, linking demand with supply, enhancing access to critical business and professional services, and transforming interdisciplinary skills development and innovation.



¹ [Growing-Together-Alliance-Connected-Clusters-Report-2025-1.pdf](#)

We work in partnership with business support agencies to develop and deliver place- and sector-based projects and provide a conduit for targeted innovation investment (Figures 3.2 and 3.3).

Figure 3.2: Business support agencies around the Irish Sea Rim

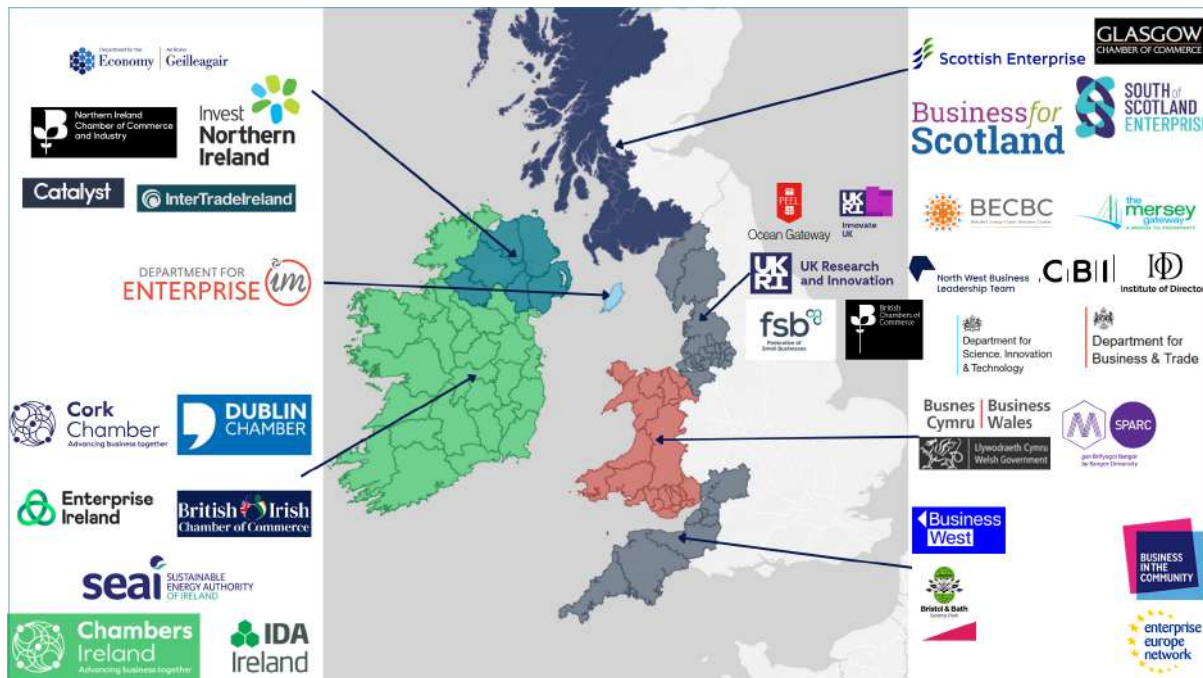
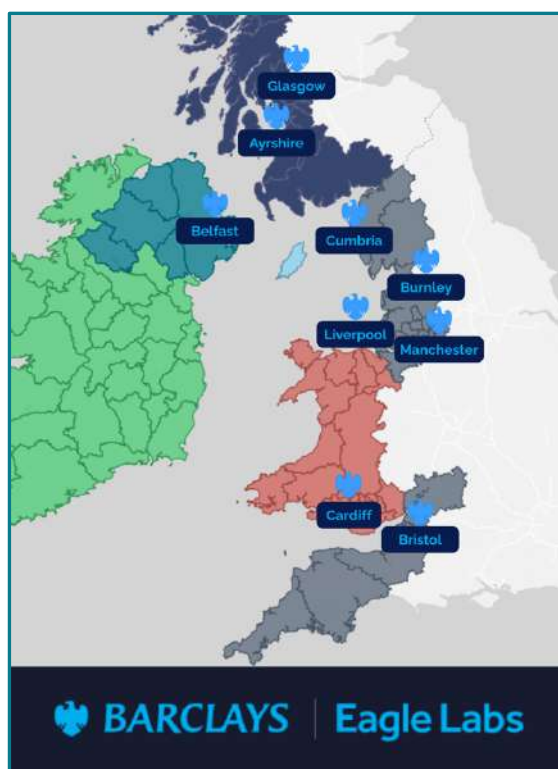


Figure 3.3: Barclays Eagle Lab Irish Sea Rim locations



Barclays Eagle Labs are an entrepreneurial network providing support to ambitious startup and scaleup businesses - particularly within technology and innovation sectors. Providing learning, dedicated growth programmes, access to experts and a collaborative community designed to help businesses on their growth journey through virtual support and physical spaces across the UK. Delivering programmes, networks, investor and corporate connections and resources.

From the map (Figure 3.3) it is clear there are numerous Barclays Eagle Labs that contribute to innovations in the major and key Irish Sea Rim cities.

WEST SCOTLAND

GCU Glasgow City University
University of Strathclyde
THE GILDED SCHOLARS
UWS UNIVERSITY OF THE WEST OF SCOTLAND
University of Glasgow

ISLE OF MAN

UCM University College Isle of Man

NORTHERN IRELAND

Ulster University
QUEEN'S UNIVERSITY BELFAST

IRELAND

TRINITY COLLEGE DUBLIN
DCU DUBLIN CITY UNIVERSITY
NUI Galway
UCD DUBLIN
University of Limerick
UCC

NORTH WEST ENGLAND

University of Cumbria
University of Salford
University of Greater Manchester
Manchester Metropolitan University
University of Chester
Edge Hill University
Lancaster University
University of Lancashire
LIVERPOOL JOHN MOORES UNIVERSITY
MANCHESTER METRO
LIVERPOOL HOPE UNIVERSITY
UNIVERSITY OF LIVERPOOL

WALES

Prifysgol Cymru
University of Wales
Cardiff Metropolitan University
Prifysgol Metropolitan Cymru
Prifysgol Wrexham
Wrexham University
CARDIFF UNIVERSITY
BANGOR UNIVERSITY

SOUTH WEST ENGLAND

BATH SPA UNIVERSITY
UNIVERSITY OF BRISTOL
UNIVERSITY OF PLYMOUTH
UWE Bristol
University of Exeter



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B. LIVERPOOL AND DUBLIN – THE TWIN ANCHORS OF THE IRISH SEA RIM

The recently reactivated twinning arrangement between Liverpool and Dublin marks a pivotal moment for economic growth and sustainable development within the Irish Sea region. This revitalised partnership, building on a foundation of deep cultural and historical links, is poised to unlock significant opportunities, with a strong focus on **fostering trade**, **attracting investment**, and **driving innovation**. The collaboration is set to generate a new wave of prosperity by leveraging the unique strengths of each city. Key initiatives include boosting foreign direct investment, harnessing the potential of the Liverpool Freeport to enhance trade flows, and creating a fertile ground for businesses to thrive on both sides of the Irish Sea. This renewed alliance it represents a strategic economic vision aimed at creating a more resilient and interconnected regional economy.



Dublin. Image Credit: Irish Sea Rim

The twinning arrangement places a significant emphasis on pioneering advancements in key growth sectors. In the maritime and green shipping industry, the partnership is positioned to lead the charge towards decarbonisation. A prime example of this is the exploration of a green shipping corridor between Holyhead and Dublin, with promising developments in the use of alternative fuels such as methanol. Liverpool's ambition to become a net-zero maritime hub complements Dublin's green initiatives, creating a powerful synergy for sustainable transport across the Irish Sea. In the digital and data economy, both cities are making substantial strides. Liverpool's cutting-edge work in digital twin technology and the application of artificial intelligence in public services, combined with Dublin's commitment to digital inclusion and its burgeoning tech scene, presents a wealth of opportunities for collaborative projects that can drive efficiency and innovation. Furthermore, in the energy and net-zero transition, the alignment of Liverpool's ambitious 2030 net-zero target with Dublin's own climate action plans creates a shared platform for developing renewable energy sources, such as Liverpool's HyNet hydrogen project and the Mersey Tidal Power project, and for exchanging best practices in sustainable urban development.



Titanic Memorial to Heroes of the Marine Engine Room, Liverpool. Image Credit: Irish Sea Rim

The overarching ambition of the Liverpool-Dublin twinning is significantly amplified by the possibilities presented by the Irish Sea Rim and our mission to cultivate a powerful and cohesive economic region, connecting the quadruple helix of government, business, academia, and place across the entire Irish Sea. By fostering a collaborative, transnational innovation ‘supercluster, the Irish Sea Rim acts as a crucial enabler, helping to scale up the benefits of the bilateral partnership between Liverpool and Dublin, translate the specific initiatives of the twinning arrangement into wider regional prosperity, and support sustainable economic growth to ensure that the economic, social, and environmental benefits are felt across the coastal communities of the Irish Sea. This collaborative approach is vital for transforming the Irish Sea from a barrier into a bridge for shared growth and a sustainable future and to for the region to be established as a strong complement and economic counterbalance to London and the Greater South East.



Horizon Geodrill ship, Liverpool. Image Credit: Irish Sea Rim

C. THE ISLE OF MAN – A LIVING LAB FOR THE IRISH SEA RIM

The Isle of Man occupies a uniquely strategic position within the Irish Sea Rim. Located at the geographical centre of the region and operating as a self-governing Crown Dependency with close relationships across the United Kingdom, Ireland and international markets, the Island is ideally positioned to act as a neutral convenor, innovation testbed and trusted gateway for collaboration across the Irish Sea. This role aligns strongly with the Irish Sea Rim vision of connecting governments, businesses, academia, and places through a new paradigm for regional growth.

As the Irish Sea Rim develops as a transnational Investment, Innovation and Enterprise Zone, the Isle of Man can provide practical leadership in several priority areas. In maritime innovation, the Island can serve as a Living Lab for next generation green shipping, digital maritime services, trusted data sharing, and port innovation, supporting the wider ambitions around maritime decarbonisation, green shipping corridors, and offshore energy collaboration. The Island's internationally recognised Ship Registry, growing maritime cluster and strong regulatory reputation create opportunities to accelerate pilot projects and commercial deployment across the wider region.

Within the digital and data economy, the Isle of Man has an opportunity to establish itself as the trusted data hub of the Irish Sea Rim. Through the world's first Data Asset Foundation legislation, the Island can provide a governance framework that enables organisations, ports, universities, public bodies, and businesses to collaborate securely whilst retaining ownership, control, and accountability for their data. This capability directly supports the Irish Sea Rim's ambitions around digital infrastructure, artificial intelligence, cybersecurity, innovation ecosystems, and cross border collaboration.

The Island can also play an important role in supporting the Irish Sea Rim's goals for innovation, skills, and ecosystem development. Its size, accessibility and collaborative culture make it an ideal location for pilot programmes, demonstrators, doctoral research initiatives, and cross sector innovation projects. Working alongside universities, innovation agencies and businesses across Liverpool, Dublin, Belfast, Cardiff and Glasgow, the Isle of Man can help bridge research, commercialisation, and real-world implementation.

In support of Net Zero and the blue green transition, the Isle of Man can contribute to regional energy resilience, environmental monitoring, and sustainable development through participation in offshore energy initiatives, marine science programmes, and the proposed Irish Sea Rim Environmental and Scientific Observatory. Its UNESCO Biosphere status further strengthens its ability to demonstrate how economic growth, environmental stewardship and community wellbeing can be successfully integrated.

Most importantly, the Isle of Man can act as a trusted bridge. Free from many of the political constraints that can affect larger jurisdictions, the Island is well placed to convene partners, build relationships and support values led collaboration across governments, industry,

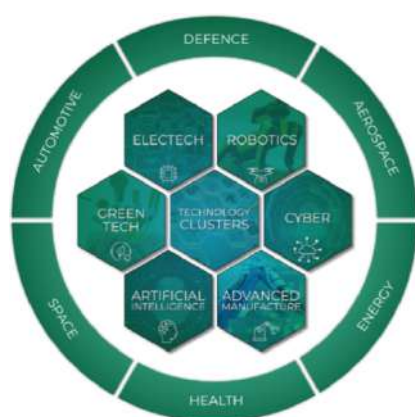
academia, and communities. In doing so, it can help transform the Irish Sea from a boundary into a platform for shared prosperity, creating a resilient, innovative, and globally connected region that delivers benefits across all six nations and jurisdictions of the Irish Sea Rim.

In short, if Liverpool and Dublin are the dual anchors of the Irish Sea Rim, the Isle of Man can become its trusted hub: connecting people, projects, places, and data to accelerate collaboration, investment, and sustainable growth across the entire region.

SECTION 4: THE IRISH SEA RIM SUPERCLUSTER

The Irish Sea Rim will work as a ‘Super Cluster’, connecting, bridging, and amplifying the work and impact of the many innovation clusters, networks, and forums around the Irish Sea. We will work in partnership with these clusters and organisations, supporting cross-sector innovation, strengthening critical supply chains, opening new market opportunities, attracting inward investment, building critical skills pipelines, and creating a vibrant, externally facing identity.

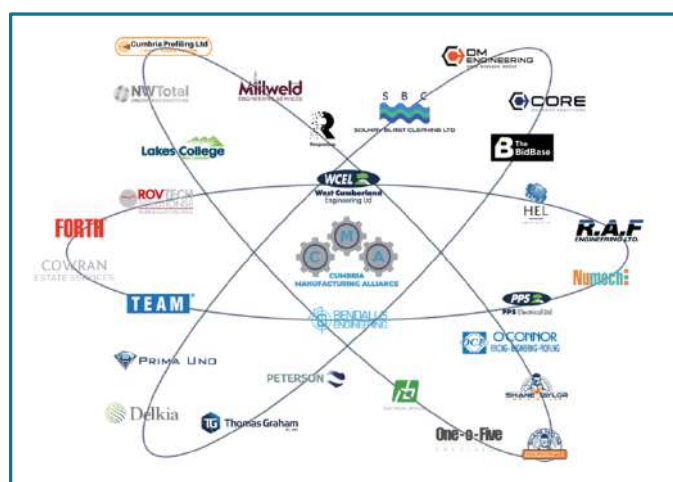
We will support the creation of place- and sector-based innovation clusters and, through our Digital Membership Platform, create trusted collaboration and networking spaces within and across sectors and disciplines. This will be a key driver for regenerative economic growth and connected prosperity and will provide a platform and voice for sectors and regions and communities which have previously experienced under-investment. The Irish Sea Rim Supercluster will work with and draw inspiration from other Innovation Clusters including the Electech Innovation Cluster and its proposed Connecting Clusters initiative to link innovation clusters across defence, aerospace, energy, health, space, and automotive², and the Cumbria Manufacturing Alliance



Electech Innovation Connecting Clusters

(Figure 4.1). Northern Ireland has significant clusters in FinTech, advanced manufacturing, creative digital and life and health sciences, all of which have benefited from over £260m in City Deal funding for associated research centres.

Figure 4.1: Cumbria Manufacturing Alliance Innovation Cluster



² (2025). Building on Success: Our Progress and Future Direction. Electech Innovation Cluster. <https://www.electechinnovationcluster.co.uk/progress-report-2025>

A. MORECAMBE BAY AND SOUTH LAKES ELECTECH INNOVATION CLUSTER

The coastal region, spanning South Cumbria and North Lancashire, offers a unique blend of industrial heritage, geographic centrality, and academic excellence. It's home to the Universities of Lancaster and Cumbria, has strategic connectivity, and energy and tech innovation arising from Morecambe Bay's marine environment.

The **Electech Innovation Cluster** is a compelling example of a proactive, business-led initiative that has profoundly reshaped a regional industry. Established in 2020, the cluster was born from necessity, confronting systemic challenges within the electronics technology (Electech) sector across North West England's Morecambe Bay region³ from Lancaster to Barrow in Furness. Local SMEs faced persistent recruitment difficulties, a disconnect between academic curricula and industry needs, and a lack of visibility, with their specialist work often hidden under the broader "Digital" category. In response, a core group of businesses, including Teleplan Forsberg and Like Technologies, moved from informal networking to formal action, creating a cluster designed to solve these shared problems from the ground up. During this start up period **Tech Lancaster (TL)** an organisation supporting electronics training was established and to date TL has delivered training courses across the UK.



The **Electech Innovation Cluster** is a collaborative network of **40 Electech-based companies** built upon a robust and intentional strategic foundation. It maintains a tight geographical focus by limiting full membership to Electech SMEs within the "LA" postcode,

ensuring a tight-knit community where members know each other. This is complemented by a wider network of 44 Associate Members, including universities, colleges, and policymakers, who form a supportive ecosystem. All activity is guided by four clear strategic pillars, **Representation, Education, Innovation, and Infrastructure**, and is driven by a culture built on shared values of Collaboration, Ambition, Innovation, and Integrity.

The Electech Innovation Cluster is focused on advanced electronics and embedded technologies in core sectors including **Defence and Security, Energy and Nuclear, Marine and Transport, and Agritech and Surveying**. The economic impact of the defined cluster model has been extraordinary. In the face of significant national headwinds like Brexit and the global pandemic, the cluster's members have not just survived but thrived. The collective results from 2020 to 2024 paint a clear picture of success, with a 68% increase in combined member revenue (from £96M to £161M), and an 11% rise in employment across the member companies, growing the local workforce from 849 to 940 employees.

³https://static1.squarespace.com/static/66d5ccb3dfb8206e520a0ede/t/67d305f187b13464bc9dc4d2/1741882884780/Electech+Cluster+Progress+Reportv1.00_digi-v.pdf

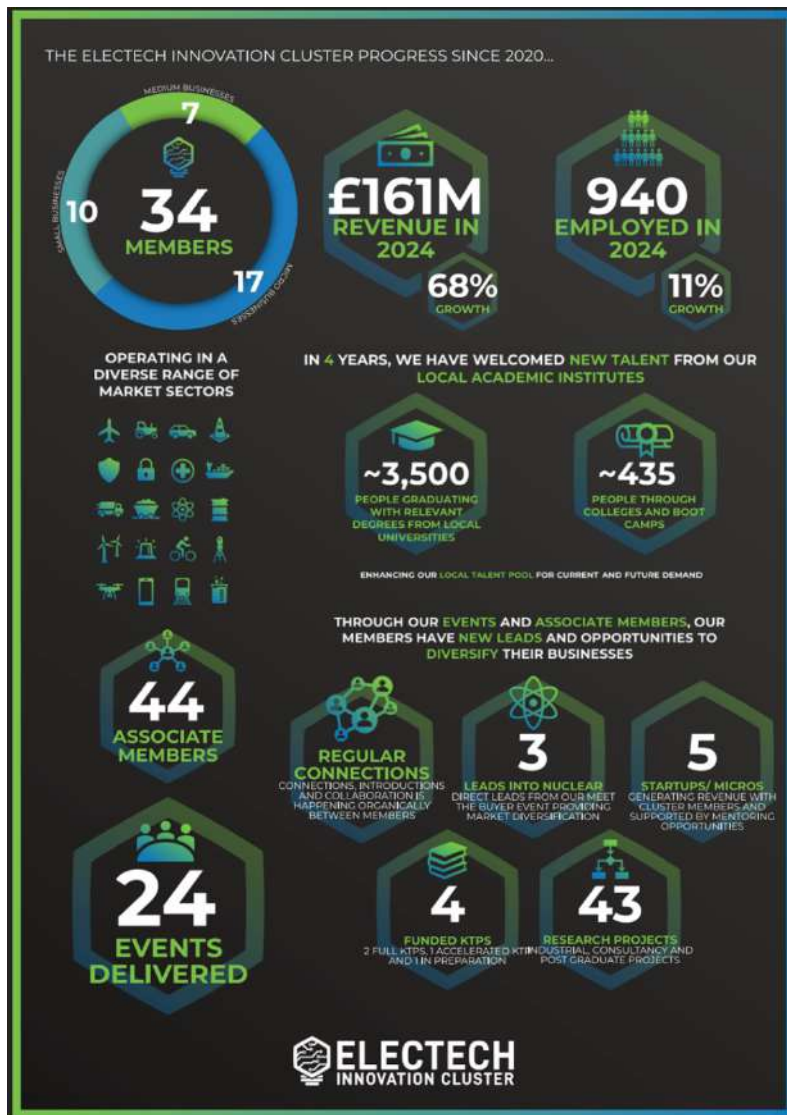


Figure 4.2: Outline of the Electech Innovation Cluster's progress from 2020 - 2024

A cornerstone of this success is the cluster's methodical approach to building a sustainable talent pipeline. It has moved beyond simple engagement to become deeply embedded in the regional education system:

- **SHAPING THE CURRICULUM:** Members sit on the curriculum advisory boards for Lancaster University, the University of Cumbria, and local colleges, ensuring that courses and new T-Levels align with industry needs.
- **DEVELOPING FUTURE TALENT:** The cluster has facilitated a constant flow of work experience placements, internships, and industry-led masterclasses, directly preparing students for careers in Electech.
- **DELIVERING A SKILLED WORKFORCE:** Over four years, these efforts have helped bring **~435 people** through relevant college courses and boot camps and supported a regional talent pool of **~3,500 university graduates** with relevant degrees.

The Electech Innovation Cluster also functions as a powerful engine for innovation and collaboration, creating tangible business opportunities:

- **MARKET DIVERSIFICATION:** A "Meet the Buyer" event with Sellafield generated three direct leads for members, opening up new commercial opportunities in the nuclear industry.
- **NURTURING NEW VENTURES:** The collaborative environment has actively supported five start-up and micro-businesses, which are now generating revenue by working with and for other cluster members.
- **Driving High-Level R&D:** Through deep academic partnerships, the cluster has generated **four funded Knowledge Transfer Partnerships (KTPs)** and over **43 distinct research projects**. A dedicated "Tech Catalyst" programme with Lancaster University secured £80,000 in funding to accelerate eight member projects, including collaborative programmes on servitisation and additive manufacturing.

To underpin this growth, the cluster is proactively developing the region's infrastructure. The **Electech Lab Link** initiative will map and share specialist testing equipment, reducing costs for SMEs and enhancing their collective capacity to bid for major contracts. Furthermore, the cluster is a key advocate for the proposed multi-million-pound Through Life Engineering Centre at Lancaster University, a project with revolutionary potential for the UK's industrial strategy.

Looking ahead, the Electech Innovation Cluster is not resting on its success. Its forward plan demonstrates a commitment to continuous evolution and staying ahead of industry trends, including integrating a new **Net Zero** strategic pillar in 2025 to champion sustainability and drive collaboration on environmental project, launching an **AI Productivity Working Group** to share best practices and enhance member efficiency and competitiveness, and actively **Connecting with other regional clusters** in sectors like Robotics, Cyber, and Aerospace to foster cross-industry innovation and unlock new revenue opportunities.

The Electech Innovation Cluster provides a definitive blueprint for how a focused, action-orientated, and truly collaborative business-led group can generate profound and lasting economic, educational, and social benefits for its region. It is vital to the UK's industrial strategy, regional economic rebalancing, clean energy transition, and digital infrastructure rollout, and is a powerful example of how coastal regions can lead in high-tech innovation.

B. A REGIONAL TECHNOLOGY SUPERHUB MODEL

One example of a possible regional technology Superhub is a North West of England four-nodal model comprising Morecambe Bay and the South Lakes (Electech Innovation Cluster – see above), Barrow-in-Furness, Workington, and Blackpool (Silicon Sands). Case studies for the individual regions are given in **Section 9**.

The four hubs collaborate through shared infrastructure. **Subsea fibre connectivity** from Blackpool links the cluster to global data routes, **smart logistics** between Workington and Barrow support clean freight and defence supply chains, and **university partnerships** across Barrow, Lancaster, and Cumbria create a unified talent pipeline.

Hub	Core Strengths	Strategic Role
Morecambe Bay and the South Lakes (Electech Innovation Cluster)	Embedded systems, defence tech, AI, OT cybersecurity, Morecambe Net Zero (MNZ), Net Zero North West	Innovation engine & digital R&D base
Barrow-in-Furness	Submarine manufacturing, clean energy, university of Cumbria campus, defence	Advanced manufacturing & defence innovation
Workington	Port logistics, rail freight, clean growth zone	Green shipping & intermodal logistics
Blackpool (Silicon Sands)	Immersion-cooled data centres, subsea fibre, solar energy	Digital infrastructure & global connectivity

The combined economic and social impact of the Superhub makes it a strategic asset for regional rebalancing, with the potential for thousands of **high value jobs** in engineering, digital tech, and clean energy, a **resilient regional economy** less dependent on legacy industries, and a model for **place-based innovation** that rivals major UK cities.

Net Zero North West (NZNW) is an industry-led cluster acting as a public and private sector investment accelerator for industrial decarbonisation and clean growth projects in the North West. NZNW are committed to delivering a co-ordinated net zero vision for our region and that's why we unite businesses, regional leaders, and academia to deliver on our mission.



Heysham Port and Heysham Nuclear Power Station. Image Credit: Irish Sea Rim

PART TWO

SECTORS AND STAKEHOLDERS



Seatruck roll on-roll off freight Ferry. Image credit: Alistair Eagles

SECTORS AND STAKEHOLDERS

Section 5: **Roadmap of stakeholders**

Section 6: **Key sectors**

Section 7: **Infrastructure development around the Irish
Sea Rim**

SECTION 5: ROADMAP OF STAKEHOLDERS

The strength of the Irish Sea Rim is in our relationships, networks and partnerships. Since its inception in 2013 the author has engaged with stakeholders across the region to understand what is needed, and how the Irish Sea Rim can create the greatest impact. With support from the Connected Places Catapult and following the UK-Ireland Summit in March 2025, this activity has increased exponentially, and we have developed new, and strengthened existing stakeholder relationships, which has informed creation of this report.

Appendix 3 contains a list of Irish Sea Rim papers, reports and presentations 2013 – 2025.

A. KEY IRISH SEA RIM PARTNERS AND STAKEHOLDERS

Partnership development for the delivery of projects and outputs is a key component of the Irish Sea Rim. Partnerships are dynamic and are being developed and introduced on a regular basis; this will continue to be a large part of the Irish Sea Rim, as partners help built the network and can assist in the introduction and resourcing of new sectors and directions the Irish Sea Rim can take as it expands and develops. Current key partners and stakeholders are given below:

Key Partners	Key Stakeholders
• Connected Places Catapult (CPC) • University of Cumbria (UoC) • ARUP • Liverpool City Region (LCR) • Irish Sea Framework • Barclays Eagle Lab • Growth Flag • Freeports UK • Glasgow City Region (GCR) • Dublin City Council • University Sector • Cardiff City Region • Industry Partners • Enterprising Cumbria • Isle of Man • Irish Sea organisations	• National Government • Regional Government • Pan-Regional Partnerships • Mayoral Strategic Authorities • City Regions • County Councils • Business support agencies • Coastal communities • Innovation City Belfast • Industry (Tier 1 and 2 type companies) • Small and Medium Enterprises (SMEs) • Supply Chain Companies to Tier 1 & 2 companies • Universities (Tier 1 and 2 universities) • Science Parks • Technology Colleges • Regional Place Partnerships • Third Sector • Charities

Key organisations, projects, partners and stakeholders across the Irish Sea Rim

Country	Government / City Regions & Regional/County Councils	Business/ Enterprise Agencies	Key industry partners	Irish Sea Umbrella Organisations / Initiatives	Education / University partners
Wales	Welsh Gov Assembly, Cardiff City Council, Blaenau, Gwent, Bridgend, Caerphilly, Carmarthenshire, Ceredigion, Conwy, Denbighshire, Flintshire, Gwynedd, Anglesey, Merthyr Tydfil, Monmouthshire, Neath, Port Talbot, Newport City, Pembrokeshire, Powys, Rhondda, Cynon, Taf County, Swansea, Torfaen County, Vale of Glamorgan, Wrexham	Welsh Innovation Centre for Enterprise, Welsh Innovation Network, Agile Cymru	Energy, Ferries, Logistics, Transport, Energy Island,	Irish Sea Framework, Agile Cymru, Celtic and Irish Sea Hub (Lighthouse), Mersey Dee Alliance	Aberystwyth, Bangor, Cardiff, Cardiff Metropolitan, South Wales, Swansea, Trinity St David, Wrexham
England	Northwest (Liverpool City Region, Lancashire, Cumbria (Cumberland, Westmoreland and Furness), Cheshire, Greater Manchester). Great Southwest (Bristol, Exeter, Bath, Somerset, Cornwall, Devon, Somerset, Dorset, and Wiltshire,	UKTI, Innovate UK, BIS, Environment Agency, FSB, Chambers of Commerce, ISMF, Enterprising Cumbria	Transport, Logistics, Seatruck Ferries, BEC, Energy companies, Electech Innovation Cluster, ARUP	Irish Sea Rim, Irish Sea Maritime Forum, Mersey Dee Alliance, Electech Innovation Cluster, Joining the Dots, Culture North, Morecambe Bay Net Zero, Net Zero NW	Cumbria, Liverpool, Lancaster, Salford, Manchester, MMU, Liverpool John Moores, Lancashire, Edge Hill,
Scotland	Glasgow, Dumfries & Galloway, South Ayrshire, East Ayrshire, Argyll & Bute, Highland, South Lanarkshire, North Lanarkshire Western Islands, Renfrewshire	South of Scotland Enterprise, Scottish Enterprise, Scottish Development, SEPA, Glasgow Innovation District	Energy, Industry, Commerce, Crichton Campus Dumfries,	Borderlands Initiative (Dumfries & Galloway/Cumbria)	Glasgow, Strathclyde, UWS, Glasgow Caledonian
Northern Ireland	Antrim & Newtownabbey, Ards & North Down, Armagh City Banbridge & Craigavon, Belfast City, Causeway Coast & Glens, Derry City & Strabane, Fermanagh & Omagh, Lisburn & Castlereagh, Mid & East Antrim, Mid Ulster, Newry Morne & Down	Invest NI, Department for Economy, Local Council Economic Development Units, InterTrade Ireland	Energy, Industry, Commerce	Dublin – Belfast Economic Corridor, InterTrade Ireland	Queens, Ulster, Belfast Met
Ireland	Dublin, Cork, Armagh, Carlow, Cavan, Clare, Cork, Donegal, Down, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow.	Enterprise Ireland, FSB, IDA	Energy, Industry, Commerce	Dublin – Belfast Economic Corridor	UCD, DCU, Trinity College, Maynooth
Isle of Man	IOM Government (House of Keys), Councils, Other	Dept. of Economic Development, Services	Manx Utilities, Industry, Commerce, Big Data	Isle of Man Maritime, IoM Shipping Registry, British Irish Trade Alliance	IOM College
Other	To ensure regional and national governments are engaged in vision	Including enterprises working in Irish Sea (e.g. Peel Group and ABP)	UK and Irish Energy suppliers & generators (E. ON, SSE, Centric		To link with academic projects (Interreg, Enterprise Europe, etc)

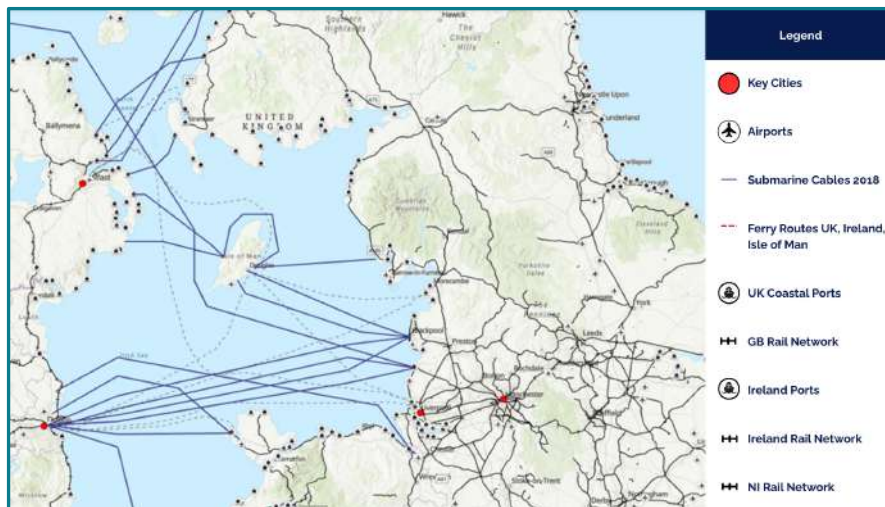
SECTION 6: KEY SECTORS

The Irish Sea is not just a body of water but a dynamic, interconnected economic and strategic arena, with critical sectors seeing significant investment, policy focus, and cross-border collaboration. Key sectors in which the Irish Sea Rim can help drive innovation and sustainable, inclusive economic growth are listed below and in [Figure 6.1](#). Maritime is a central sector for the Irish Sea Rim and is examined in detail in [Part Three](#) of this report.

Figure 6.1: Irish Sea Rim key priorities for place-based regenerative growth



The Irish Sea Rim is an outward-facing, collaborative organisation designed to work across regions, sectors, and enterprises across the Irish Sea region, connecting and partnering with key stakeholders and enterprises including Tech Lancaster, Belfast Maritime Trust, Barclays Eagle Labs, Belfast Chamber of Commerce, Digital Isle of Man, LYVA Labs. Irish Sea Framework, Enterprise Ireland, Enterprising Cumbria, British Ireland Chamber of Commerce, MSPARC, OCO Global, North West Aerospace Alliance, and working with other collaborative bodies in the region such as the Irish Sea Maritime Forum and the Dublin-Belfast Economic Corridor. By connecting the collective knowledge of universities, institutions, businesses, and government agencies, the Irish Sea Rim aims to foster and support significant regional, national, and international projects and collaborations. The initiative will focus on several interconnected key sectors which define the region's economic and strategic importance ([Figure 6.2](#)).

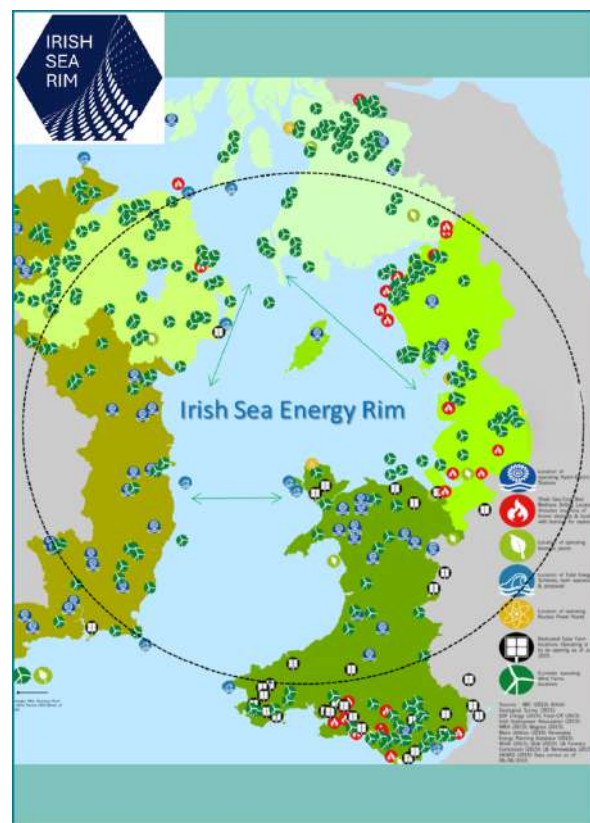
Figure 6.2: Irish Sea Region key connectivity (source ARUP)

A. ENERGY: POWERING THE FUTURE

The Irish Sea is an undisputed energy powerhouse. As a focal point for energy production and with a long history of nuclear power on the coast of Britain, the Irish Sea is marked by a significant shift in investment towards renewable energy production.

OFFSHORE WIND:

The region is a major hub for offshore wind development, with approximately 2.5 GW of operational capacity across multiple projects⁴. In July 2025, the UK government granted development consent for the *Mona Offshore Wind Farm* - a 1.5 GW project that officials described as "*the largest offshore wind farm in the Irish Sea*"⁵. With the completion of the *Mona* (1.5 GW), *Morgan* (1.5 GW)⁶, and *Awel y Môr* (0.5 GW)⁷ projects, the Irish Sea will host around 6 GW of capacity, making it one of the world's most concentrated offshore wind regions. On the right is a map of UK renewable energy locations around the Irish Sea.



⁴ https://en.wikipedia.org/wiki/List_of_offshore_wind_farms_in_the_Irish_Sea

⁵ <https://www.gov.uk/government/news/energy-secretary-approves-largest-irish-sea-offshore-wind-farm>

⁶ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010136/EN010136-000509-ExQ1%2029%20October%202024%20FINAL.pdf>

⁷ <https://www.gov.uk/government/news/awel-y-mor-offshore-wind-farm-development-consent-decision-announced>

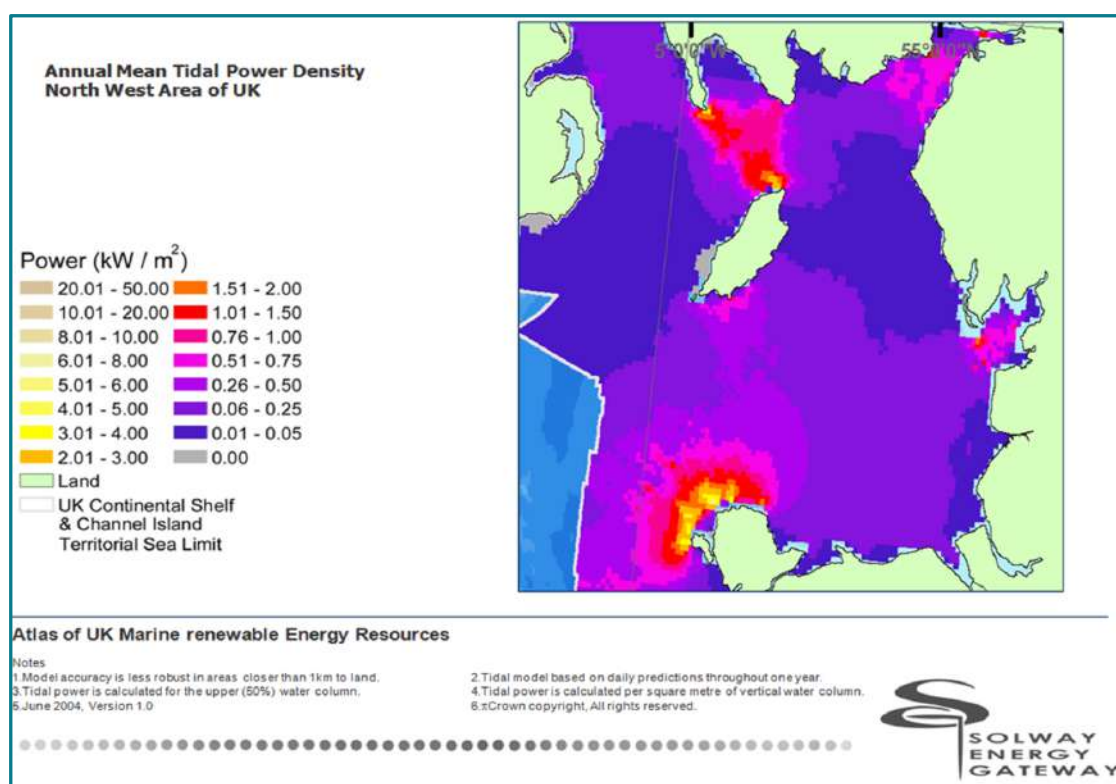


Wind farm off Crosby Beach, north of Liverpool. Image credit: Irish Sea Rim

TIDAL ENERGY:

The Irish Sea is shaped by powerful tides and is emerging as a crucial hub for the United Kingdom and Ireland's ambitions in marine renewable energy (Figure 6.3). A significant and diverse portfolio of tidal energy projects, from world-leading demonstration sites to ambitious large-scale developments, are in progress at the advanced planning stage.

Figure 6.3: Annual Mean Tidal Power Density – North West area of the UK



Current activity is focused on tidal stream technology, with one world-leading project nearing operation.

- MORLAIS MARINE ENERGY CENTRE, ANGLESEY, WALES:** This is the most significant in-progress tidal project in the region. Morlais is a 35 km² consented seabed zone with a total potential generating capacity of **240 MW**. Managed by social enterprise **Menter Môn**, its "plug-and-play" model provides the essential infrastructure – a large onshore

substation connected to the National Grid and subsea export cables – for multiple technology developers to install and test their devices on a commercial scale. This de-risks development for companies deploying a range of floating and seabed-mounted turbines. First power generation is expected in the mid-2020s, marking a pivotal moment for the sector.

The future pipeline is dominated by ambitious, large-scale schemes that could transform the UK's energy map.

- **MERSEY TIDAL POWER, LIVERPOOL BAY, ENGLAND:** This is the most ambitious planned project in the Irish Sea. The proposal is for a large tidal barrage across the River Mersey estuary with a potential generating capacity of up to **700 MW** – enough to power a million homes. Led by the **Liverpool City Region Combined Authority**, the project is in the advanced feasibility and consultation stage. If realised, its construction would be a major infrastructure undertaking, with a potential operational date in the 2030s.
- **NORTHERN IRELAND PROJECTS:** In line with the Northern Ireland Department for the Economy's Offshore Renewable Energy Action Plan, two major tidal stream projects are planned off the Antrim coast to harness the strong currents of the North Channel. The **Fair Head** and **Torr Head** projects each have a proposed capacity of around **100 MW**. Although both projects have successfully secured seabed leases, they are now awaiting the final investment and consenting decisions that are needed to proceed to the construction phase. These developments represent a significant step towards achieving the region's marine renewable energy goals.
- **OTHER REGIONS:** Proposals for tidal energy projects in other areas, such as a barrage across the Solway Firth and developments off the Isle of Man, have been considered but have not progressed significantly in recent years.

PROJECT BRIDGE

Project Bridge is a proposal to develop interconnecting tidal energy generating bridges across three major estuaries in Lancashire, Cumbria and Dumfries and Galloway. The potential tidal energy capacity available across the identified three sites, Morecambe Bay, Duddon Estuary and Solway Firth, is calculated to be in excess of 12GW. Apart from the overturning moments of the tidal flow the technology will create constant energy generation for an estimated 20 out of every 24 hours.

It is proposed to utilise a unique, cost effective, newly established, proven technology, which allows the existing tidal signal, within estuaries, to be maintained relatively unimpeded. This technology can be sited within the structure of a newly constructed bridge. Because it is not reliant on holding back the water flow, costly civil engineering work, associated with other methods of harnessing tidal power, are avoided. Also, due to the unique design of the technology, the environmental and ecological impact will be considerably reduced.

In addition, a new and improved interlinking road could have a transformative effect in the region, resulting in highly significant positive social and economic benefits that open up many other development opportunities.

Figure 6.4: Proposed bridge across Morecambe Bay



The proposal seeks to create a legacy project that is designed to benefit both present and future generations. In order to create benefit for the communities involved it is proposed that following investor payback, and reasonable period of return, a community wealth fund be established whereby the ongoing revenue stream is equally divided between the investors and the fund. The anticipated design life of the technology will be in excess of 120 years.

The BRIDGE project covers 3 of the illustrated tidal barrages in [Figure 6.5](#). Morecambe Bay, Duddon and Solway Firth. Other projects in planning and consideration in North West England include the Mersey Barrage and the much smaller River Wyre scheme in Lancashire.

The West Coast of the UK has some of the highest tidal ranges in the world and this Irish Sea Rim coast is ideal to the development of tidal power infrastructure.

Figure 6.5: Proposed tidal barrages along the northwest England coast from north Wales to the Scottish Border

NUCLEAR POWER:

he Heysham 1 and 2 plants on the Lancashire coast provide a combined capacity of 2.4 GW⁸. On Cumbria's coast, the Sellafield complex was formerly a reprocessing plant and now focuses on decommissioning.

ELECTRICITY INTERCONNECTORS:

A robust network of subsea cables enhances energy security and trade (Figure 6.6).

Existing interconnectors:

- **EAST-WEST INTERCONNECTOR (EWIC):** 500 MW high-voltage direct current (HVDC) submarine cable linking Ireland and Great Britain⁹.
- **MOYLE INTERCONNECTOR:** 500 MW HVDC submarine cable connecting Northern Ireland and Scotland¹⁰.
- **GREENLINK INTERCONNECTOR:** Completed in 2025, this 504 MW HVDC submarine cable connects Ireland and Great Britain¹¹. This interconnector doubles Ireland's interconnection capacity.

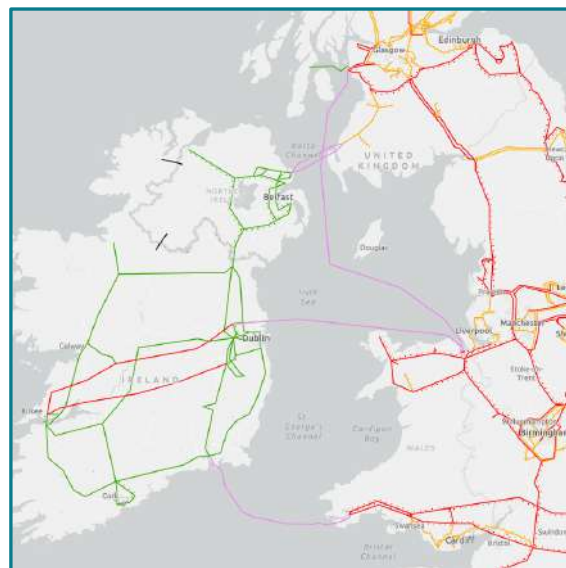


Figure 6.6: European Network of Transmission

System Operators-E
Transmission System Map¹²

Planned / proposed projects

- **CELTIC INTERCONNECTOR:** A planned 700 MW HVDC submarine cable between Ireland and France, a joint project between EirGrid and RTE, now expected to be operational by spring 2028¹³.
- **MOYLE INTERCONNECTOR CAPACITY INCREASE:** Plans exist to increase the capacity of the Moyle interconnector by directly connecting the converter station to a power station¹⁴.
- **MARES CONNECT:** This proposed subsea cable between North Wales and Ireland would provide 750 MW of additional electricity capacity.
- **LirIC:** This proposed subsea electricity interconnector between Northern Ireland and Scotland may provide 700 MW of additional electricity capacity.

⁸ https://assets.publishing.service.gov.uk/media/5a7c9b7540f0b65b3de09fad/Table_of_UK_nuclear_reactors.pdf

⁹ <https://www.eirgrid.ie/industry/interconnection>

¹⁰ <https://www.hvdccentre.com/hosting/moyle-interconnector/>

¹¹ <https://www.greenlink.ie/summary>

¹² European Network of Transmission System Operators. <https://www.entsoe.eu/data/map/>

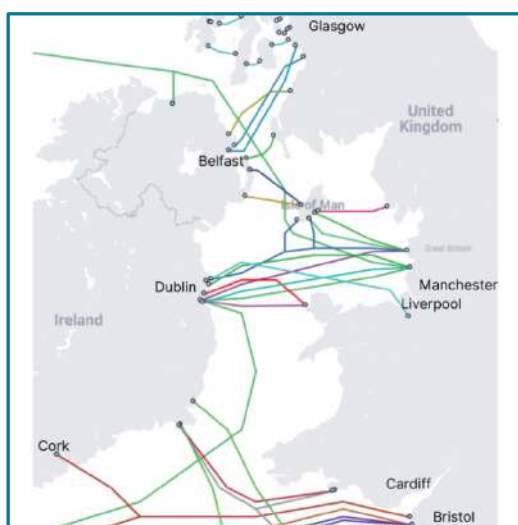
¹³ <https://www.eirgrid.ie/celticinterconnector>

¹⁴ <https://www.soni.ltd.uk/community/projects-your-area/moyle-interconnector-capacity-increase>

As Ireland's grid faces increasing demands from the digital and other sectors, the existing interconnectors between Cumbria and Dublin, and the new interconnector between France and Cork are likely to come under increasing pressure. This may create the opportunity for exploring and researching the need for an additional interconnector between the UK and Ireland.

B. DATA CENTRES AND THE RISE OF AI

The region's role as a digital hub is accelerating, driven by connectivity, data centres, and a world-class semiconductor industry. The Irish Sea is a critical conduit for global data, hosting a dense network of subsea cables that form a primary asset, linking Ireland and the UK and providing vital transatlantic connections between Europe and North America (Figure 6.7). The Irish Sea coast hosts 36 data cable stations: Scotland (4), England (5), Wales (4), Northern Ireland (7), Ireland (10), and the Isle of Man (6).



The demand for data processing and storage, supercharged by the growth of AI, has led to a data centre construction and expansion around the Irish Sea. Dublin has joined Frankfurt, London, Amsterdam, and Paris as a top-tier European data centre market, and CWL1 in Cardiff, considered one of Europe's largest data centre campuses¹⁵, has been created to meet customer demand from around the world. A further nine data centres are planned in Wales, one in Scotland, five in Greater Manchester, as well as increasing numbers in London and the Greater South East of England.

Figure 6.7: Tele Geography Submarine Cable Map¹⁶

The UK data centre market is projected to reach £ 17 billion by 2030¹⁷, with major data centres in Glasgow, Manchester, Liverpool, and Bristol, and the planned **Atlantic Hub Data Centre Campus** in Northern Ireland. The UK Government has classified data centres as critical national infrastructure, meaning that they will get extra support during major incidences such as cyber-attacks, connection disruptions, or extreme weather to minimise disruption.

Blackpool's Silicon Sands initiative is a key new development which will create a major tech hub with its campus of eco-friendly data centres¹⁸. Launched in 2024, it aims to create a carbon-friendly data campus powered by renewable energy. By combining its direct connection to the CeltixConnect-2 subsea internet cable - linking North America to Northern Europe – with liquid cooled and solar powered data centres, Blackpool will become a critical transatlantic data gateway.

¹⁵ <https://marketintel.gardiner.com/dublin-the-heart-of-irelands-data-centre-boom>

¹⁶ Submarine Cables Map. TeleGeography <https://www.submarinecablemap.com/>

¹⁷ <https://www.researchandmarkets.com/report/united-kingdom-data-centers-market>

¹⁸ <https://blackpoollez.com/masterplan/silicon-sands/>

It is critical to note that the explosion in AI is driving unprecedented energy demand in both the UK and Ireland. The UK has established an AI Energy Council bringing together energy providers, tech companies, energy regulator Ofgem and the National Energy System Operator (NESO) to forecast energy needs for a twenty-fold increase in compute capacity over the next 5 years¹⁹. A recent BBC News article cited concerns about environmental impacts and the knock-on effects on energy bills in regions with major data centres²⁰.

Ireland already faces acute pressure, with data centres consuming 22% of the country's electricity in 2024²¹ and projected to reach nearly a third by 2026²². In February 2025, Ireland's energy regulator the Commission for Regulation of Utilities (CRU) proposed policies requiring any new data centres connecting to the electricity network will be required to provide on-site or local generation and/or storage capacity to match the requested connection capacity²³.

C. ISLE OF MAN DATA ASSET FOUNDATION

Within the digital and data economy, the Isle of Man has an opportunity to establish itself as the trusted data hub of the Irish Sea Rim. Through the world's first Data Asset Foundation legislation, the Island can provide a governance framework that enables organisations, ports, universities, public bodies, and businesses to collaborate securely whilst retaining ownership, control, and accountability for their data. This capability directly supports the Irish Sea Rim's ambitions around digital infrastructure, artificial intelligence, cybersecurity, innovation ecosystems, and cross border collaboration.

From a strategic perspective, the emergence of the Isle of Man's Data Asset Foundation framework represents a significant shift in how organisations can govern, protect, value and utilise data. Historically, data has been treated as an operational byproduct despite becoming one of the most valuable assets in the modern economy. Data Asset Foundations provide a trusted legal and governance structure that enables data to be managed as a recognised asset, creating greater transparency, accountability, and long-term stewardship. This allows organisations, governments, research institutions, and industries to collaborate around shared data resources whilst maintaining appropriate ownership, control, security, and usage rights. In effect, a Data Asset Foundation creates the institutional infrastructure required to unlock the economic, social and strategic value of data in the same way that trusts, foundations and corporate structures unlocked the value of financial and physical assets.

¹⁹ <https://www.gov.uk/government/news/ai-energy-council-to-ensure-uks-energy-infrastructure-ready-for-ai-revolution>

²⁰ <https://www.bbc.co.uk/news/articles/clyr9nx0jrzo>

²¹ <https://www.cso.ie/en/releasesandpublications/ep/p-dcmec/datacentresmeteredelectricityconsumption2024/>

²² <https://iea.blob.core.windows.net/assets/18f3ed24-4b26-4c83-a3d2-8a1be51c8cc8/Electricity2024-Analysisandforecastto2026.pdf>

²³ <https://www.datacenterdynamics.com/en/news/irelands-energy-regulator-proposes-policy-requiring-data-centers-to-match-load-with-new-power-generation/>

Figure 6.8: Isle of Man Data Asset Foundation Irish Sea Rim Alignment



The potential applications are extensive and span almost every sector of the economy. In the maritime sector, Data Asset Foundations could support the creation of trusted data ecosystems connecting ports, vessels, regulators, insurers, classification societies, logistics providers, and technology companies. This could enable the secure sharing of operational, safety, environmental and maintenance data to improve vessel performance, strengthen maritime safety, accelerate decarbonisation, and support the deployment of AI enabled services. Beyond maritime, Data Asset Foundations could underpin carbon accounting systems, healthcare data collaboration, digital identity frameworks, smart city infrastructure, supply chain resilience, scientific research, energy transition programmes, and regional economic development initiatives. By providing a neutral and trusted governance model, they offer a mechanism for organisations that would not traditionally share data to collaborate safely and confidently, creating entirely new forms of value, innovation, and economic opportunity.

Data Asset Foundations have the potential to become foundational infrastructure for the AI economy. Just as financial markets depend upon trusted institutions to govern capital, the next generation of AI systems, digital services and data driven decision making will require trusted institutions to govern data. Jurisdictions that establish these frameworks early have an opportunity to position themselves as global centres for trusted data stewardship, attracting investment, innovation, research activity, and high value industries. In this context, the Isle of Man's leadership in establishing a legal framework for Data Asset Foundations positions it at the forefront of a rapidly emerging global market where trust, governance and data ownership are becoming as important as the data itself.

D. SEMICONDUCTORS

The Irish Sea region is a powerhouse in the global semiconductor industry. South Wales's CSconnected is the world's first dedicated compound semiconductor cluster²⁴. As of 2024, it reported employing nearly 2,750 people and contributing £366M in GVA²⁵. It continues to attract significant investment, including a recent £51 million injection into the Newport Wafer Fab facility²⁶, while Glasgow's planned National Advanced Semiconductor Packaging and Integration Centre will create a national hub for the development of advanced semiconductor packaging²⁷. Northern Ireland has specialised in Silicon-on-Insulator (SOI) manufacturing capabilities²⁸.

Bristol anchors the "Silicon Gorge" tech cluster, ranked as UK's second-largest tech cluster with 10,000 tech companies²⁹. The Liverpool-Manchester corridor serves as a critical R&D hub for the semiconductor industry, with activities and investments including the National Graphene Institute, the Science and Technologies Facilities Council (STFC) Daresbury Laboratory, and the Semiconductor Detector Centre.

Ireland has established itself as Europe's semiconductor manufacturing leader³⁰, with international players operating in Dublin and Cork. Its robust semiconductor industry is impressive: 130 companies, 20k jobs and € 13.5 billion in annual exports. The Silicon Island strategy aims to create up to 34,500 new semiconductor roles by 2040.

E. DEFENCE AND SECURITY: TOWARDS A "SAFE LAKE"

The Irish Sea's strategic importance is underscored by its role in national and international defence, most notably through the Australia-UK-US (AUKUS) security pact. The region is home to critical defence assets and industries. Scotland dominates the UK's shipbuilding of all major surface naval assets for the Royal Navy³¹, while Barrow-in-Furness is the sole site for building nuclear-powered submarines for the Royal Navy and for the AUKUS partners³². Wales, Belfast and the North West of England are home to multiple key companies operating in the Aerospace industry, with Ireland's focus on simulation software, drones, and dual-use technologies.

²⁴ <https://csconnected.com/about/>

²⁵ <https://csconnected.com/news/2025/02/csconnected-2024-annual-report/>

²⁶ <https://www.gov.wales/51-million-newport-investment-latest-chapter-wales-compound-semiconductor-success-story>

²⁷ <https://www.nmis.scot/whats-happening/news/fundinginjectionsettoexpandnmissemiconductormanufacturingcapabilities/>

²⁸ <https://www.icemostech.com/soi-wafers.html>

²⁹ <https://www.ghyston.com/media/whitepapers/the-making-of-silicon-gorge/ghy-e-book-silicone-gorge.pdf>

³⁰ <https://www.idaireland.com/latest-news/insights/national-strategy-aims-for-irish-leadership-in-semiconductors>

³¹ <https://www.gov.uk/government/news/defence-secretary-praises-scottish-contribution-to-shipbuilding-defence>

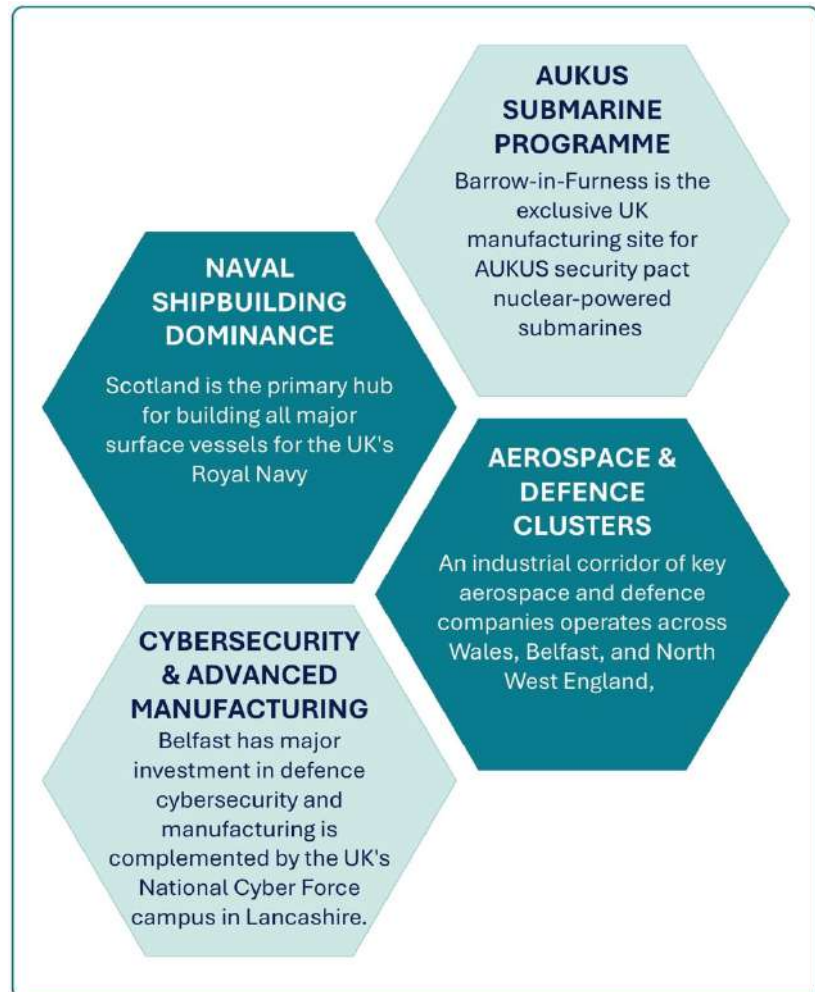
³² <https://www.baesystems.com/en-uk/article/3-95bn-awarded-for-next-phase-of-aukus-submarine-programme>

As part of the UK's Modern Industrial Strategy, Belfast's defence sector is receiving significant investment to foster growth and create jobs. This includes a dedicated Defence Growth Deal for Northern Ireland, backed by a £250 million fund, to build on the city's strengths in cybersecurity and advanced manufacturing, reinforcing Belfast's role as a key hub for the UK's defence industry.

Such a shared concentration of defence capability naturally comes with both threats and opportunities. Russian spy ships regularly patrol near undersea cables; military exercises were also conducted off the Irish coast³³. In 2025, the UK-Ireland defence agreement's discussions have intensified³⁴, especially because both nations recognise undersea cables as a mutual vulnerability.

There are two key Defence and Security Clusters in the Irish Sea Rim Geography, these are the **North West Regional Defence & Security Cluster (NWRDSC)** and the **South West Regional Defence & Security Cluster (SWRDSC)**. These clusters engage with defence in the Irish Sea.

Belfast's defence sector is receiving UK's Modern Industrial Strategy investment manufacturing and cybersecurity, include a **£1.6 billion contract for Thales** and substantial funding for the **modernisation of Harland & Wolff's shipyard**.



The Irish Sea Rim provides the soft infrastructure (relationships, forums, shared interests) that could eventually support harder security cooperation. The Irish Sea Rim will initially strengthen the Irish Sea as shared economic and collaborative space, which could naturally evolve into a shared security space - essentially achieving a "Safe Lake" status for the Irish Sea regions.

³³ <https://www.royalnavy.mod.uk/news/2025/january/22/250122-royal-navy-tracks-russian-spy-ship-in-waters-close-to-the-uk>

³⁴ <https://ukdefencejournal.org.uk/uk-and-ireland-hold-defence-talks-as-cooperation-continues/>

F. SPECIALISED HUBS

CREATIVE AND SCREEN:

- The Isle of Man has successfully leveraged its unique status to become a global hub for eGaming. The sector contributes over 10% of the island's economy³⁵.
- The screen industries in Scotland produce £315 million GVA annual and, with committed investment and development by Screen Scotland, aims to reach £1 billion GVA by 2030. With strong creative and screen clusters across Glasgow and Stirling and BFI-funded initiatives such as the Stornoway Studio Training Programme and Reset, which supports people retraining in the animation, VFX and gaming sectors, growth is on track to reach these economic goals.
- The Welsh creative sector is a significant and rapidly growing part of its economy, contributing over 5% to the Welsh GDP. The industry is diverse, with major strengths in film and television production, a rising games industry, and a strong music and publishing scene. Supported by the Welsh Government's "Creative Wales" agency, the sector has attracted major international productions, fostering job creation and solidifying Wales's reputation as a global creative hub
- Northern Ireland has seen significant growth in studio space in recent years with a mixture of purpose-built studios and alternative build space for productions, such as Belfast Harbour Studios, Titanic Studios and Loop Studios in the Belfast City Region.

CLIMATE TECH:

The UK leads a £42 billion ClimateTech sector with growing hubs in Manchester and Glasgow's city regions as hubs for investment. ClimateTech focused on innovation responses to climate change, reducing emissions and enhancing sustainability with focus on clean energy, the built environment, agriculture and food production and carbon markets.

These sectors map directly onto areas with the highest projected growth and, linking to rural and coastal assets, provides promise and investment in places outside the Irish Sea Region's largest city-regions. With a UK ClimateTech All-Party Parliamentary Group launched in December 2024, there is ample opportunity to connect policy, public and private investment to accelerate innovation across the Irish Sea Region, focusing investment conversations in major cities with the innovation delivery, skill and workforce development rooted in the regions' wider towns, rural and coastal areas.

LIFE SCIENCES:

The UK and Ireland hold some of the major global life sciences clusters with ample opportunities for connected innovation, investment and impact – across devolved nations and internationally. Five of the seven major UK life sciences cluster organisations are part of the Irish Sea Region geography including:

³⁵ https://www.gov.im/media/1382559/2021_2022-national-income-report.pdf

- The Northern Health Science Alliance, NHS: The north of England, with a major cluster corridor from Liverpool City Region, through Cheshire and into Greater Manchester
- Nine of the top ten international pharmaceutical companies are based in Ireland
- The South West of England, which holds the 3rd fastest growing life sciences sector in the UK
- Health Innovation Research Alliance Northern Ireland, HIRANI: Northern Ireland, which brings 17 research organisations and 300 companies together to generate over £1.1 billion GVA
- NHS Research Scotland, across the Glasgow-Edinburgh Corridor
- Life Science Hub Wales, which supports 12,000 jobs across 250 companies.

The Irish Sea Rim presents opportunities for significant connection between the powerful pharmaceutical mass production industry in Ireland, and the UK's strength in new drug discovery, and this is something we will explore with key stakeholders and partners.

SCIENCE PARKS:

The Irish Sea region is also home to a substantial concentration of science parks (Figures 6.9-6.15), highlighting the scale and breadth of innovation within the region. Harnessing the power of this infrastructure through the Irish Sea Rim's ability to connect, bridge, and amplify innovation, skills development, and supply chains will both complement those in London and the Greater South East, and create a powerful scientific and economic counterbalance. This in turn will maximise the UK and Ireland's global leadership in this area.



M-SPARC
Science
Park, Wales.
Image
Credit: Irish
Sea Rim

Figure 6.9: North West England Science Parks

Location	Name	Focus	Size	Logo	Website
Cheshire	Alderley Park	A world-leading science and tech campus including Life Sciences and Pharmaceuticals	400 acres		Alderley Park
Runcorn, Cheshire	The Heath Business and Technical Park	Serviced labs; tech; office space	>120 businesses		Home - The Heath Business and Technical Park
Liverpool	Liverpool Innovation Park	A business park offering high quality, well-connected office space.			liverpoolinnovationpark.com
Liverpool	Liverpool Science Park	A specialist science and tech cluster of over 60 businesses. The Park offers coworking space, serviced offices and leased office and lab space, meeting rooms, and event space.	>60 businesses		Liverpool Science Park Bruntwood SciTech
Manchester	Manchester Science Park	The Park is home to an innovation community of some of the region's most disruptive, fast-growing science and tech businesses.	>150 businesses		Manchester Science Park & Campus Labs Bruntwood SciTech
Warrington, Cheshire	Sci-Tech Daresbury	Part of the Science and Technology Facilities Council Science Campus. A technology business community.			Science Park North West - Sci-Tech Daresbury
Moor Row, Cumbria	Westlakes Science & Technology Park	Nuclear; R&D; Energy			Westlakes Science Park - BEC

Figure 6.11: South West England Science Parks

Location	Name	Nature	Size	Logo	Website
Emersons Green, Bristol	Bristol and Bath Science Park	Includes a Carbon Fibre Research Centre, part of the High Value Manufacturing Catapult initiative; an “innovation centre” for new business and “grow on centre” for subsequent expansion.	59 acres		Bristol Meeting Rooms & Offices Bristol & Bath Science Park
Paignton, Devon	Electronics and Photonics Innovation Centre	Microelectronics, Photonics, MedTech, AgriTech, MarineTech, and Aerospace Innovation and technology			EPIC Centre Microelectronics & Tech Innovation Centre
Exeter	Exeter Science Park	A hub for Innovation and entrepreneurship. Businesses in science, technology, engineering, maths and medicine (STEMM)	64 acres		Exeter Science Park
University of the West of England, Stoke Gifford, Bristol	Future Space	Facilities for R&D in advanced engineering, health & life sciences, digital and green tech.			Future Space Innovative Workspace for Science & Technology Businesses Bristol
Plymouth	Plymouth Science Park	Multi-sector hub including digital, tech and life sciences. Offers office accommodation, wet and dry laboratory space	25 acres		Plymouth Science Park Office Space Science & Technology Meetings
Porton, Wiltshire	Porton Down and Porton Science Park	Part of the Science and Technology Facilities Council Science Campus. A science and defence technology, health and life science business community.	7,000 acres		Wet Labs and Office Space for Rent in Wiltshire, England Porton Science Park

Figure 6.12: West Scotland Science Parks

Location	Name	Nature	Size	Logo	Website
Glasgow	BioCity Glasgow	The biotech incubator has an assortment of fully accessible, contemporary offices and lab space to rent.	20 acres		Lab Space to Rent Glasgow BioCity Glasgow Pioneer Group
East Kilbride	Scottish Enterprise Technology Park	A centre of technology excellence	34 hectares		Scottish Enterprise Technology Park UKSPA
Glasgow	West of Scotland Science Park	A hub for a wide range of companies from life sciences and technology sectors including ultrasonics, pharmaceuticals, mobile computing, clean rooms, satellites, laser systems, telecommunications, pre-clinical drug discovery and optoelectronics.	60 acres		West of Scotland Science Park Innovative Science Businesses
Oban	European Marine Science Park (EMSP)	The EMSP is a world-class, multi-purpose facility for marine science research and blue economic business growth			Home European Marine Science Park

Figure 6.13: Northern Ireland Science Parks

Location	Name	Nature	Size	Logo	Website
Belfast and Londonderry	Catalyst	A science and technology hub focused on fostering innovation and entrepreneurship			Home - Catalyst
Belfast	Northern Ireland Advanced Composites and Engineering Centre	A technology hub for the research and development of advanced engineering and advanced materials technologies across a range of industrial sectors			http://www.niace-centre.org.uk/
Belfast	Momentum One Zero	Part of Queen's University, Belfast, it is a new global innovation centre which aims to bring Secure Connect Intelligence expertise into key sectors - Digital Health, Agri-food, and Cyber Security, exploring applications to Semiconductor Security, Space, FinTech & Net-Zero.			Momentum One Zero Queen's University Belfast
Belfast	Advanced Manufacturing Innovation Centre	The Advanced Manufacturing Innovation Centre, led by Queen's University Belfast, is key to future manufacturing in Northern Ireland, as an industry-led, open-access manufacturing and engineering innovation centre with state-of-the-art facilities, underpinned by academic excellence.			https://we-are-amic.com/
Belfast	Centres funded under the City Deal	Studio Ulster, Centre for Connected Health Care Technologies, UK National Digital Twin Centre, and I-REACH clinical Labs centre			

Figure 6.14: Ireland Science Parks

Location	Name	Nature	Size	Logo	Website
Cavan	Cavan Business and Technology Park	A business park to suit the needs of both manufacturing and international services sectors.	37 acres		Business & Technology Parks - Cavan County Council
Dublin	Nova UCD (University College Dublin)	Nova UCD, nurture and support high-tech and knowledge-intensive spin-in and spin-outs Nexus UCD, the Industry Partnership Centre, provide high-quality office space, The AgTech UCD Innovation Centre, , is supporting and accelerating early-stage start-ups and SMEs with disruptive technologies in the AgTech, agrifood and veterinary sectors			https://www.ucd.ie/innovation/
Shannon Airport	Shannon Campus West and East Zone	Zone is now one of Ireland's largest multisectoral business parks, which hosts the highest concentration of FDI companies outside of Dublin. Shannon holds a strategic location, serving as the link between Galway and Limerick, providing entry to the Mid-West Region.	600		https://snnairportgroup.ie/commercial-property/our-business-park/

Figure 6.15: Isle of Man Science Parks

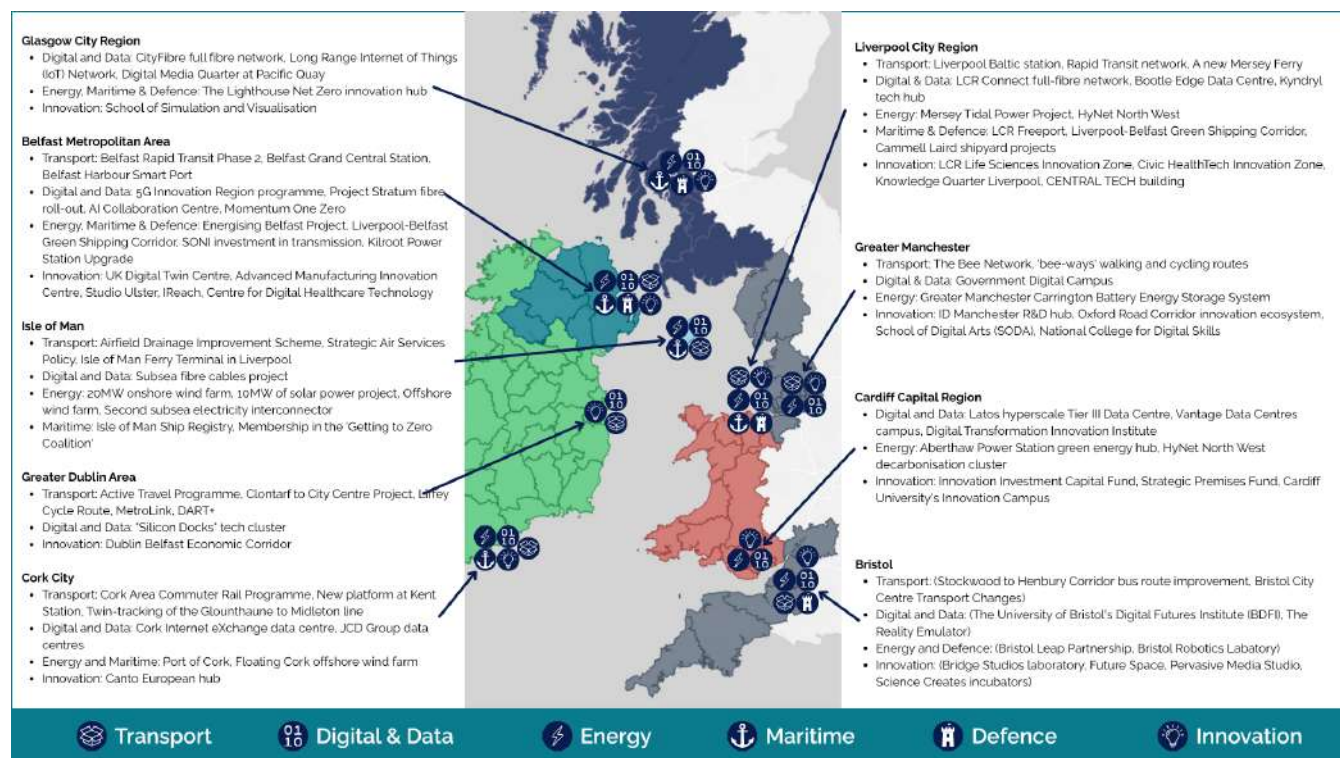
Location	Name	Nature	Size	Logo	Website
Ramsey	Mountain View Innovation Centre	We're all about nurturing innovation at Mountain View – sharing physical space with fellow businesses and providing a creative environment in which to turn good ideas into successful enterprises in a stimulating, supportive environment.	25 acres		https://mvic.im/

SECTION 7: INFRASTRUCTURE DEVELOPMENT AROUND THE IRISH SEA RIM

A wave of multi-billion pound and euro infrastructure investment is reshaping the eight key city regions bordering the Irish Sea: Glasgow, Manchester, Liverpool, Bristol, Cardiff, Belfast, Dublin, and Cork (Figure 7.1). While individual governmental strategies set the domestic context, pan-regional agreements create a higher-level framework that influences and enables cross-border collaboration. There is a significant convergence of strategy and investment across the entire Irish Sea Region, with priority given to the green and digital transitions, transport, resilient economic growth, and public service reform (Figures 7.2 and 7.3). The UK Government's announcement of a £45 billion investment in Northern Powerhouse Rail is a significant step forwards in driving the North of England's economic potential, growing productivity, adding up to £40 billion per year to the UK economy, and boosting living standards³⁶.

The drive to achieve net-zero carbon emissions is the single most powerful force shaping energy infrastructure investment across the Irish Sea Rim, with each city region advancing flagship projects designed to harness its unique renewable resources, modernise its energy grid, and establish leadership in the green economy (Figure 7.4).

Figure 7.1: Key infrastructure projects around the Irish Sea Rim



³⁶ <https://www.gov.uk/government/news/multi-billion-pound-drive-to-transform-rail-and-growth-across-yorkshire-and-north-east>

Figure 7.2: Infrastructure project investment by sector (€bn)

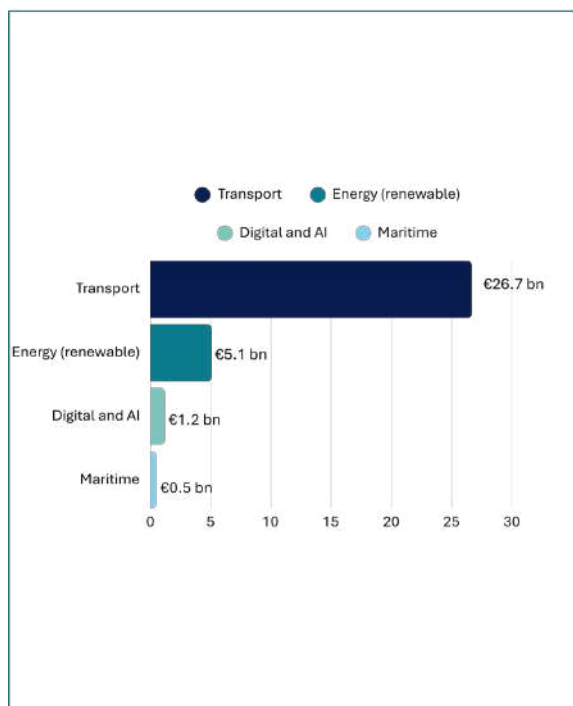


Figure 7.3: Irish Sea Region flagship transport project investment

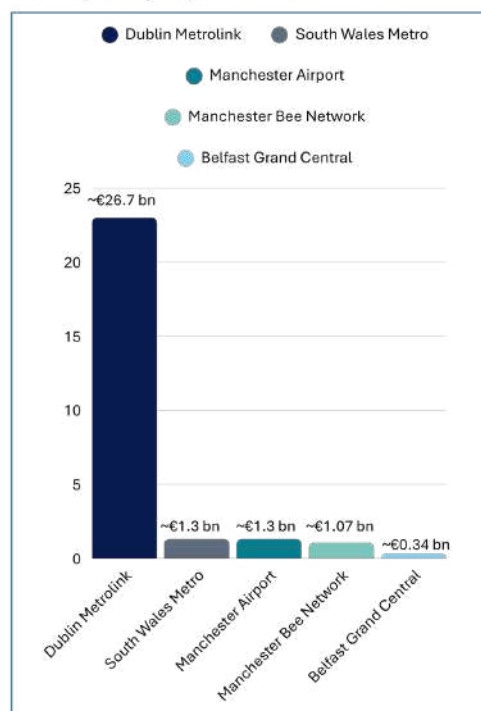


Figure 7.4: Irish Sea Region energy project focus

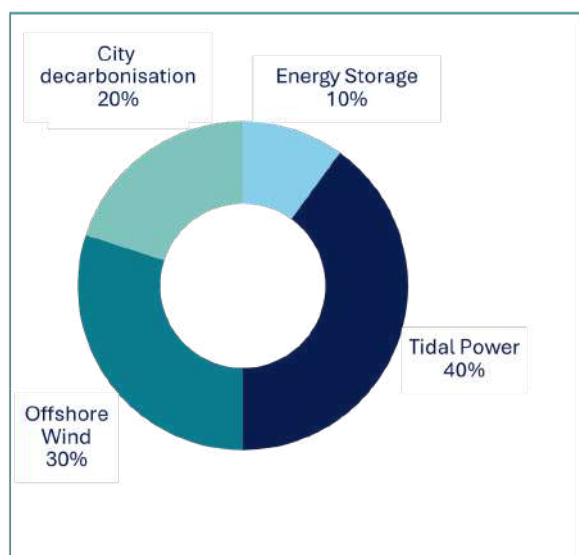
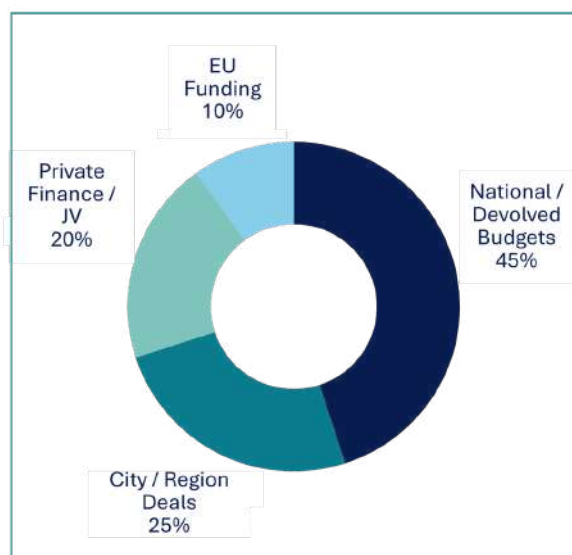


Figure 7.5: Main Funding Sources for National / Regional Infrastructure Development



This infrastructure development must be viewed within the context of the overarching strategic priorities for each country (Figure 7.6). Projects are financed through a diverse patchwork of sources, blending national budgets with regional deals, private investment, and EU funds (Figure 7.4). While this model enables large-scale investment, it can also create uncertainty.

Figure 7.6: Comparative Overview of National Infrastructure Strategic Priorities (2025-2035 Horizon)

Country	Key Strategy	Core Prioriteis	Headline Targets
Scotland	Infrastructure Investment Plan	Net Zero Transition, Inclusive Economic Growth, Resilient Places	75% emissions reduction by 2030, 90% by 2040, Net Zero by 2045. £5.1bn rail investment
England	10-Year Infrastructure Strategy	Resilient Growth, Net Zero, Digital Infrastructure, Housing, Public Services, Levelling up	Clean power by 2030, Net Zero by 2050
Wales	Wales Infrastructure Investment Plan	Well-being (Health, Social Equity Access) Economic Well-being, Net Zero, Built, Green, Blue infrastructure	Net Zero by 2050
Northern Ireland	Draft Investment Strategy for NI 2050	Tech/Innovation, Essential Services, Decarbonisation, Connectivity / Competitiveness, Enhancing Communities	Net Zero by 2050 (UK Target)
Republic of Ireland	National Development Plan	Transformative / Growth-Enhancing Infrastructure (Housing, Energy Grid, Water, Transport, Health Digitalisation), Competitiveness, Regional Balance	Net Zero by 2050, €165bn +NDP to 2030; €15bn+ capital spend in 2025
Isle of Man	National Infrastructure Strategy, Island Plan, Economic Strategy	Infrastructure Maintenance, Energy Security, Digital Resilience, Housing, Stimulating Brownfield Development	100% renewable electricity by 2030, Net Zero by 2050, Population of 100,000 by 2037

Key infrastructure development projects for each city region are outlined below:

A. LIVERPOOL CITY REGION

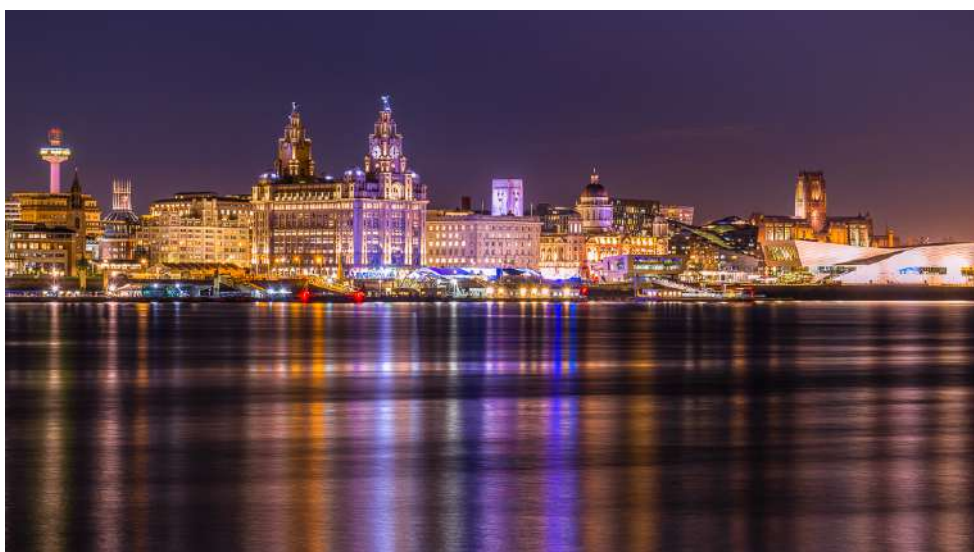
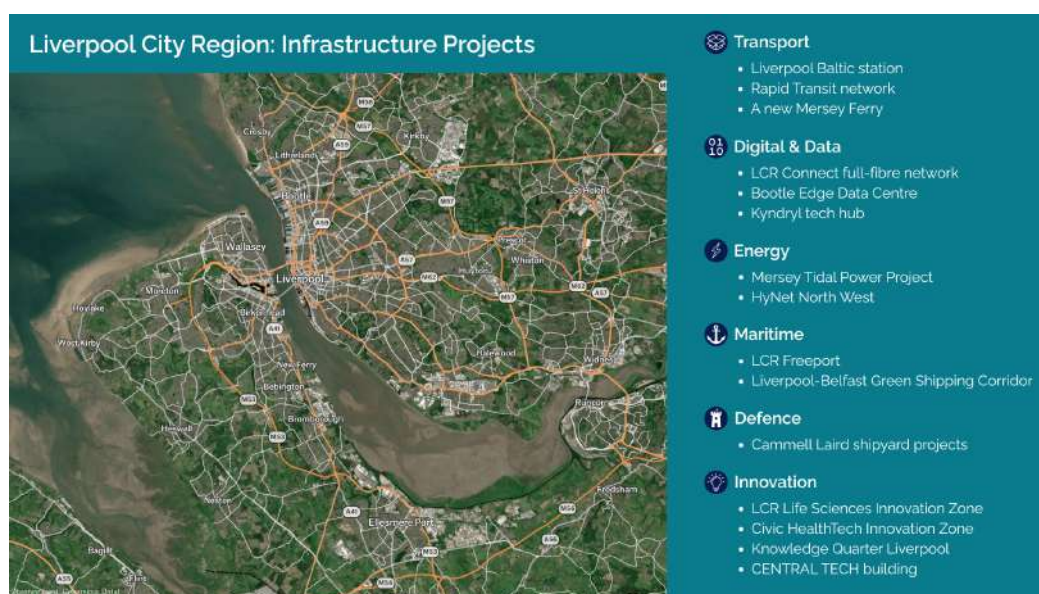


Image credit: Visit Liverpool

Liverpool City Region (LCR) is pursuing an ambitious strategy, leveraging its world-class port, maritime heritage, and strengths in digital and creative industries to achieve Net Zero by 2040 and become a global leader in health and life sciences innovation. LCR's core infrastructure pillars are an integrated transport system, becoming Britain's renewable energy coast, and health and life sciences.

Figure 7.7: Key Liverpool City Region infrastructure projects



- **TRANSPORT:** The flagship rail project is the **£100 million Liverpool Baltic station**, set to open by the end of 2027 to serve the Baltic Triangle creative and digital cluster. A new **£1.6 billion Rapid Transit network**, inspired by the Belfast Glider, will use high-quality electric vehicles to provide fast services on arterial routes. **Integrated Network** plans include **bus franchising**, a new **Mersey Ferry**, and redevelopment of key interchanges.



Images credit: Irish Sea Rim

- **DIGITAL & DATA:** The **LCR Connect** full-fibre network is operational, providing gigabit-capable connectivity to over 28,000 businesses via a 212km publicly owned network. The region's digital ecosystem is boosted by a new **Bootle Edge Data Centre**, providing low-latency services and featuring an innovative heat reuse system, and establishment of a major tech hub by US giant **Kyndryl**, creating up to 1,000 AI-focused jobs.
- **ENERGY:** The multi-billion-pound **Mersey Tidal Power Project** is a globally significant scheme aiming to generate clean electricity for up to one million homes for over 120 years. If realised, it will be the world's largest tidal project. LCR is also a key hub for the **HyNet North West** industrial decarbonisation cluster, which will produce low-carbon hydrogen and capture industrial emissions under Liverpool Bay.
- **MARITIME & DEFENCE:** The **LCR Freeport** has already secured £194m in investment, with major commercial spaces completed at tax sites in Halton and St Helens to attract trade and manufacturing. The **Liverpool-Belfast Green Shipping Corridor** project is developing a roadmap for a zero-emission maritime route, with methanol and shore-based green power identified as key technologies, positioning the Port of Liverpool at the forefront of maritime decarbonisation. The **Cammell Laird** shipyard is critical to national security, building sections for the Royal Navy's new Type 26 Frigates and supporting the Royal Fleet Auxiliary fleet.
- **INNOVATION:** The 10-year **LCR Life Sciences Innovation Zone** programme is designed to attract £800 million in investment. Projects include AI-powered robotic labs and a **Civic HealthTech Innovation Zone**. The **Knowledge Quarter (KQ Liverpool)** has been expanded with **CENTRAL TECH**, a new urban technology building and health, life sciences, and digital hub.



Images credit: Irish Sea Rim

B. GLASGOW CITY REGION



Glasgow City Region's (GCR) infrastructure strategy is shaped by its post-industrial economic transition and the Scottish Government's world-leading climate change ambitions, leveraging its academic and creative sectors to become a climate tech and digital media innovation hub. Main strategic drivers are enabling net-zero transition, driving inclusive economic growth, and building resilient, connected places.

- **TRANSPORT:** GCR is a key beneficiary of a £5.1 billion Scottish Government investment to decarbonise the rail network and encourage a significant shift from road to rail – essential for meeting Scotland's emissions reduction targets. Projects are likely to include service and station upgrades within the suburban rail network, and the electrification of diesel lines.
- **DIGITAL AND DATA:** To establish itself as one of the UK's best-connected cities GCR is rolling out **CityFibre**, one of Europe's largest full fibre network deployments. GCR is also a leader in next-generation wireless technology, with the highest concentration of **5G** projects in Scotland. This is complemented by a city-wide **Long Range Internet of Things (IoT) Network** to provide a platform for smart city applications like air quality monitoring and traffic management and support the **Digital Media Quarter** at Pacific Quay.
- **ENERGY, MARITIME & DEFENCE:** GCR's industrial legacy on the River Clyde gives it significant capability in maritime engineering and defence manufacturing, with major shipyards like BAE Systems remaining key employers in the Royal Navy's supply chain, along with the **Scottish Marine Technology Park** on the Clyde. The focus on creating a **Net Zero innovation hub** at **The Lighthouse** supports Scotland's national energy transition, providing workspace, business support, and investment for hundreds of companies working in the green technology sector and circular economy.
- **INNOVATION:** Initiatives like the Lighthouse within **Glasgow Innovation District** are supported by a network of existing incubators and specialist research centres, such as the Glasgow School of Art's **School of Simulation and Visualisation (SimVis)**.

C. GREATER MANCHESTER



Manchester Ship Canal and Lowry Theatre, Salford Quays. Image credit: Irish Sea Rim

Greater Manchester's (GM) infrastructure strategy is built on significant devolved power and a clear vision to be a world-leading city region for digital innovation, sustainable transport, and research-led growth. GM's globally recognised universities are key talent pipelines and partners in the region's innovation ecosystem. Core strategic objectives include creating a world-class digital city, an integrated and decarbonised transport network, and an innovation-driven economy.

- **TRANSPORT:** The region's transformative project is the **Bee Network**, bringing all bus services under local control for the first time in nearly 40 years. This allows integrated ticketing with the Metrolink tram system, capped fares, and coordinated timetables, supported by new electric buses and real-time information systems. As the first European Capital of Cycling, GM is also delivering 'bee-ways', a network of walking and cycling routes, and expanding the public **EV charging network** across all ten boroughs.
- **DIGITAL & DATA:** The establishment of the **Government Digital Campus** will bring hundreds of civil service digital and technology roles to the region and cement its status as a major public sector tech hub outside London. GM was named the UK's most digitally inclusive city in 2023 in recognition of its extensive network of databanks and skills workshops, ensuring that all residents see the benefits of digital transformation.
- **ENERGY:** The £312m Greater Manchester **Carrington Battery Energy Storage System** will provide a large-scale facility to store renewable energy and release it to the grid during periods of high demand, crucial for balancing a network with high levels of intermittent generation from wind and solar power.
- **INNOVATION:** GM's landmark project is **ID Manchester**, a £1.7 billion, 15-year joint venture between the University of Manchester and Bruntwood SciTech. It will transform the university's former North Campus into a 4 million sq. ft R&D hub for advanced materials, AI, health innovation, and biotechnology. This is part of the **Oxford Road Corridor** innovation ecosystem and is supported by the Manchester Metropolitan University's £35 million **School of Digital Arts (SODA)** and the Manchester **National College for Digital Skills**.

D. CARDIFF CAPITAL REGION



Cardiff is the economic centre of the Cardiff Capital Region (CCR), a partnership of 10 local authorities supported by a £1.2 billion City Deal aimed at boosting economic growth. The region has strengths in public administration, finance, media, and is developing notable clusters in compound semiconductors and cybersecurity.

- **TRANSPORT:** A new **regional transport plan** is due before Autumn 2025, which is expected to include connectivity upgrades funded in part by the City Deal's infrastructure fund, and aligning with Welsh Government Infrastructure Investment Strategy focus on wellbeing and connectivity.
- **DIGITAL AND DATA:** The planned **Latos hyperscale Tier III Data Centre** complex near Cardiff is a significant development which will be powered by 100% renewable energy with backup from the adjacent Tremorfa Energy Park battery storage facility. **Vantage Data Centres** is working to build one of Europe's largest data centre campuses in Wales as part of a £12 billion UK-wide investment. Cardiff University's **Digital Transformation Innovation Institute (DTII)** acts as a hub for interdisciplinary work on digital technologies like AI, cybersecurity, IoT, and data challenges and their societal impact.
- **ENERGY:** The focus is on transforming the decommissioned **Aberthaw Power Station** into a multi-faceted green energy hub incorporating renewable energy generation, large-scale battery storage, a zero-carbon manufacturing cluster with green hydrogen facilities, and an innovation centre. The **HyNet North West** decarbonisation cluster extends into North Wales, demonstrating cross-border industrial and energy infrastructure linkage.
- **INNOVATION:** CCR has a cluster-based innovation strategy, supported by a £50 million **Innovation Investment Capital Fund** and a £50 million **Strategic Premises Fund** to develop necessary sites. Target clusters include Compound Semiconductors, Cybersecurity, Creative Industries, Fintech, and Energy/Environment. Cardiff University's **Innovation Campus** provides significant physical infrastructure, featuring the world's first social science research park and the Translational Research Hub.

E. BRISTOL



Clifton Suspension Bridge, Bristol. Image credit: Irish Sea Rim

Bristol, part of the West of England Mayoral Combined Authority, is recognised for its aerospace, creative, and technology sectors, alongside a strong environmental focus.

- **TRANSPORT:** The city is undertaking projects to improve public transport and active travel, including the **Stockwood to Henbury Corridor** bus route improvement and **Bristol City Centre Transport Changes**, which includes proposals to enhance bus lanes, cycle lanes, and pedestrian crossings.
- **DIGITAL AND DATA:** The University of Bristol's **Digital Futures Institute (BDFI)** is developing a £29m+ globally unique research facility. This includes a Smart Cinema, Experimental Studio, Security Infrastructure Suite, and Digital Health Node. The BDFI also includes the **Reality Emulator**, a powerful digital twin capability with a high-performance data centre for advanced 5G, and ultra-low latency optical networking. The data centre is designed for high density, uses water cooling with heat reuse, and connects to national dark fibre networks.
- **ENERGY AND DEFENCE:** The public-private **Bristol Leap Partnership** will channel nearly £500 million into low-carbon energy infrastructure to support the city's goal of becoming carbon neutral by 2030, including new solar farms and expansion of the city's heat network. Bristol's economy is strongly linked to aerospace and defence sectors, with key employers like Airbus and BAE Systems supported by robotics, advanced materials, and digital engineering innovation infrastructure at the **Bristol Robotics Laboratory** and **BDFI**. Plus in the Great South West initiatives such as the **Cornwall Marine Network** that has developed an innovative SW based supply chain cluster.
- **INNOVATION:** The £3.6 million state-of-the-art interdisciplinary **Bridge Studios** laboratory fosters collaboration across arts, humanities, and technology with equipment for AI, VR, motion capture, and collaborative robotics. Other innovation hubs include **Future Space**, the **Pervasive Media Studio**, and **Science Creates**, which runs incubators for deep tech start-ups.

F. BELFAST METROPOLITAN AREA



Left: Belfast City Hall. Below: Bedford Square, Belfast. Image credits: Irish Sea Rim

Belfast's development is catalysed by the **Belfast Region City Deal (BRCD)**, £1 billion 10-year programme to drive economic growth and innovation and establish the city as a globally competitive hub for high-value sectors. Strategic priorities align with the BRCD's pillars: boosting innovation and digital capability; creating a 21st century, connected region; and enhancing tourism and regenerating the region. Within Northern Ireland

each local council has a significant local economic development programme, and Local Economic Partnership

- **TRANSPORT:** The £48 million **Belfast Rapid Transit Phase 2** is the BRCD's flagship transport project, extending the successful Glider service to North and South Belfast. Work includes bus priority measures, a new park and ride facility, and pilot electric Glider vehicles. Funded separately, Belfast **Grand Central Station** opened in 2024, replacing existing facilities with a modern, integrated transport hub for bus, coach, and rail services.
- **DIGITAL AND DATA:** Belfast is aiming to become a leader in advanced wireless technology and is a designated **5G Innovation Region**. A £5.1 million programme supports commercial adoption of 5G through real-world use cases in logistics and port operations with partners like **Belfast Harbour** and **Stena Line**. The **Smart Belfast framework** aims to use data and technology to improve public services and address urban challenges. The BRCD has earmarked **£120 million** for digital investment over the next decade. **Project Stratum** is a **£165 million** initiative to extend full fibre broadband to up to 85,000 homes that previously lacked good connectivity.
- **ENERGY, MARITIME & DEFENCE:** The **Energising Belfast Project** involves a major upgrade of the electricity transmission network to handle greater amounts of renewable energy from across Northern Ireland. As a key partner in the **Liverpool-Belfast Green Shipping Corridor**, Belfast is playing a crucial role in creating a zero-emission maritime route, with pilot projects exploring the use of shore power at its ferry terminal. The innovation infrastructure being



developed through the BRCD will support Belfast's a significant defence and security industrial base and strengthen the national defence supply chain by providing access to cutting-edge design, testing, and manufacturing technologies.

- **INNOVATION:** As a major Belfast Harbour initiative, the **Belfast Innovation District** leverages 400 acres of the Harbour Estate to create a globally competitive hub for research and innovation. This strategic development is designed to foster collaboration between industry and university partners, aiming to accelerate growth in key sectors like FinTech and GreenTech. The wider innovation ecosystem, includes the new **UK Digital Twin Centre**, launched in partnership with the BRCD and Innovate UK to drive industrial adoption of digital twin technology and provide businesses with advanced modelling and simulation facilities. Other key facilities funded by the BRCD include Queen's University's **Advanced Manufacturing Innovation Centre** and Ulster University's **Studio Ulster**, a state-of-the-art virtual production facility.



G. GREATER DUBLIN AREA



Above, Dublin development. Below, Irish Flag. Image credit: Irish Sea Rim

The Greater Dublin Area's infrastructure strategy is driven by the imperative to manage the pressures of being one of Europe's fastest-growing cities and a pre-eminent global technology hub. The overarching policy framework is the **National Development Plan (NDP)**, part of the wider **Project Ireland 2040** capital investment programme. Key strategic priorities are sustainable urban mobility, supporting a globally competitive digital economy, and enhancing resilience and quality of life.

- **TRANSPORT:** A large and growing network of walking and cycling infrastructure is being rolled out through the **Active Travel Programme**. Major schemes include the **Clontarf to City Centre Project**, creating a two-way segregated cycle track, and the **Liffey Cycle Route**. Long-term, large-scale public transport projects like **MetroLink** and **DART+** are in the planning pipeline.
- **DIGITAL AND DATA:** Dublin is one of Europe's most important data centre hubs, forming the backbone of the "**Silicon Docks**" tech cluster and a critical node in global internet infrastructure, with a significant presence from companies like **Digital Realty**, **Equinix**, and **Vantage**. Projections show a five-fold increase in Ireland's data centre capacity, posing a major energy challenge. The city is also exploring the use of **Digital Twin technology** to improve urban planning.
- **ENERGY:** The data centre boom is driving a major national programme of **grid reinforcement** that includes upgrading existing lines, new substations, and new connections to offshore wind farms to meet demand and climate targets.
- **INNOVATION:** The dense concentration of multinational tech giants like Google, Meta, and Amazon in the "**Silicon Docks**" area creates one of Europe's most dynamic innovation environments. Initiatives like the **Dublin Belfast Economic Corridor** are designed to foster broader regional innovation, spreading the benefits and creating a larger, more integrated economic area to ease pressure on housing affordability and urban infrastructure.



H. CORK CITY



Cork City. Image Credit: Samuel Girven on Unsplash

Cork, Ireland's second city, possesses a diverse economy with strengths in pharmaceuticals, biotechnology, ICT, cybersecurity, agri-food, and maritime industries, centred around its significant natural harbour.

- **TRANSPORT:** The **Cork Area Commuter Rail Programme** is a multi-phase initiative potentially worth over €1 billion designed to treble capacity on the suburban rail network and create a 'turn up and go' service. Key projects include constructing a new platform at **Kent Station** and twin-tracking the **Glounthaune to Midleton line**. Future phases include potential new stations, signalling upgrades and electrification of the network.
- **DIGITAL AND DATA:** Cork has developed its first **Digital Strategy**, outlining ambitions to enhance digital inclusion, increase connected services, empower the use of open data, and utilise best-in-class digital infrastructure. The city hosts data centres operated by companies such as **Cork Internet Exchange** and **JCD Group**, forming part of Ireland's national data centre portfolio.
- **ENERGY AND MARITIME:** The deep-water **Port of Cork** is a major hub for international trade and is positioning itself to be a key player in the development of Ireland's offshore wind industry, and a construction and operations base for future wind farms off the south coast. The region is also a potential location for future carbon capture and storage and hydrogen projects. The **Floating Cork** offshore wind farm is a major step into the next generation of wind power, aiming to deploy floating turbine technology with a potential capacity of 1000MW.
- **INNOVATION:** A recent success is attracting **Canto**, a digital asset management software provider, to establish its European hub in Cork, creating 50 new jobs focused on advanced AI research and cloud infrastructure optimisation. Canto plans to partner with local universities and research institutions.

I. ISLE OF MAN



Isle of Man. Image Credit: Oliver King on Unsplash

The Isle of Man, a self-governing Crown Dependency, has a distinct economic and infrastructure strategy focused on sustainability and digital innovation to support its goal of growing the population to 100,000 by 2037.

- **TRANSPORT:** The island is enhancing strategic air and sea links, including a £5 million **Airfield Drainage Improvement Scheme** at its airport. A **Strategic Air Services Policy** framework will secure long-term stability on key routes, while collaboration with the **Isle of Man Steam Packet Company** will improve ferry services. This is complemented by the major investment in the new **Isle of Man Ferry Terminal** in Liverpool. A **Transport Strategy** will support transition to net-zero and improve connectivity for communities.
- **DIGITAL AND DATA:** The Isle of Man has a highly resilient telecommunications infrastructure, featuring five existing **subsea fibre cables** with two more being added. This provides over 85% of premises with access to 1Gbps fibre broadband. The digital economy, strong in eGaming and FinTech, is supported by six Tier-3, ISO-accredited data centres. The Government Agency, Digital Isle of Man, is focused on developing an **AI proposition** and promoting **Data Stewardship**. A key priority is to ensure that the island's businesses have the same access to global digital platforms and commercialisation opportunities as their UK counterparts.
- **ENERGY:** The Isle of Man aims to achieve a **100% decarbonised electricity supply** by 2030 and net-zero emissions by 2050. Manx Utilities plans to deliver 30MW of publicly owned renewable generation by 2026, including a **20MW onshore wind farm** and **10MW of solar power**. In the longer term, an **offshore wind farm** is being explored in partnership with global leader **Ørsted**, supported by plans for a **second subsea electricity interconnector**.
- **MARITIME:** The **Isle of Man Ship Registry** has established itself as a global leader in maritime decarbonisation. It was the first flag state to introduce a 15% discount on registration fees for vessels using green technology, such as biofuels, alternative fuels, or shore-side energy systems that reduce greenhouse gas emissions. This builds on the Isle of Man being the first flag state to join the '**Getting to Zero Coalition**' in 2020, aiming to develop commercially viable zero-emission vessels by 2030.

J. THE ROLE OF THE IRISH SEA RIM IN REGIONAL INFRASTRUCTURE PROJECTS

There is strong potential for synergistic development across the Irish Sea region, particularly in knowledge sharing and supply chain development for green and digital technologies. The HyNet cluster and the Liverpool-Belfast Green Shipping Corridor are emerging as tangible examples of cross-jurisdictional collaboration. Innovation, particularly through digital technologies,

alongside enhanced physical and digital connectivity, offers pathways to improve project delivery and maximise the economic and social impact of these substantial infrastructure investments.

Realising the full transformative potential hinges on overcoming delivery hurdles and fostering greater strategic cooperation across this interconnected region, including navigating a complex funding landscape (Figure 7.5) and tackling a set of common challenges shared by all nations and cities across the region (Figure 7.8). Despite different contexts, the key bottlenecks to successful project delivery are remarkably similar across the Irish Sea region.



Figure 7.8: Common infrastructure delivery challenges

In its role as an umbrella organisation, the Irish Sea Rim has an important role to play as a connector, broker, and catalyst for regional infrastructure projects. Our apolitical, sector agnostic approach, our extensive cross-region and cross-border networks, and our connections with governments, industries, education and research institutions, and communities, mean that we are uniquely positioned to amplify benefits and overcome challenges by acting as a neutral, pan-regional convenor and delivery partner. By addressing these cross-cutting issues such as the regional skills gap, the Irish Sea Rim can help ensure that this unprecedented wave of investment can deliver the maximum possible benefit for all communities around the Irish Sea (Figures 7.9 and 7.10).



Figure 7.9: Key Irish Sea Rim infrastructure development leverage and support functions

Figure 7.10: Critical Irish Sea Rim support and impact mechanisms



PART THREE

MARITIME TRANSPORT AND LOGISTICS



Heysham Port, Lancashire. Image credit: Irish Sea Rim

MARITIME TRANSPORT AND LOGISTICS

Section 8: **Liverpool – Belfast Green Shipping Corridor**

Section 9: **Maritime and innovation case studies**

Section 10: **Irish Sea Freeports**

Section 11: **Irish Sea Ferries**

Section 12: **Irish Sea Rim Environmental and Scientific
Observatory (ISRESO)**

SECTION 8: LIVERPOOL-BELFAST GREEN SHIPPING CORRIDOR

The Irish Sea is a critical artery for transport and logistics and the “blue economy”, encompassing ports, air, road, and rail networks. A key strategic project for the Connected Places Catapult is the creation of a **Green Shipping Corridor** between Liverpool and Belfast



with the aim of decarbonising one of the busiest routes in the Irish Sea³⁷. This initiative aligns with global efforts like the Clydebank Declaration, which seeks to establish zero-emission maritime routes. The maritime sector in this region is a significant economic driver, supporting approximately 46,000 jobs and contributing £5.6 billion annually in the Liverpool region, while in Northern Ireland, it supports around 16,000 jobs and adds £3.9 billion to the UK economy. This corridor will primarily serve two operators - **Stena Line** for passenger and RoRo services, and **BG Freight** for container services⁴. Currently, a single Stena Line sailing produces about 70 tonnes of CO₂, while a BG Freight sailing produces 25 tonnes of CO₂. The project's goal is to eliminate these emissions through a collaborative, end-to-end approach involving the entire value chain.

Two key areas for decarbonisation have been identified and prioritised:

- **AT BERTH (HOTELLING DEMAND):** The preferred solution is providing **onshore power supply (shore power)** to eliminate the need for vessels to run their diesel generators while docked.
- **AT SEA (PROPULSION DEMAND):** For the 130-nautical-mile journey, low-carbon liquid fuels are considered the only currently viable option. **E-Methanol** is identified as the industry-preferred alternative fuel. However, it presents challenges, as it has a lower energy density and requires approximately 2.3 times the fuel volume compared with marine diesel.

This will necessitate significant infrastructure investment and changes at both ports. Both Liverpool and Belfast will need major upgrades to their electrical grids, including the potential construction of new high-voltage substations and cabling to handle the increased energy demand of shore power. Infrastructure must be adapted to safely store and supply alternative fuels such as e-methanol. For Liverpool, supply could come from nearby facilities like Stanlow

³⁷ <https://cp.catapult.org.uk/report/green-shipping-corridors-a-holistic-approach-to-decarbonising-maritime/>

Terminal or Hynet, while Belfast could be supplied by innovators in the region, including a potential production site at the Port of Larne. Collaboration between government, port operators, shipping lines, and energy providers is crucial for success. The primary barriers identified are the high cost and risk of innovation, highlighting the need for external investment until alternative fuel supply chains mature across the UK and Europe. The focus is on four high-priority initial projects to accelerate development of the green shipping corridor:

1. **INCENTIVISED SHORE POWER COMMERCIAL MODEL:** Designing an attractive commercial model (to encourage private investment in shore power infrastructure).
2. **SINGLE BERTH SHORE POWER IMPLEMENTATION:** Installing a shore power connection for a single Stena Line berth in either Liverpool or Belfast to test feasibility and learn from the process before scaling up.
3. **IRISH SEA ENERGY SIMULATION MODEL:** Developing future forecast energy demand models and evaluating economic feasibility of different electricity and alternative fuel supply chain options to guide investment.
4. **E-METHANOL TRIAL PRODUCTION:** Launching a trial in Belfast to produce e-methanol and methanol-diesel blends using renewable energy, providing practical lessons for local supply and usage in shipping.

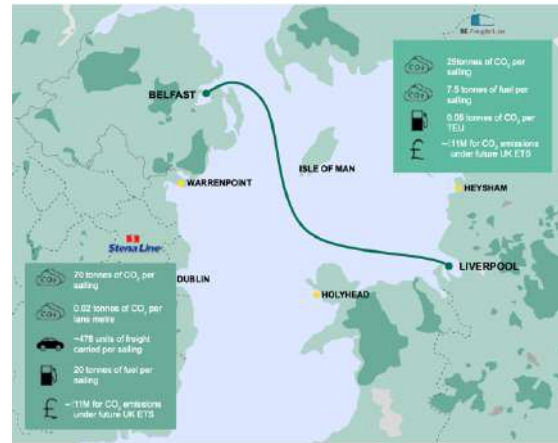
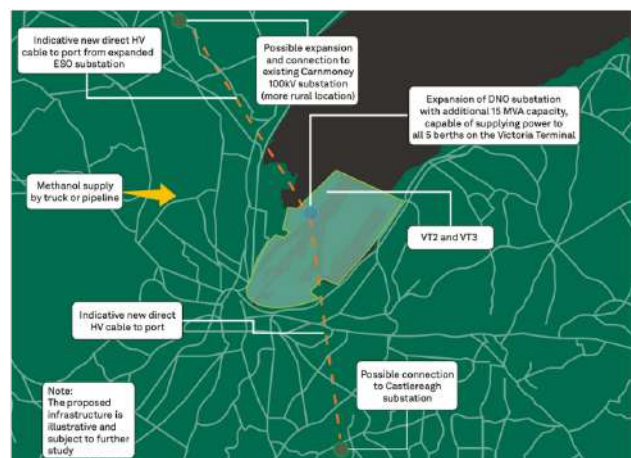
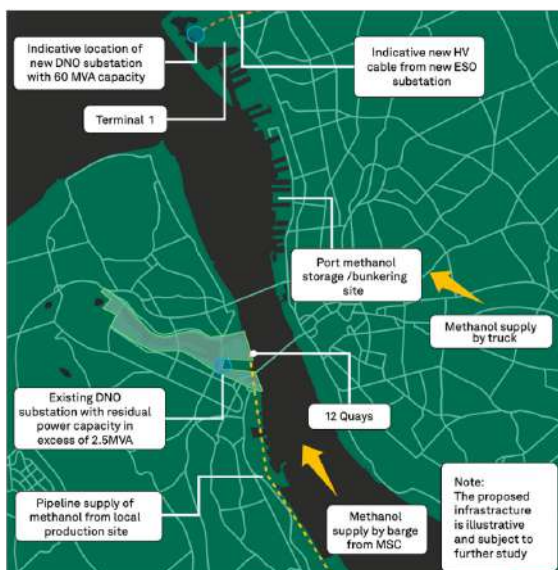


Figure 8.1: Potential future changes within the Ports of Liverpool (left) and Belfast (right) to support the Green Shipping Corridor Development



A. WIDER PROJECTS AND IMPACTS OF THE GREEN SHIPPING CORRIDOR

The Liverpool-Belfast Green Shipping Corridor is likely to have significant ‘ripple’ effects beyond the immediate project. Success can be replicated across other Irish Sea routes, creating a network of green corridors that reinforce each other. The project also explores hinterland connections, integrating rail and inland logistics to reduce emissions beyond the sea route itself.

In addition to the pilot projects outlined above, the Green Shipping Corridor is integrated with other projects which are essential to fully leveraging the benefits of this initiative. These include:

- **SMART PORT LOGISTICS:** Using **AI and digital twins** to optimise cargo handling, reduce idle times, and streamline vessel scheduling, and implementing **real-time emissions tracking** to monitor and manage carbon output across the corridor.
- **PORT-RAIL CONNECTIVITY: Enhancing rail links** from Liverpool and Belfast to inland logistics hubs, reducing truck traffic and emissions, and developing **intermodal freight terminals** that support low-carbon transport chains.
- **SKILLS & GOVERNANCE:** Creating **training programs** for maritime workers in green technologies and establishing **governance frameworks** to align stakeholders and ensure compliance with decarbonisation goals.

B. DUBLIN-HOLYHEAD: THE CENTRAL GREEN CORRIDOR

Beyond the considerable benefits to Liverpool and Belfast, the Green Shipping Corridor is creating a blueprint for other ports in the region like Dublin, Holyhead, and Cairnryan. By adopting similar initiatives, the Irish Sea Rim could become a network of green corridors, accelerating the UK and Ireland’s maritime decarbonisation.

Dublin-Holyhead is the busiest roll-on/roll-off ferry route between the UK and Ireland, with over 6,000 sailings annually and accounting for 74% of all ferry passenger movements between the two countries. Currently the Central Green Corridor is being developed by Irish Ferries and Stena Line, supported by Ricardo consultancy, Maynooth University, and EDF. The initiative received €143,621 from the International Green Corridor Fund, backed by both UK and Irish governments and is exploring e-methanol as a clean alternative fuel, with assessments of other options underway. Detailed studies are being conducted on landside and vessel infrastructure, alongside economic and environmental impact analyses.

This project strengthens the Irish Sea Rim through:

- **MULTI-CORRIDOR SYNERGY:** With Liverpool–Belfast and Dublin–Holyhead both advancing green corridors, the Irish Sea Rim becomes a **multi-nodal decarbonisation zone**, not just isolated projects.
- **SHARED INNOVATION:** Technologies like shore-side power, alternative fuels, and smart logistics can be standardised across ports, reducing costs and accelerating adoption.

- **POLICY ALIGNMENT:** Joint UK–Ireland backing ensures cross-border regulatory coherence, making it easier for vessels and operators to comply and scale.
- **Economic Spillover:** Green corridors attract investment, create jobs in clean tech, and position the region as a global leader in sustainable maritime trade.

C. STRATEGIC ADVANTAGES OF THE IRISH SEA RIM

THE STRATEGIC ADVANTAGES OF THE IRISH SEA RIM

- **NATURAL MARITIME CONNECTIVITY:** The Irish Sea Rim encompasses key ports like Liverpool and Belfast, already linked by one of the busiest short-sea routes in the UK. This proximity allows for rapid deployment of green technologies and infrastructure across the corridor.
- **ECONOMIC SCALE:** Maritime activity in Liverpool and Northern Ireland contributes nearly **£5 billion annually** to the UK economy and supports around **14,000 direct jobs**. Leveraging this economic base can accelerate investment in sustainable shipping.

HOW THE IRISH SEA RIM ENHANCES THE GREEN SHIPPING CORRIDOR

- **PILOT PROJECTS & INNOVATION ZONES:** The green shipping corridor is backed by 29 pilot projects aimed at decarbonising shipping, port operations, and logistics. These include initiatives in alternative fuels, electrification, and digital optimisation.
- **PORT-LED DECARBONISATION:** Ports are being reimagined as hubs for clean energy and data-driven logistics. The Irish Sea Rim promotes ports as “Places that drive decarbonisation,” encouraging investment in shore-side power, hydrogen bunkering, and smart port tech.
- **CROSS-BORDER COLLABORATION:** The corridor is a joint effort between British and Northern Irish universities, industry leaders, and innovation agencies. This collaborative model can be scaled across the Irish Sea Rim to include other ports and maritime stakeholders.
- **POLICY & GOVERNANCE SUPPORT:** The Clydebank Declaration and UK’s Sixth Carbon Budget provide a strong policy framework. The Irish Sea Rim helps align local actions with national and international climate goals, making the corridor a blueprint for global green shipping.

D. A VISION FOR AN INTEGRATED IRISH SEA GREEN CORRIDOR NETWORK

Given the extensive activity in green shipping ongoing across the Irish Sea Rim, there are possibilities for an integrated Irish Sea Green Corridor Network (Figure 8.2). Existing and potential synergies include:

- **MULTI-CORRIDOR PROJECTS:** Liverpool–Belfast and Dublin–Holyhead are already advancing green corridor pilots². Linking these with Glasgow and Cork creates a loop of decarbonised trade routes.

- **SHARED INFRASTRUCTURE:** Ports can co-invest in shore-side power, alternative fuel bunkering, and digital logistics platforms, reducing duplication and accelerating rollout.
- **POLICY ALIGNMENT:** The network benefits from the **Clydebank Declaration**, UK's **Sixth Carbon Budget**, and the **EU Green Deal**, creating a unified regulatory and funding landscape.
- **INNOVATION ECOSYSTEM:** Universities, consultancies, and operators across the region (e.g. Ricardo, Maynooth University, Connected Places Catapult) are already collaborating on pilot projects. Expanding this coalition boosts R&D workforce training.

Figure 8.2: An Irish Sea Rim Green Corridor Network

Port	Role in the Network	Green Potential
Liverpool	Innovation hub and logistics gateway	Shore-side power, smart port logistics
Belfast	Industrial anchor with strong hinterland links	Port-rail integration, alternative fuels
Dublin	High volume Roll-on / Roll-off and passenger traffic	E-methanol trials, zero-emission ferry route
Holyhead	Strategic UK-Ireland connector	Infrastructure upgrades, clean propulsion
Glasgow	Expansion node via Clyde corridor	Hydrogen innovation, shipbuilding expertise
Cork	Southern Gateway with EU alignment	EU funding access, offshore renewables

E. MERSEY MARITIME

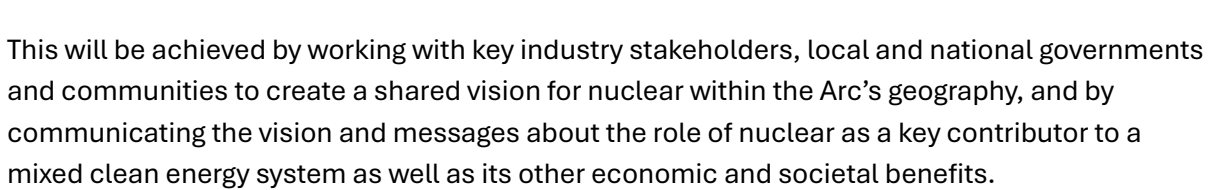
Mersey Maritime is a key organisation for establishing and supporting green shipping corridors in the Irish Sea Rim. It is an award-winning regional cluster organisation with supply chain expertise for and within the maritime industry across the Liverpool City Region and the greater North West. Mersey Maritime's mission is to continue to be a catalyst for growth, influencing policy and driving change for the good of the maritime sector.

Mersey Maritime was conceived over twenty years ago to create an ecosystem, championing and supporting one of the most diverse maritime regions in the UK. Created as a not-for-profit organisation with more than 200 active members, it spans more than 33 sub-sectors of maritime and its related supply chain including ports, shipping, offshore, engineering, professional services, logistics, manufacturing and academia.

Maritime in Liverpool boasts the first commercial wet dock built in 1715, it is a sector worth £5bn+ supporting 48,000 jobs, Liverpool is the UK's primary transatlantic port with 50% of UK-US trade and it is the 3rd busiest estuary in the UK (behind London and the Humber).

The **North West Nuclear Arc (NWNNA)** is a unique nuclear sector cluster spanning the North of

The NWNA nuclear cluster's vision is to provide sustainable, clean energy to the nations of the UK and support high-value local jobs, livelihoods, and business growth in some of its most disadvantaged places¹. This is achieved by working with key industry stakeholders, local and national governments, and communities to create a shared vision for nuclear within the geography.



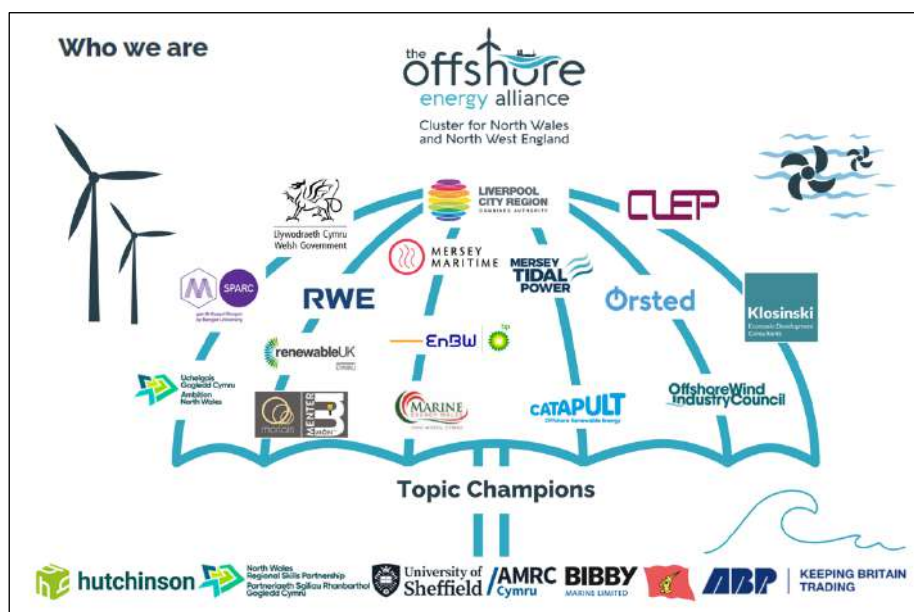
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Nuclear is key to keeping the lights on and powering the electrification of homes and transport as the UK transitions the energy system away from coal and gas. The North West Nuclear Arc is an energy sector with a geography spanning North Wales and North West England and is a key engagement partner for the Irish Sea Rim.

The **Offshore Energy Alliance (OEA)** represents the North Wales and North West region's offshore supply chain cluster. Linked to the Offshore Wind Sector Deal, the aim of the NWN cluster is to encourage and promote further collaboration between key players in the offshore sector to deliver increased benefits to local supply chain businesses within coastal communities. Key objectives and activities are:

- **PROMOTING INVOLVEMENT:** The OEA works to promote wider involvement in offshore wind and other low-carbon energy sectors, ensuring that opportunities are accessible to a greater number of people and businesses across the region.
- **SUPPORTING LOCAL BUSINESSES:** The Alliance aims to raise awareness of upcoming opportunities within the region and beyond, helping local businesses to engage with energy projects and supply chains.
- **DRIVING INNOVATION AND SKILLS DEVELOPMENT:** The OEA focuses on innovation, training, and skills development to ensure a highly skilled workforce that can meet the future demands of the energy sector.
- **COLLABORATION WITH OTHER CLUSTERS:** The Alliance collaborates with other UK clusters and local authorities to promote relevant technologies and ensure that local benefits are maximized.

Figure 9.1: Stakeholders in the NW Offshore Energy Alliance (source Offshore Energy Alliance)



The Irish Sea Rim is collaborating with the Offshore Energy Alliance as a key supply chain organisation that operates around the Irish Sea coast from north Wales through northwest England to the Scottish Border.

B. BRISTOL AND THE GREAT SOUTH WEST

The **Great South West** is a dynamic region and economic powerhouse encompassing Cornwall, Devon, Somerset, Dorset, and Wiltshire. This region is rapidly emerging as a unified UK leader in clean energy, advanced manufacturing, and creative innovation. Bristol, the largest city in South West England with a population of nearly 480,000, serves as the region's primary urban innovation anchor, leveraging its historic port status and modern reputation for sustainability and technology to drive the entire region's growth.

Clifton Suspension Bridge, Bristol. Image Credit:



The entire Great South West region is a magnet for talent and investment, powered by a diverse economy and world-class research institutions like the **University of Bristol** and the **University of the West of England (UWE)**. While Bristol acts as a major hub, the region's industrial and research strengths create a powerful and interconnected ecosystem.

Key sectors include:

- **AEROSPACE & DEFENCE:** The region is a critical national cluster for aerospace, anchored by major players like Airbus, Rolls-Royce, and GKN Aerospace in the Bristol area.
- **CREATIVE & MEDIA:** As a **UNESCO City of Film**, Bristol is the heart of the region's creative industries, which lead the nation in immersive tech, design, and film. This includes world-renowned institutions like the **BBC Natural History Unit and Aardman Animations**.
- **GREEN TECH & SUSTAINABILITY:** With Bristol recognised as one of the UK's leading green cities, the entire region benefits from strong climate policies and a determined push for net-zero infrastructure.
- **FINTech & CYBERSECURITY:** The area is a growing hub for digital finance and secure communications technologies, attracting startups and established firms.

The Great South West is a unified partnership at the forefront of the UK's clean energy strategy, positioning itself as a "Clean Energy Superpower". This ambition is backed by a portfolio of large-scale infrastructure projects spread across the region, reshaping its energy landscape and economy. These cornerstone projects include:

- **HINKLEY POINT C (SOMERSET):** This is Europe's largest infrastructure project, which is injecting £1.5 billion annually into the regional economy during construction.
- **AGRATAS GIGAFACTORY (SOMERSET):** One of the UK's largest battery manufacturing sites is currently under construction here, set to power electric vehicles and energy storage solutions.

- **FLOATING OFFSHORE WIND (CELTIC SEA):** The region is developing multi-gigawatt projects, establishing it as a global leader in marine renewables.
- **SOMERSET TIDAL LAGOON PROJECT:** This major initiative will harness the area's significant tidal power resources.
- **CORNWALL MARINE NETWORK & CLUSTER:** This innovation cluster connects SMEs around the whole SW and is based in Cornwall.
- **DORSET CLEAN ENERGY SUPERCLUSTER:** A dedicated hub focused on advancing solar, green hydrogen, and grid innovation for the region.

Beyond energy, the Great South West is a powerhouse in **advanced manufacturing**, generating £7.9 billion in GVA annually across key sectors like aerospace, marine, nuclear, and sustainable plastics. This industrial base is supported by the High Value Manufacturing Catapult and innovation hubs like Dorset Innovation Park. Strategic connectivity is central to the region's success, with a multi-port strategy across **Bristol, Plymouth, and Falmouth** designed to support global trade and clean logistics. The **Plymouth & South Devon Freeport** unlocks significant tax incentives for the maritime and defence sectors, while **Spaceport Cornwall** provides an operational hub for satellite launches. These regional assets are linked by key transport upgrades, including Bristol's £800 million investment in its transit network, which enhances connectivity across the entire area.

Looking to the future, Bristol and the Great South West form a pivotal anchor in the vision for a **UK-Ireland Innovation Arc**. This is not just a geographic link but a strategic alliance with other leading innovation hubs, including Glasgow, Manchester, and the Dublin-Belfast Economic Corridor. The arc's mission is to create a transnational corridor for collaboration on climate technology, advanced manufacturing, and digital trade. By 2035, this ambitious collaboration aims to attract over **£15 billion in investment** and support more than **100,000 high-value jobs** for its partner regions. By connecting its unique regional strengths to this wider network, the Great South West is cementing its role as an indispensable engine of the UK economy.

Figure 9.2: The UK-Ireland Innovation Arc Regional Anchors and Strengths

Region	Core Strengths
Bristol and the Great South West	Clean energy (offshore wind, hydrogen), aerospace, creative tech, immersive media
Glasgow City Innovation District	Quantum tech, photonics, healthtech, industrial informatics, civil innovation
ID Manchester	Graphene, biotech, sustainable urbanism, digital futures
Dublin-Belfast Economic Corridor	Fintech, cybersecurity, agri-tech, cross-border logistics, EU-UK trade gateway

These regions are already part of national and international innovation networks, including the **GW4 Alliance** (Bristol, Bath, Cardiff, Exeter) and the **UK Innovation Districts Group**. The collaboration blueprint is summarised below:

- **GREEN ENERGY & MARITIME INNOVATION:** Bristol and the Celtic Sea lead on floating offshore wind, while Glasgow and Belfast support port electrification and green shipping corridors. Joint R&D in hydrogen logistics, battery storage, and clean maritime fuels.
- **DIGITAL INFRASTRUCTURE & AI:** Blackpool's Silicon Sands and Dublin's subsea fibre link enable real-time data exchange across the arc. Manchester and Glasgow contribute AI platforms, digital twins, and quantum-secure communications.
- **ADVANCED MANUFACTURING & DEFENCE:** Barrow and Bristol anchor the UK's submarine and aerospace programmes. Manchester and Belfast support biotech, materials science, and supply chain resilience.
- **INCLUSIVE GROWTH & SKILLS:** Shared investment in STEM education, apprenticeships, and innovation campuses.

C. CARDIFF

Cardiff, the capital of Wales, is a dynamic economic and cultural centre strategically situated on the nation's south coast near the Bristol Channel. As Europe's youngest capital city, designated in 1955, it's now home to over 370,000 residents and is known for its vibrant bilingual culture. Cardiff's coastal location is central to these plans, positioning the city as a pivotal hub in a proposed UK-Ireland innovation alliance designed to harness the economic potential of the Irish Sea Rim.

Cardiff is the economic anchor for the wider City Region, with its strength built on a diverse portfolio of sectors including:

- **FINANCIAL & PROFESSIONAL SERVICES:** The city hosts the headquarters of large corporations like Admiral Group and Legal & General.
- **CREATIVE & MEDIA:** This industry is also a significant contributor, with a flourishing ecosystem that includes BBC Wales and the acclaimed Bad Wolf Studios. Furthermore, Cardiff is a hub for
- **LIFE SCIENCES & HEALTH INNOVATION.** This is driven by cutting-edge research at Cardiff University and the University Hospital of Wales.

These established strengths are complemented by emerging clusters in high-growth areas like **Cybersecurity**, **AI**, and **Compound Semiconductors**.

This powerful economic activity is fuelled by a talent-rich innovation ecosystem underpinned by three key universities which specialise in research and innovation. **Cardiff University** is a member of the Russell Group and has a global research impact in fields such as neuroscience and climate change. It is complemented by **Cardiff Metropolitan University**, which is known for its strengths in design and entrepreneurship, and by the **University of South Wales**, which has a strong focus on cyber industries and public services. This academic foundation is supported by targeted investment, including a £50 million Innovation Investment Fund, designed to accelerate the growth of high-potential sectors, including clean energy, medtech,

and compound semiconductors. Cardiff Capital Region has also been identified for up to £30 million of earmarked funding from the UK Research and Innovation Local Innovation Partnerships Fund.

Cardiff is a key proponent of a **Transnational Innovation Corridor**, a strategic alliance that would connect it with Bristol, Dublin, and Glasgow. This vision aims to create a globally competitive zone spanning the Irish Sea and the western UK, focused on clean growth, digital infrastructure, and inclusive prosperity. Each city brings unique strengths to the partnership: Cardiff contributes expertise in cybersecurity and life sciences; Bristol in aerospace and green energy; Dublin in fintech and AI; and Glasgow in quantum technology and smart manufacturing. The collaboration is already taking shape through initiatives like the GW4 Alliance and the SETSquared Partnership, and the Irish Sea Rim is keen to work with stakeholders to support the initiative.



A central pillar of this transnational strategy is a distinct focus on **maritime innovation and green growth**. The Transnational Innovation Corridor is envisioned as a leader in sustainable maritime activity, leveraging the collective strengths of its partner cities and their ports. Core initiatives include the development of **green shipping corridors** connecting Dublin, Holyhead, Liverpool, and Belfast with the ports of Cardiff and Bristol, enabling low-carbon freight and passenger movement. This is coupled with a commitment to joint research and development in next-generation technologies like floating offshore wind, hydrogen logistics, and clean maritime fuels. The redevelopment of the Aberthaw Power Station into a net-zero innovation campus will serve as a crucial anchor site for these activities.

D. CORK

Cork, Ireland's second-largest city, can be described as a maritime hub which is driving regional growth. The city is strategically positioning itself as a leader in maritime trade, innovation, and sustainable development. Situated on the River Lee with its city centre built on an island, Cork's identity is intrinsically linked to its estuarine geography; its Irish name, **Corcaigh**, translates to "marsh". With a city population of 224,000 and a wider metropolitan area of over 305,000 residents, Cork's historic nickname, "The Rebel City," earned through resistance during past conflicts, reflects a resilient and independent spirit that now drives its modern economic and cultural growth.

At the heart of Cork's economic strategy is its rich maritime heritage and world-class infrastructure. The city is home to **Cork Harbour**, one of the largest natural harbours in the world, which serves as the foundational asset for its thriving economy. This natural advantage has positioned the **Port of Cork** as a critical node in the Irish Sea Rim, supporting extensive trade, energy, and tourism activities. Looking to the future, the port is a key player in Ireland's transition to a green economy, actively developing its role in pioneering **green shipping corridors** and supporting the logistics for offshore renewables.



While the maritime industry is its anchor, Cork has successfully cultivated a diverse and robust economic ecosystem. This diversification provides resilience and fuels a dynamic innovation landscape. The city is a major European hub for both the pharmaceuticals sector, with a significant presence from companies like Pfizer and Novartis, and the technology

sector, hosting Apple's European headquarters. These industries are complemented by strong clusters in food and agri-tech⁹. This powerful economic mix is guided by Ireland's **Southern Region Innovation Strategy**, which fosters collaboration in high-growth areas like clean energy, digital health, and smart manufacturing.

To support this economic dynamism, Cork is undergoing a wave of transformative infrastructure projects focused on enhancing global trade links. A primary investment is the **€456 million M28 Cork–Ringaskiddy Motorway**, a crucial 11 km link designed specifically to improve freight access to the Port of Cork and stimulate future industrial growth. Directly within the port, a **€100 million** investment in the **CORE1 Berth** is underway to expand capacity for container and bulk cargo. This expansion directly supports Cork's strategic goals in green shipping and offshore energy logistics.



E. DUBLIN-BELFAST ECONOMIC CORRIDOR

The **Dublin-Belfast Economic Corridor (DBEC)** is a powerhouse of cross-border collaboration, innovation, and investment. Stretching 100 miles between the island of Ireland's two largest cities, this strategic region is home to over 2 million people—more than one-third of the island's population. The corridor's core ambition is to transcend its geographical boundaries and establish itself as a leading European economic corridor. By uniting the economies of Dublin and Belfast, along with key urban centres like Lisburn, Newry, Drogheda, and Dundalk, the DBEC is creating a seamless ecosystem engineered for inclusive growth, climate action, and economic resilience.



DBEC's primary strength is its unrivalled strategic location, serving as a pivotal gateway to UK, EU, and global markets. This access is underpinned by a world-class infrastructure network designed for the rapid movement of goods, people, and data. Key assets include:

- **MARITIME AND AIR ACCESS:** A formidable network of six seaports, including the major hubs of Dublin, Belfast, Warrenpoint, and Greenore, complemented by three international airports.
- **LAND AND DIGITAL NETWORKS:** High-speed road and rail links provide seamless terrestrial connectivity, while full fibre broadband and expanding 5G coverage ensure the corridor is at the forefront of the digital economy.

DBEC has created a vibrant ecosystem of talent and enterprise and a fertile ground for business, hosting over **125,000 enterprises**, from global companies to agile, high-growth startups. This dynamic environment is fuelled by a synergistic collaboration between eight local councils and two world-class universities – **Queen's University Belfast** and **University College Dublin**. This partnership ensures a robust pipeline of highly skilled graduates ready to drive innovation. Supported by landmark government initiatives like the **Belfast Region City Deal** and **Ireland 2040**, the corridor boasts high rates of entrepreneurship and business survival, making it a proven location for long-term success.

DBEC's economic resilience is built on a diverse portfolio of high-value, knowledge-intensive sectors. These industries not only drive growth but also attract significant international investment and top-tier talent. The primary sector strengths include:

- **ICT & CYBERSECURITY:** A globally recognised cluster of technology and digital security firms.
- **ADVANCED MANUFACTURING:** A hub for cutting-edge engineering and production processes.
- **AGRI-FOOD:** A leader in food production, innovation, and sustainable agriculture.
- **CREATIVE INDUSTRIES:** A flourishing centre for media, design, and digital content creation.
- **PROFESSIONAL & FINANCIAL SERVICES:** A sophisticated ecosystem providing critical support services to global corporations.



DBEC is at the epicentre of the Irish Sea region's **decarbonisation strategy**. It is a key partner in the **green shipping revolution** and is reimagining maritime trade for a sustainable future. A flagship project is the **Dublin-Holyhead Green Corridor** initiative, which is transforming the busiest roll-on/roll-off freight corridor between the UK and Ireland – handling 83% of RoRo freight into Ireland. Led by industry giants Irish Ferries and Stena Line and supported by a consortium including EDF UK R&D and Maynooth University, the project is developing a **zero-emission maritime route** through feasibility studies on e-methanol, shore-side power, and infrastructure upgrades. This positions the DBEC as a central node in a clean shipping loop connecting Belfast, Dublin, Liverpool, and Holyhead.

The corridor's green maritime ambition provides a launchpad for a wave of technological and logistical innovation. The strategy is to create an integrated, intelligent, and sustainable trade network through targeted R&D and investment. Key opportunities being actively pursued include:

- **SMART PORT INFRASTRUCTURE:** Deploying **AI-driven logistics platforms** for cargo optimisation and emissions tracking, alongside digital twins and blockchain customs systems to streamline cross-border trade.
- **OFFSHORE RENEWABLE ENERGY:** Leveraging the corridor's proximity to rich offshore wind zones to power port electrification and pioneer **green hydrogen production**.
- **MARITIME R&D AND SKILLS:** Partnering with Queen's University Belfast and University College Dublin to establish a dedicated **Maritime Innovation Lab** and develop advanced training programmes in clean maritime tech and digital logistics.

The Dublin-Belfast Economic Corridor represents one of the most compelling investment destinations in Europe. It offers a powerful combination of strategic location, a thriving business

environment, and a clear vision for sustainable growth. The investment model, based on public-private co-investment and anchored by the **£1 billion+ Belfast Region City Deal**, is designed to de-risk projects and maximise returns. With access to a rich blend of EU innovation funding, UK green corridor grants, and private capital, the DBEC provides an exceptional opportunity to invest in an ecosystem where regional ambition meets international opportunity, with sustainability at its heart.

F. GLASGOW CITY INNOVATION DISTRICT

Glasgow is pioneering a new era of economic growth through the **Glasgow City Innovation District (GCID)**, Scotland's flagship hub for innovation, enterprise, and collaboration. Launched in 2019, GCID is living ecosystem where academia, industry, and government converge to shape the future. Anchored by the prestigious **University of Strathclyde**, this initiative is a cornerstone of the city's ambition to become a world-leading hub for technology, health, and sustainability.

The district's power lies in its role as the heart of the broader **Clyde Innovation Corridor**. This strategic vision connects multiple specialised districts along the famous river, creating a seamless network of expertise. It integrates the **Glasgow Riverside Innovation District (GRID)**, which focuses on clinical innovation and media tech, with the **Advanced Manufacturing Innovation District Scotland (AMIDS)**, a centre for manufacturing and life sciences near Glasgow Airport. This corridor sets the stage for ambitious, large-scale projects that leverage the region's combined strengths.



The most transformative development within the Clyde Innovation Corridor is the **Scottish Marine Technology Park (SMTP)**. This ambitious project is set to revitalise a vacant and derelict site into a world-class Maritime Technology and Innovation Deployment Park. The SMTP represents a bold new chapter for the Clyde, creating a unique and bespoke maritime ecosystem strategically located on its deep-water channel. The core mission of the SMTP is to establish a self-sustaining cluster where modern manufacturing, operational, and research organisations can thrive. The park is designed to foster unprecedented collaboration between Tier 1 and 2 suppliers, academic institutions, and innovative start-ups. By co-locating these entities, the SMTP aims to harness and accelerate innovation, particularly in the crucial fields of **marine and renewables manufacturing**.

A key objective of the Scottish Marine Technology Park is to champion **advanced manufacturing** and the **adoption of automation**, especially within small and medium-sized enterprises (SMEs) and their supply chains. This focus is designed to significantly enhance regional capabilities and productivity, securing a competitive edge in the global maritime

industry. The entire initiative will be anchored by the **Maritime Supply Chain Innovation Centre (MSCIC)**, ensuring that supply chain excellence is at the very heart of the park's operations. The SMTP is designed to plug directly into the region's powerful innovation network. It complements existing assets like the **Scottish Innovation Centres** and the **UK Catapult network**. Crucially, it will work in synergy with the nearby **National Manufacturing Institute Scotland** and the **Advanced Forming Research Centre**, creating a powerhouse of industrial and technological expertise.

While the maritime sector is a key focus, the ecosystem's strength comes from its diversity. The broader GCID is a magnet for high-growth sectors that create a rich technological foundation. Key activities in **FinTech**, **HealthTech**, **Quantum technologies**, and **Industrial Informatics** provide cross-sector innovation opportunities that can be applied to maritime challenges. This is all powered by one of the largest concentrations of higher education talent in the UK, which fuels startups and global firms working on everything from cybersecurity to climate tech.

Together, the GCID and the SMTP create a compelling model for place-based innovation that is attracting significant international investment and partnerships. By leveraging the academic excellence of Glasgow – one of only nine major European cities with a global top 100 university – this integrated ecosystem is a critical engine for Scotland's national strategy. It is driving progress on inclusive growth, climate action, and digital transformation, firmly re-establishing the Clyde as a global leader in industrial innovation for the 21st century.

G. ISLE OF MAN

The Isle of Man, a self-governing British Crown Dependency in the Irish Sea, presents a compelling model of strategic innovation. By blending its unique Celtic-Norse heritage with a forward-looking economic vision, the island is positioning itself as a central node in the future of green maritime logistics and digital trade. Its distinct political status, geographic centrality, and commitment to sustainability create a powerful framework for growth and investment. Governed by Tynwald, the world's oldest continuous parliament, the Isle of Man leverages its political autonomy to foster regulatory agility. As a Crown Dependency, it is not part of the UK or EU, allowing it to pilot innovative maritime and technology policies with greater speed than mainland jurisdictions. This unique constitutional arrangement, combined with its central location between England, Ireland, Scotland, and Wales, makes it a natural connector for regional economic activity.

The Isle of Man's robust and diverse economy provides a strong foundation for its ambitious agenda. With a per capita GDP of approximately \$89,700, it ranks among the highest globally. This prosperity is driven by several key sectors, including:

- **FINANCIAL SERVICES:** A global leader in banking, insurance, and eGaming.
- **DIGITAL & TECH:** A growing hub for blockchain, fintech, and data hosting.
- **ADVANCED MANUFACTURING:** Specialising in precision engineering and aerospace components.

At the heart of the Isle of Man's future strategy is the vision to become a pivotal link in the emerging Irish Sea Rim Innovation Corridor. The Isle of Man is actively pursuing integration with green shipping initiatives, aligning with the Clydebank Declaration's goals. The strategy involves transforming **Douglas Port** into a key node for clean shipping through retrofits for shore-side power and e-methanol bunkering, positioning the island as a mid-sea refuelling and data relay point for zero-emission vessels on routes like Liverpool–Belfast and Dublin–Holyhead.

This maritime ambition is underpinned by a sophisticated digital infrastructure. The island already boasts high-speed broadband and is planning a significant expansion of its subsea fibre connectivity to link Douglas with key digital hubs in Dublin, Blackpool, and Glasgow. This will create a low-latency data relay hub, perfectly aligning the island's fintech and blockchain sectors with Belfast's cybersecurity cluster and Dublin's digital trade ecosystem, enabling innovations in maritime AI, smart customs, and real-time logistics.

All development is framed by a deep commitment to sustainability, formally recognised by the island's status as a **UNESCO Biosphere Reserve**. This designation guides the Isle of Man's approach to balancing economic growth with environmental and cultural preservation. A landmark example of this commitment is the proposed **Mooir Vannin offshore wind farm**, a project featuring up to 87 turbines that would establish the Isle of Man as a clean energy leader in the Irish Sea.



Significant strategic infrastructure projects are already underway to support this integrated vision. Beyond the port and digital upgrades, major urban regeneration is revitalising key areas. The **Lord Street redevelopment** in the capital, Douglas, is a prime example, transforming a former bus station into a mixed-use site with a hotel, cinema, and residential flats.

This, alongside the government's Island Infrastructure Scheme to develop brownfield sites, demonstrates a holistic commitment to long-term economic and social growth.

Ultimately, the Isle of Man presents a powerful investment case as a "**Smart Island**" testbed for maritime and digital futures. It offers a unique combination of regulatory freedom, geographic advantage, and a clear policy vision. With targeted investment opportunities in green port infrastructure (**£50M**), subsea fibre expansion (**£30M**), and a Smart Island Innovation Fund (**£25M**), the island is realistically poised to become a fully integrated hub for green logistics, digital innovation, and sustainable finance by 2030.

H. IRISH SEA FRAMEWORK

The Irish Sea Framework³⁸ is a government-led informal framework developed to guide and influence actions that increase economic co-operation across and around the Irish Sea region. It aims to provide strategic direction in the short term and a pathway to medium term goals. The Framework is flexible and will evolve and complement relevant policies, strategies and programmes. These will include the Ireland-Wales Shared Statement 2030³⁹ and any developments around Interreg programmes⁴⁰.

The Framework is led by the Welsh Government along with its partners in the Devolved Governments, the Scottish Government and the Northern Ireland Executive. The Irish Government has also confirmed that it wants to sustain and build upon the projects and partnerships developed through engagement in EU funding programmes. The Framework reflects the geographical region defined by the Irish Sea, Celtic Sea and North Channel, specifically referencing Wales, Ireland, Scotland, Northern Ireland, North West England, South West England and the Isle of Man.

The Framework will support any activity that: mobilises economic co-operation across and around the Irish Sea region; adds value to existing activity; delivers economic and social benefits. This will include: increasing engagement, highlighting strengths, identifying opportunities, building partnerships and networks, piloting activity and influencing funders.

The Framework identifies three broad priority areas for co-operation: Sustainable Blue Economy, Innovation Strengths (highlighting life sciences) and Communities & Culture. These are not exclusive and can evolve but will guide prioritisation of resources, actions and funding in the short term.

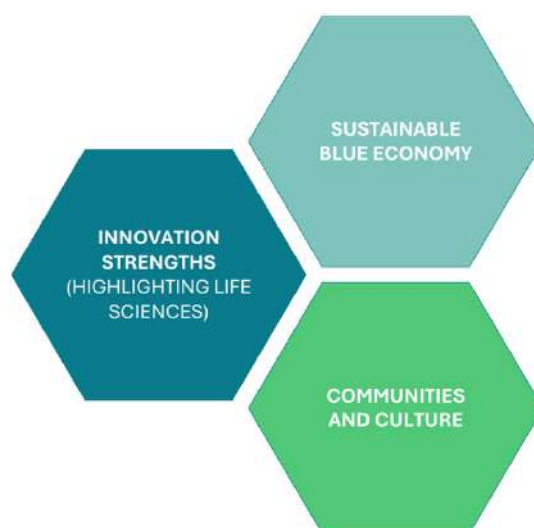


Figure 9.3: Irish Sea Framework Priority Areas

The Framework is not a funding programme, it aims to maximise the impact of existing resources and lever in investment where possible. Funding programmes aligned with the Framework may emerge in the future, but this is not guaranteed. It does recognise the role of seed funding, and the Welsh Government has supported a range of small collaborations and network projects through its Agile Cymru⁴¹ programme. There are also examples of other nations aligning funding in a similar way.

³⁸ <https://www.gov.wales/irish-sea-framework-guidance>

³⁹ <https://www.gov.wales/ireland-wales-shared-statement-2030>

⁴⁰ <https://interreg.eu/>

⁴¹ <https://www.gov.wales/agile-cymru>

There has been strong stakeholder engagement in the Framework, building on the legacy of EU funding investments. A ‘coalition of the willing’ approach has encouraged stakeholders to take forward actions and this has maintained multi-region networks in the three themes despite limited funding.

Recent developments include the €500k Developing Irish Sea Cooperation (DISC) project⁴², supported by PEACEPLUS⁴³. This brings together Ireland’s Southern Regional Assembly, Executive Office Northern Ireland, Welsh Government and Scottish Government to prepare the ground for future North-South and East-West cross-border cooperation. DISC reflects many of the principles of the Irish Sea Framework and demonstrates the increasing engagement of Ireland in the concept of an Irish Sea region. Political support for DISC was reflected in a specific reference in the joint Foreword of Tánaiste Simon Harris TD and First Minister of Wales Eluned Morgan in the Ireland-Wales Shared Statement 2030.

DISC is still underway but early findings suggest that intergovernmental cooperation should continue. There is clearly potential for these government led activities to complement the Irish Sea Rim Investment, Innovation and Enterprise Zone, bringing strategic actions together with practical delivery and maximising the impact of limited resources.

I. BARROW IN FURNESS

Barrow-in-Furness is experiencing unprecedented opportunities. Located at the tip of the Furness Peninsula in Cumbria, and bordered by Morecambe Bay, the Duddon Estuary, and the Irish Sea, Barrow is a coastal town with a rich maritime and industrial heritage, which is set to benefit from a significant wave of investment which will run to 2040 and beyond. Barrow is becoming a model for place-based regeneration, where defence, sustainability, and community development go hand in hand. The investment masterplan describes the need for partnership working to attract investment, stimulate growth, improve environments, and create stronger opportunities for the town.



Image credit: Associated British Ports⁴⁴

⁴² <https://southernassembly.ie/eu-project/disc/>

⁴³ <https://www.seupb.eu/peaceplus>

⁴⁴ <https://www.abports.co.uk/media/yecdhy2/abp-barrow-vision-final-sept-24-1.pdf>

Barrow Rising is a bold regeneration initiative backed by **£220 million** in government investment, aiming to reshape Barrow into a thriving, inclusive, and future-ready town. The strategic goals are to make Barrow a better place to live, work, study, and invest, Support the town's role in national defence, and prepare for population growth and workforce expansion. Core themes are **Town Centre and Housing**, **Public Service Reform**, and **Creating Conditions for Growth**. These will be supported by flagship projects, including a £5m investment in primary and secondary education, a new **University of Cumbria** Campus creating the first ever higher education hub in Barrow, and improved rail and road links to support mobility and logistics.

MORECAMBE NET ZERO (MNZ) is a key project operating out of Barrow through **Spirit Energy** who are leading this initiative with the **Peak Cluster Partnership**. With over 40 years experience of operating the Morecambe Bay Gas Fields, Spirit Energy is the ideal company to lead on MNZ.

Through its strategic location off the coast of **Barrow in Furness**, CO₂ will be transported by pipeline, ship or rail, offering a long-term decarbonisation solution for emitting industries. This will allow carbon-intensive businesses all over the UK to remain productive whilst meeting the UK's **Net Zero** targets. **Storelectric** are a company working to store excess wind energy in aged oil/gas wells and salt caverns for large scale energy storage in Morecambe Bay and the wider Irish Sea Rim, linked to OSW in the Irish Sea as a region.



*The new **University of Cumbria Barrow campus**, located on **Buccleuch Dock**, provides the benefits and value of higher education for learners, businesses, and the local area. The University campus will form part of the Barrow Learning Quarter.*

This initiative will focus particularly on supporting Barrow to become a powerhouse for **green shipping**, **defence innovation**, and **regional job creation**.

- **GREEN SHIPPING AND PORT TRANSFORMATION:** The **Port of Barrow**, operated by **Associated British Ports**, is undergoing a major transformation to support both defence and sustainability goals, including renewable energy integration, sustainable logistics, and support for offshore wind and clean maritime fuels. The creation of **Barrow Energy Dock**, and expansion of submarine section manufacturing capacity positions Barrow as a **dual-use port** serving both strategic defence and climate-forward shipping.
- **DEFENCE INNOVATION – SUBMARINES AND SKILLS:** Barrow is home to **BAE Systems'** submarine shipyard, a skills and innovation engine where the UK's Astute, Dreadnought, and SSN-AUKUS submarines are built. This industrial cluster is driving **advanced engineering**, **digital innovation**, and **supply chain resilience** across the UK BAE Systems plans to hire **801 apprentices and graduates** in 2025 alone, while the University of Cumbria campus beside the **Submarines Academy** will offer degrees in engineering, computer science, and nursing. The **NWRDSC** covers Barrow in Furness.

- **REGIONAL JOB CREATION AND ECONOMIC GROWTH:** The Barrow Rising initiative aims to reshape Barrow by 2035 through the creation of thousands of new homes and a revitalised town centre to support population growth, investment in education, transport, and public services to attract and retain talent, and partnerships with developers and employers to deliver apprenticeships, training, and high-skilled jobs.

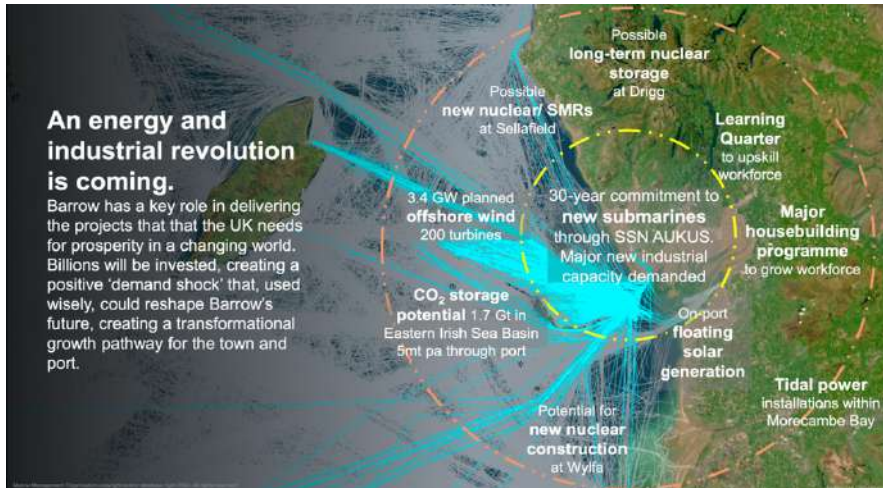


Image credit: Associated British Ports

J. SILICON SANDS & BLACKPOOL ENTERPRISE ZONE

This exciting transformation happening in Blackpool through **Silicon Sands** and the **Blackpool Airport Enterprise Zone** is a story of digital innovation, clean energy, and regional regeneration. This location on the edge of the Irish Sea makes it a key strategic partner and collaborator with the Irish Sea Rim. The proposal for Silicon Sands is a high technology business park, centred around low carbon data centres, powered by renewable energy. Having low carbon data centres at the Enterprise Zone will make the area attractive for new, data-heavy companies such as advanced manufacturing, Artificial Intelligence, virtual reality, gaming or tele-health sectors.

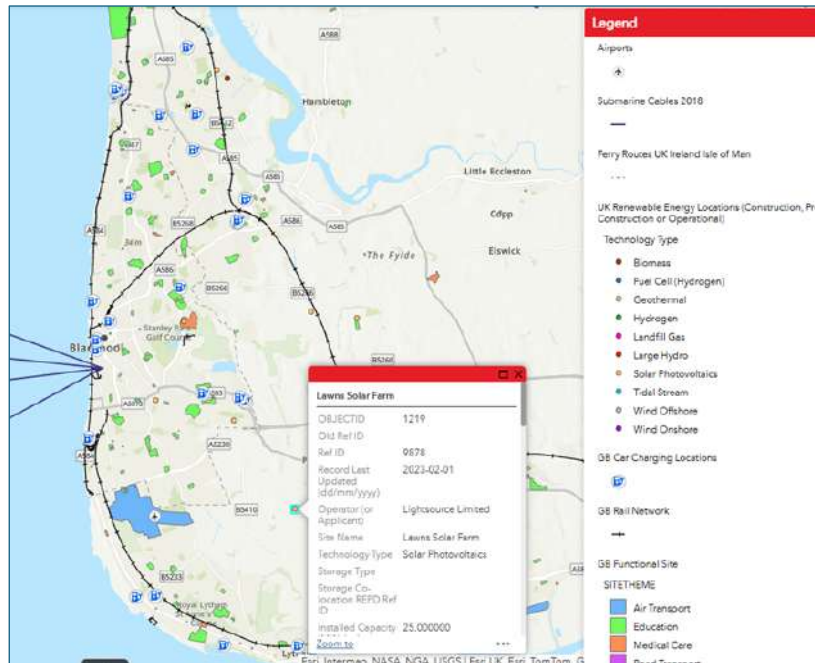
Blackpool Airport Enterprise Zone was established in 2016 and spans 144 hectares. It includes Blackpool Airport, business parks, and surrounding land. It is one of the UK's largest zones and is set to drive **£300 million** in investment by 2040.

Silicon Sands is a cutting-edge development within the Blackpool Airport Enterprise Zone, designed to become a **digital-led campus** for high-performance computing and data-intensive industries. Silicon Sands **data centres** could be powered by renewable power such as solar or wind, and the data centre itself would be cooled using liquid



immersion, a technique where the data centre cabinets are submerged in a liquid tank to keep them cool.

Figure 9.4: Infrastructure across greater Blackpool (Silicon Sands) region (source ARUP)

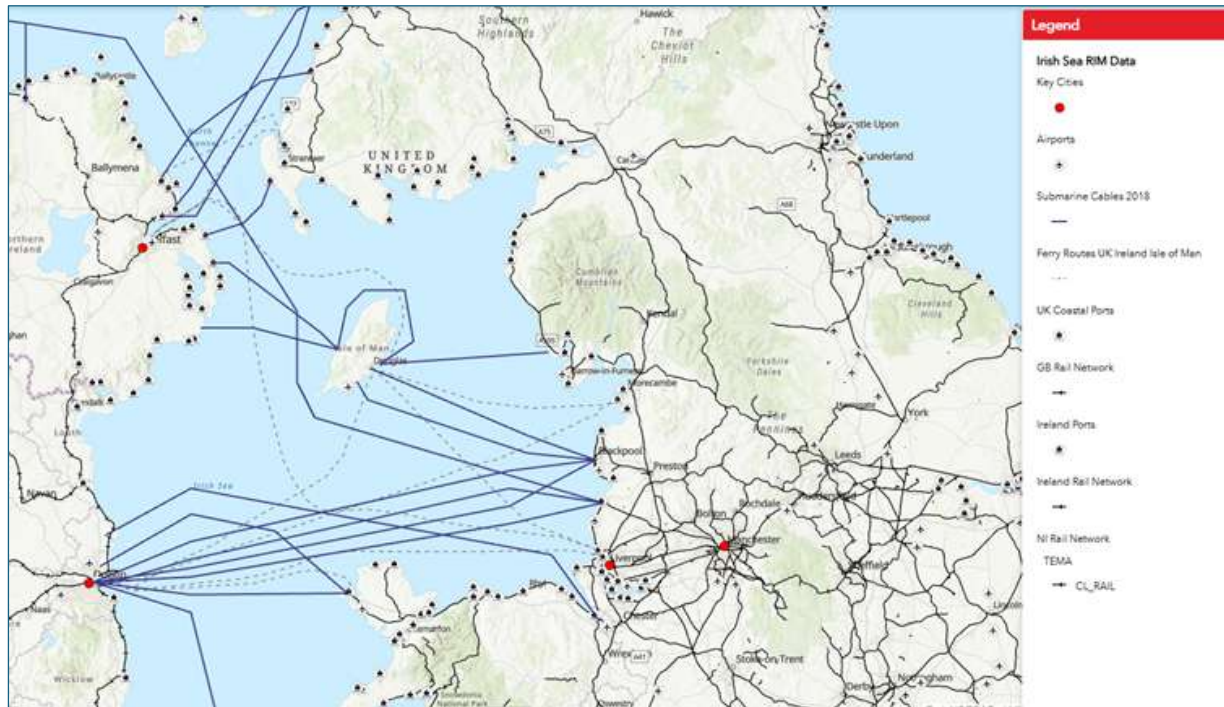


As that liquid warms up, it would then be used to heat surrounding businesses in a district heat network, meaning the renewable energy can be used twice, making it very energy efficient and well as creating more jobs.

The strategic goals of the development are to attract data centre investors and operators, support Blackpool's Digital Vision and climate goals, and create high-tech jobs in a climate-conscious ecosystem. Key features will include:

- **GREEN DATA CENTRES:** Powered by renewable energy (solar, offshore wind, battery storage), cooled using liquid immersion technology to reduce energy use by up to 60%.
- **DISTRICT HEAT NETWORK:** Waste heat from data centres is reused to power nearby buildings, lowering energy bills and carbon footprint.
- **SUBSEA CONNECTIVITY:** Direct access to the **CeltixConnect-2 fibre-optic cable**, linking Blackpool to New York in under 64 milliseconds. Ideal for AI, gaming, telehealth, and advanced manufacturing (see figure below).
- **DEVELOPMENT POTENTIAL:** 16-hectare site with 20,000 sq. m of land available; initial 6MW data centre demonstrator planned for 2025.

Figure 9.5: High speed data cables across the Irish Sea connecting all countries of the Irish Sea Rim (source ARUP)



Highlights of the Silicon Sands and Blackpool Airport Enterprise Zone development include advanced manufacturing and aerospace, with designated space for aerospace engineering and commercial hangars; runway supports aircraft up to Boeing 737 and Airbus A321. The £9.8M Lancashire Energy HQ facility will train the next generation in nuclear, renewables, and energy tech. The **Common Edge Sports Village** will provide a new sports and recreation hub to support community and workforce wellbeing, while the **Eastern Gateway Road Project** will unlock 10.5 hectares of new commercial land for business growth. Sustainability and innovation plans include solar farms, battery storage, and district heating and integration with Silicon Sands to create a low-carbon tech ecosystem.

The development has significant potential to grow high value jobs. The Enterprise Zone has already supported 2,700+ new jobs as of late 2024, while forecasts suggest 5,000+ job opportunities across the Fylde Coast by 2024, spanning tech, logistics, energy, and advanced manufacturing. Silicon Sands will create additional high-value jobs in: AI and machine learning, data centre operations, telehealth and digital health services, gaming and esports development, and energy consultancy and green infrastructure

These are not only jobs, but they are also **future-proofed careers** in sectors that are growing globally.

K. WORKINGTON

The Port of Workington, a municipal port on the Cumbrian coast owned by Cumberland Council, is strategically positioning itself as a key green logistics hub in the Irish Sea. Currently, it handles up to 500,000 tonnes of cargo annually, specializing in dry and liquid bulk, energy, project cargo, and forest products. The port spans 100 acres, with an additional 49 acres available for expansion, making it an ideal candidate for green infrastructure development and clean energy project. Its location provides direct access to the Irish Sea and proximity to major industrial centres, while its multimodal connectivity, including rail links via the Cumbrian Coast Line and road access, primes it for low-emission inland freight movement.



As a central part of Cumbria's Clean Energy Coast, Workington has a clear vision to become a clean growth hub for energy, manufacturing, and logistics by 2040. The strategy involves acting as a feeder port for low-carbon and zero-emission shipping routes between major Irish Sea ports like Liverpool, Belfast, and Dublin. The port already supports the Robin Rigg offshore wind farm and is envisioned as a future base for green hydrogen production, vessel bunkering, and expanded offshore wind

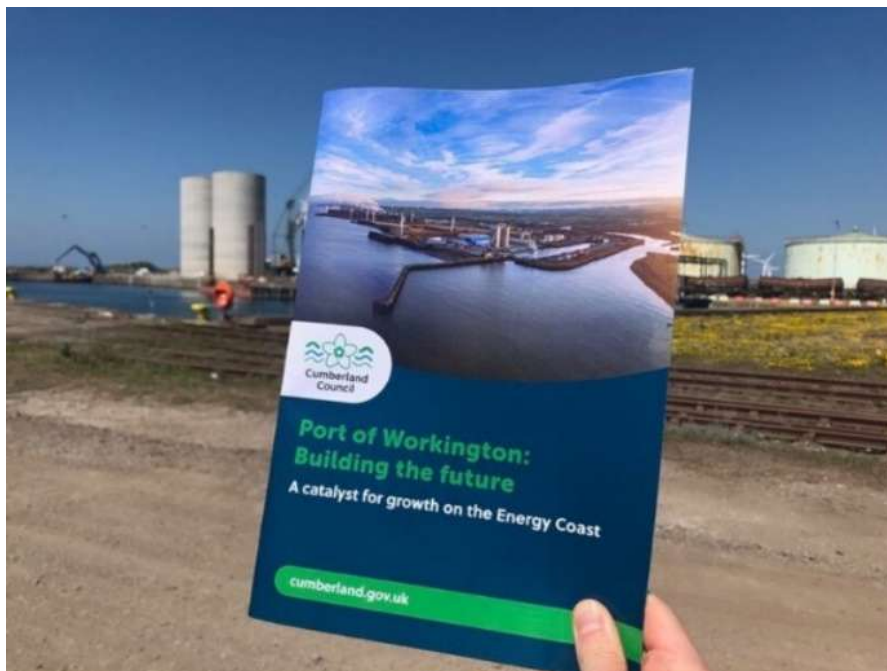
maintenance and assembly facilities. By integrating smart logistics, such as AI-driven scheduling and blockchain-based customs, with its physical infrastructure, the port aims to become a model for how smaller municipal ports can spearhead climate innovation.

This vision is supported by five strategic investment pillars:

- **INFRASTRUCTURE MODERNISATION: Upgrade port facilities** by expanding quay space, install shore-side power systems, and modernise cargo handling equipment. **Enhance rail connectivity** to improve the Cumbrian Coast Line and integrate with national freight networks to support low-emission hinterland logistics.: Continue **land remediation of the Oldside site** to unlock 49 acres for clean energy and logistics development.
- **CLEAN ENERGY DEVELOPMENT:** Invest in **hydrogen production** and bunkering infrastructure to support zero-emission vessels and port vehicles. Strengthen the **offshore wind logistics base** by expanding support for wind farm operations like Robin Rigg, including turbine assembly and maintenance facilities. Deploy **renewable energy systems** and support **battery storage** to power port operations and reduce grid dependency.
- **DIGITAL & SMART PORT TECHNOLOGIES:** Using **AI-powered logistics**, implement digital twins and predictive analytics for cargo flow, emissions tracking, and maintenance. Streamline cross-border trade with secure, transparent digital

documentation. Maximise **IoT integration** to use sensors and automation to optimise energy use and reduce operational waste.

- **WORKFORCE & INNOVATION ECOSYSTEM:** Enable a **green skills academy** by partnering with local colleges and universities to train workers in clean tech, maritime logistics, and digital systems. Collaborate with research bodies and private sector innovators to pilot new technologies and attract research and development funding.
- **PUBLIC-PRIVATE INVESTMENT MIX: Leverage existing funding** by building on the £25 million already invested by the UK government and Cumberland Council.: Showcase opportunities at forums like UKREiF to **attract private capital**, bringing in logistics, energy, and infrastructure investors. Align with Workington Town Deal and regional clean growth strategies to maximise co-investment



L. HOW THE IRISH SEA RIM COULD BE A COLLECTIVE UMBRELLA ORGANISATION FOR THE IRISH AND CELTIC SEAS AS A REGION

The Irish Sea Rim has the potential to operate as an umbrella organisation that links and supports the many collaborative organisations that also operate and support projects and initiatives across country borders, in and around the Irish and Celtic Seas Region, especially associated with the Blue Economy. During the research and writing of this report, we have discussed this concept with many relevant organisations and other conversations are ongoing.

The key opportunity here includes a larger and louder collective and collaborative voice for organisations working in, across and around the Irish Sea Rim as a region and within the countries that face that face the Irish and Celtic Seas.

Relevant organisations this initiative could include are (this list is not complete): Northern Ireland Maritime and offshore, Joining the Dots, Mersey Maritime, Maritime Belfast, Isle of Man Maritime, Irish Sea Maritime Forum, Dublin-Belfast Economic Corridor, Irish Sea Framework, Agile Cymru, Marine Ireland Industry Network, The Great North (Northern Powerhouse), Mersey Dee Alliance, NW Energy Alliance, Celtic Seas Partnership, Net Zero North West, Shared Island Fun (Ireland), Place and Culture North, Great South West (Celtic Seas), Maritime Mile (Belfast), Borderlands Initiative (Southern Scotland/Northern England), Morecambe Net Zero, Waterfront Promenade Framework, UK Freeports, All Ireland Smart City Forum, Cornwall Maritime Network, Barrow Rising (Barrow in Furness), Silicon Sands (Blackpool), British Irish Trade Alliance, BECBC, Northern Reach, Digital and Innovation Technology Clusters (e.g. Electech), etc.

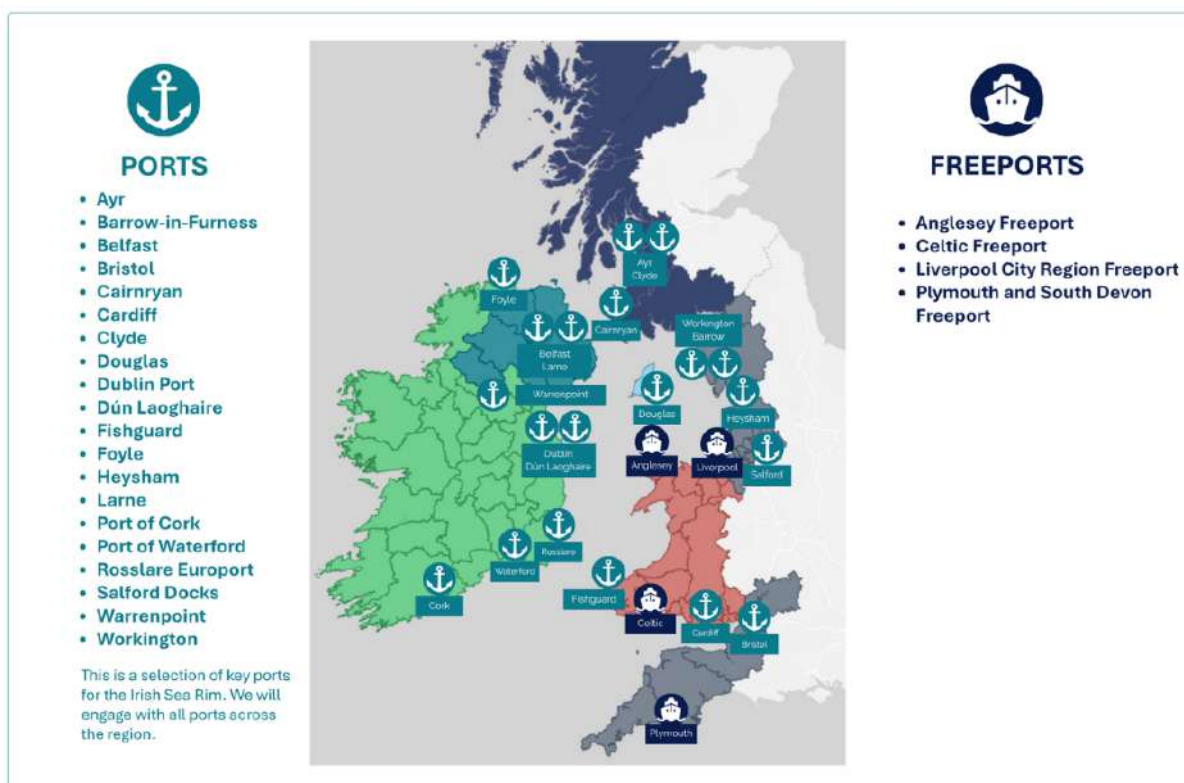


Container ship in Belfast Port, Image credit: unknown

SECTION 10: IRISH SEA FREEPORTS

The UK Freeport Programme is a major initiative designed to boost investment in historically underserved parts of the country. Known as Green Freeports in Scotland, these special areas are strategically located and tailored to local strengths to foster innovation, economic growth, and job creation. All Freeports are focused on promoting a low-carbon economy and developing the green energy sector. Four of the UK's twelve Freeports are located within the Irish Sea Rim area.

Figure 10.1: Key ports around the Irish Sea Rim



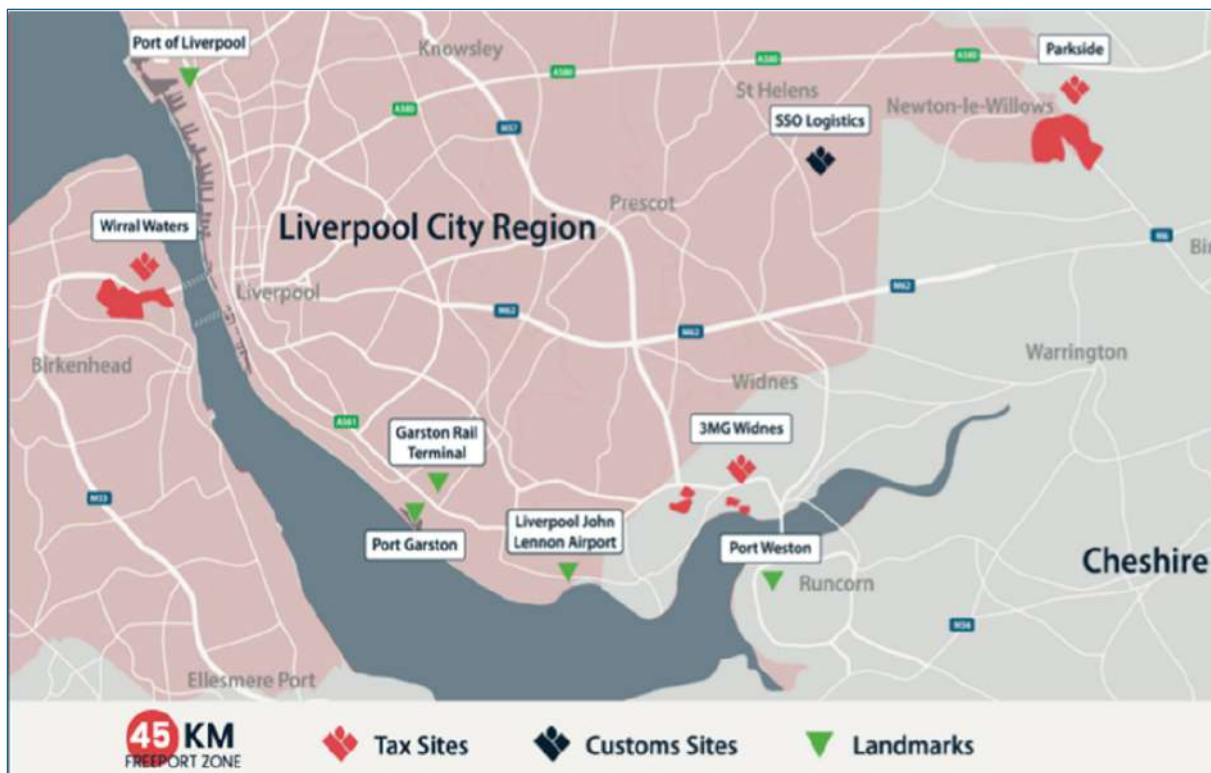
A. LIVERPOOL CITY REGION FREEPORT

LIVERPOOL CITY REGION FREEPORT:

The Liverpool City Region (LCR) Freeport is the UK's leading transatlantic port and is strategically vital for trade with the Americas, handling 45% of UK trade from the US. As a major gateway on the Irish Sea and with its multi-modal logistics capabilities, it is an essential partner for strengthening the entire Irish Sea region's economic connectivity.

- **GEOGRAPHY AND LOGISTICS:** The Freeport is a 45km diameter multi-modal zone on the west coast of England with direct access to the Irish Sea, integrating deep-water port facilities with extensive road, rail, and inland waterway connections.
- **STRATEGIC VISION:** Target industries include advanced manufacturing, logistics, and low-carbon industries. The strategy is aligned with the region's goal to reach net zero by 2040, fuelling social mobility, innovation, and inclusion.
- **SKILLS AND JOB CREATION:** Recognised by the Financial Times' fDi Intelligence as a "Rising Star," the Freeport is estimated to add £850 million to the local economy, create 14,000 jobs, and operate at the highest sustainability standards.

Figure 10.2: Liverpool City Region Freeport Region



B. ANGLESEY FREEPORT

Anglesey Freeport is crucial for maintaining efficient trade with Ireland, the UK's closest trading partner. Its focus on marine renewable energy and its role as a key logistics hub make it an indispensable partner for the Irish Sea Rim. A key initiative is the new "Digital Trade Corridor" on the Holyhead-Dublin route to streamline the flow of goods.

- **GEOGRAPHY AND LOGISTICS:** Located on the north-west coast of Wales, its main asset is the Port of Holyhead, a major roll-on/roll-off ferry port operated by Stena Line

that is a vital node for trade between Ireland and mainland Europe via the UK, a route of significant economic importance.

- **STRATEGIC VISION:** The Freeport has a dual focus: becoming a global leader in low-carbon energy by building on the "Energy Island Programme," and maximising the logistical capacity of Holyhead port to enhance trade flows.
- **KEY DEVELOPMENT:** Core partners Stena Line and Isle of Anglesey County Council are redeveloping the 200-acre derelict Prosperity Parc site to attract commercial investment and create local jobs.

C. CELTIC FREEPORT

The Celtic Freeport is of strategic importance for the UK's energy security and net-zero ambitions, aiming to secure a first-mover advantage in the global floating offshore wind (FLOW) market. Its focus on marine renewables offers a strong basis for collaboration in research, supply chain development, and skills-building across the Irish Sea region.

- **GEOGRAPHY AND LOGISTICS:** Spanning over 500 hectares of developable land in South-West Wales, and with strong multi-modal connectivity, it includes the deep-water ports of Milford Haven and Port Talbot, providing direct access to the Celtic Sea's significant wind resources.
- **STRATEGIC VISION:** Create a green investment and innovation corridor, building on extensive skills base, transmission, and pipelines to accelerate Wales's low carbon economy transition. Support FLOW roll-out and establish a future based on the hydrogen economy, alternative fuels, carbon capture, and cleaner steel.
- **SKILLS AND JOB CREATION:** Expected creation of 16,000 green jobs and up to £5.5 billion investment for new industrial capacity and a local legacy fund for training young people and upskilling the existing workforce for the jobs of the future.

D. PLYMOUTH AND SOUTH DEVON FREEPORT

This Freeport is of national importance for cementing UK leadership in high-tech maritime sectors like marine autonomy and defence and is critical for capturing a share of the future ocean economy, predicted to double to \$3 trillion by 2030. Plymouth offers a unique opportunity for a world-leading research and innovation network for marine data collection, analysis, and development of autonomous maritime systems.

- **GEOGRAPHY AND LOGISTICS:** Located in South-West England, it has a deep-water harbour with direct access to the Atlantic and English Channel and over 1000km² of authorised water space for testing autonomous systems.
- **STRATEGIC VISION:** Create an innovation cluster for high-value manufacturing in the marine, defence, and space sectors, with a focus on clean growth. Key initiatives include the Langage Green Hydrogen Hub and testing Marine Autonomous Vessels in

Smart Sound Plymouth. Infrastructure developments include increasing freight capability through doubling wharf load capacity.

- **SKILLS AND JOB CREATION:** Provide a pipeline of around 3,500 jobs, from entry-level to highly skilled roles.

E. FORTH GREEN FREEPORT

Forth Green Freeport is critical for achieving Scotland's 2045 net-zero target by demonstrating a viable pathway for decarbonising heavy industry while creating growth in green technologies. Though located on the North Sea, its focus on advanced manufacturing, hydrogen, and offshore wind supply chains presents significant collaboration and market opportunities for the Irish Sea Rim project and businesses.

- **GEOGRAPHY AND LOGISTICS:** The Freeport is a strategically significant 45-kilometre-zone on Scotland's east coast, encompassing a network of industrial and logistical assets including the ports of Grangemouth, Rosyth, Leith, and Burntisland, as well as Edinburgh Airport. It will drive a hydrogen economy and alternative fuels cluster in Grangemouth, bolstered by new freight, rail and alternative fuel terminals.
- **STRATEGIC VISION:** Catalyse Scotland's net-zero economy transition, focusing on central belt reindustrialisation and offshore wind, advanced manufacturing, logistics, and shipbuilding. Investments will expand logistics and trade capacity, renewables manufacturing, alternative fuels and carbon capture and storage.
- **SKILLS AND JOB CREATION:** Creation of up to 34,500 jobs locally and across the UK supply chain, focusing on high-quality jobs in areas of local deprivation. Benefits will be reinvested into communities through skills programmes and SME innovation hubs. An innovation network will connect research and business.

F. HUMBER FREEPORT

The Humber Freeport is vital to the UK's goal of deploying 40 GW of offshore wind by 2030 and its broader net-zero goals, representing a major partner in building a national green-tech supply chain, enhancing economic resilience and reducing dependence on volatile international markets. Connecting the Freeport with Irish Sea region ports and innovation hubs could create a powerful, integrated economic axis across the UK.

- **GEOGRAPHY AND LOGISTICS:** On England's east coast, the UK's busiest port complex by tonnage, handling 17% of the nation's trade. 75% of UK manufacturing sites are within a four-hour drive of the ports of Hull, Goole, Immingham, and Grimsby.
- **STRATEGIC VISION:** A world-leading offshore wind hub, with strengths in logistics and advanced manufacturing. Key projects include hydrogen and rare earths plants, expansion of offshore wind blade manufacturing, and deep-water quays.
- **SKILLS AND JOB CREATION:** Projections forecast the creation of 7,000 new jobs and £650 million in investment.

G. INVERNESS AND CROMARTY FIRTH GREEN FREEPORT

This Freeport is of national importance for delivering the UK's offshore wind targets, particularly in the global FLOW market. It represents a "just transition" by leveraging the region's oil and gas legacy to build a new sustainable energy industry.

- **GEOGRAPHY AND LOGISTICS:** A consortium in the Scottish Highlands including the Port of Cromarty Firth and the Port of Nigg. It is billed as Europe's largest heavy engineering cluster and largest green engineering development area in the UK, with sheltered deepwater access ideal for the renewables sector.
- **STRATEGIC VISION:** Key sectors are FLOW, heavy marine engineering, and green hydrogen. Major investments include a £350 million cable factory by SUMITOMO and a £300 million commitment into Ardersier Port. Associated British Ports are exploring the creation of energy related infrastructure across a 60-hectare site.
- **SKILLS AND JOB CREATION:** Forecast creation of 16,500 jobs across the UK, with 12,250 located directly in the Highlands. The PowerHouse hub has been created to support supply chain and workforce development.

H. TEESSIDE FREEPORT

Teesside Freeport is a critical test case for the UK's industrial decarbonisation strategy and transforming industrial sites into clean energy hubs. Teesside offers supply chain opportunities and a valuable case study in managing industrial transition.

- **GEOGRAPHY AND LOGISTICS:** Located in North East England, this is the UK's largest freeport, covering 4,500 acres. It includes Teesworks), Teesside International Airport, and the ports of Hartlepool and Teesport.
- **STRATEGIC VISION:** A flagship project for the UK's low-carbon transition. Anchor projects include SeAh Wind's £650 million offshore wind turbine base factory and the UK's premier carbon capture (CCUS) project, Net Zero Teesside.
- **SKILLS AND JOB CREATION:** Estimated creation of 18,000 new jobs and £3.2 billion boost to the local economy. The Teesworks Skills Academy was created to support employers and develop a world-class local workforce. In connection to TVCA's Digital and Creative-focused Investment Zone, Tees Valley and Teesside Freeport hold a unique role in contributing to place-focused innovation across regenerative tourism, sustainability in screen and wider creative industries and high street regeneration.

SECTION 11: IRISH SEA FERRY TRANSPORT

A. IRISH SEA FERRY CROSSINGS

Irish Sea ferries are the vital maritime arteries connecting the economies, societies, and communities of the UK and Ireland. These ferry routes are indispensable for both trade and social connectivity. They form the backbone of commerce between nations, with the **Liverpool to Dublin** crossing noted as one of the most popular routes for freight and trucks, while the **Cairnryan-Belfast** service is a major route for transporting goods between Northern Ireland and the rest of the UK. The efficiency of these links, such as the Stena Line **Fishguard to Rosslare** service being the fastest crossing to Ireland, underpins regional supply chains. In parallel, these services are crucial for tourism and community, with the **Holyhead to Dublin** route being popular for holidaymakers due to its short duration. From Scotland to Northern Ireland and the Isle of Man to Ireland, these crossings connect families and communities, reinforcing deep cultural ties. The **Heysham-Warrenpoint** (image below) and **Heysham-Dublin** routes are for freight only via the operator Seatruck Ferries operated out of the Peel owned **Heysham Port**.



Seatruck Freight Ferry arrival in Warrenpoint, Northern Ireland. Image Credit Paddy Higgins, Flagstaff

Figure 11.1: Main ferry crossings across the Irish Sea

WALES TO IRELAND	SCOTLAND TO NORTHERN IRELAND	ISLE OF MAN TO IRELAND
Holyhead to Dublin Pembroke Dock to Rosslare Fishguard to Rosslare	Cairnryan to Larne Cairnryan to Belfast	Douglas to Dublin
ENGLAND TO IRELAND	ENGLAND TO NORTHERN IRELAND	ENGLAND TO ISLE OF MAN
Liverpool to Dublin Heysham to Dublin Heysham to Warrenpoint Holyhead to Dublin	Liverpool to Belfast Heysham to Belfast	Liverpool to Douglas Heysham to Douglas

The Irish Sea Rim is perfectly positioned to support and enhance these vital links by acting as a central hub for collaboration and innovation. By uniting ferry operators, port authorities, and government bodies, the initiative can advocate for route development, streamline port operations, and launch integrated tourism campaigns to strengthen the entire network. Furthermore, the Irish Sea Rim can drive a green transition by strengthening existing maritime networks and innovation hubs by supporting connections between universities and maritime businesses to pioneer sustainable solutions like alternative fuels and more efficient vessel designs. This collaborative approach can secure the investment needed for green infrastructure, helping the sector move towards a low-carbon future.

Ultimately, while shipping presents environmental challenges, ferry travel is a critical component of a sustainable transport network for the region. The **Cairnryan to Larne** route, as the shortest route across the Irish Sea, highlights how operational efficiency can align with



environmental goals. The Irish Sea is home to 10 Marine Conservation Zones (MCZs); a recent three-year initiative led by the Cumbria Wildlife Trust mapped ways that wildlife trusts – and their wider place stakeholders – can work across boundaries and borders to protect nature, enhance biodiversity and support people to improve their health, wellbeing and connection to place through active, outdoor

engagement.

Figure 11.2: Irish Sea Region ferry routes (source ARUP)

By embracing new technologies and the collaborative strategies championed by the Irish Sea Rim, the ferry sector, working in partnership with wildlife trusts, can strengthen its role as an economic engine while becoming a leader in environmental stewardship, ensuring the long-term prosperity of the communities lining the Irish Sea.

A central concept and opportunity for this sector, and an area in which the Irish Sea Rim could help create significant impact, is the **Crosscurrent Framework**. This is a proposed approach to optimise this complex network by integrating ports, syncing inland transport, and using AI for demand-driven routing. This is critical in a sea that is of major economic importance for regional trade and shipping. In the context of the Irish Sea region, this framework could:

- **INTEGRATE REGIONAL PORTS:** Coordinate schedules and cargo between major ports like Dublin, Belfast, Liverpool, and Holyhead using real-time data on tides and congestion.

- **OPTIMISE FERRY ROUTES:** Employ weather modelling to protect perishable goods and ensure efficient crossings while understanding and mitigating risk to MCZs
- **CREATE HYBRID INLAND DELIVERY:** Sync rail and road logistics to connect coastal ports with inland cities such as Manchester and Glasgow, with automated systems to re-route freight during disruptions.
- **ENABLE DEMAND-DRIVEN ROUTING:** Use AI-powered forecasts to predict seasonal demand and fine-tune delivery schedules, reducing waste and spoilage⁸



Stena Line operating in the Irish Sea Rim, Image credit: unknown

B. MANAGING AND MITIGATING UNPLANNED DISRUPTIONS TO IRISH SEA PORTS

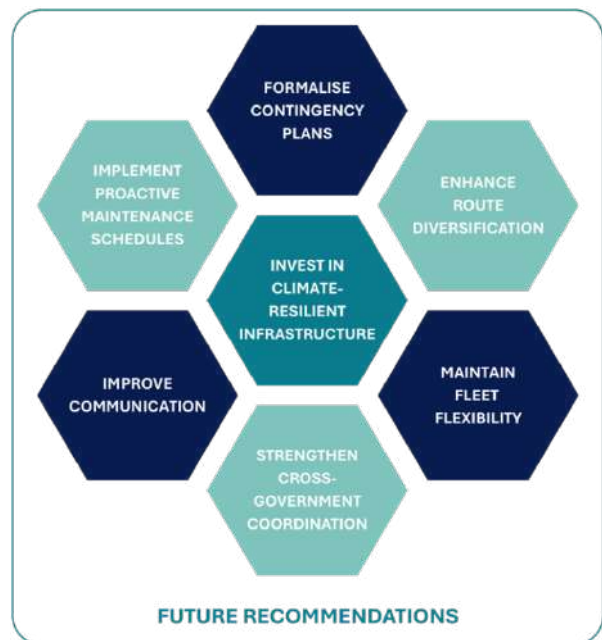
Ports around the Irish Sea rim form a critical economic corridor, facilitating substantial trade and passenger movement between Great Britain and the island of Ireland. The efficiency of these ports, particularly high-volume Roll-on/Roll-off (RoRo) hubs like Holyhead, is vital. However, these operations are vulnerable to unplanned events. The significant damage sustained by Holyhead Port during Storm Darragh in December 2024 served as a stark reminder of this vulnerability.

In early December 2024, Storm Darragh caused major damage to infrastructure at Holyhead Port, leading to the immediate closure of its two main ferry berths (Terminal 3 and Terminal 5). The event caused a complete cessation of services on the primary Holyhead-Dublin route, leading to a severe backlog of freight and passenger traffic. Terminal 5 was partially reopened on

January 16, 2025, allowing both Stena Line and Irish Ferries to resume services on an adjusted, single-berth timetable, restoring route capacity but not full operational flexibility. Following extensive repairs to the severely damaged Terminal 3, the port was declared fully reopened and operational on **Friday 18th July 2025**. This allowed for the resumption of normal, synchronised sailing schedules favoured by the logistics sector.

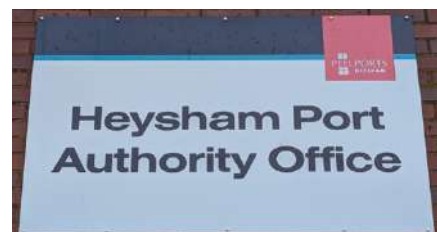
Significant capital expenditure was required for underwater inspections, structural repairs, and engineering works to both berths. A post-incident inquiry by the Senedd (Welsh Parliament) highlighted the substantial economic impact on hauliers, local businesses in Anglesey, and the wider UK-Ireland supply chain, with ferry operators incurring significant costs from vessel redeployments, schedule alterations, and reduced traffic during the seven-month-long disruption.

The Welsh and Irish Governments established a multi-stakeholder task force in March 2025 comprising government officials, port operators, ferry companies, and logistics representatives. Its primary objective is to develop robust contingency plans, assess infrastructure needs, and formalise cross-agency communication protocols for future disruptions at any Irish Sea port. Infrastructure planning has been accelerated with Stena Line Ports planned maintenance works at Holyhead (Terminal 5) from September to November 2025 to enhance long-term reliability. The event has also amplified calls for strategic investment in port infrastructure to better withstand climate change-driven weather events. This aligns with UK and Irish government strategies focused on securing critical supply chains and investing in climate adaptation.



Given the future likelihood of more extreme weather events in the Irish Sea region, we have undertaken a preliminary assessment of the feasibility of alternative logistical options for Holyhead to mitigate the impact of such events. A summary of this is given below.

- **LIVERPOOL / HEYSHAM TO DUBLIN / BELFAST:** Proven to be a crucial relief valve, especially for freight. However, the significantly longer sea crossing (~8 hours) adds cost and complexity compared with the Holyhead-Dublin route (~3.5 hours). May suit freight originating/destined for Northern England/Scotland but this requires sufficient capacity at these ports and on vessels. Established routes exist but may lack the frequency or total capacity compared with Holyhead-Dublin, and they require coordination and available slots.



- **FISHGUARD / PEMBROKE DOCK TO ROSSLARE:** These South Wales routes were vital during the closure, with operators successfully redeploying larger vessels to boost capacity. While the sea crossing is shorter, incurring lower costs, this is offset by longer road journeys for goods originating in the Midlands and North of England. Matching the volume of Holyhead could be challenging long-term without sustained investment or vessel redeployment.
- **CAIRNRYAN TO BELFAST / LARNE:** While geographically unsuited as a direct replacement for Holyhead-Dublin traffic, these routes are a critical part of the overall Irish Sea network, and maintaining their capacity is essential for overall resilience.

While the financial and logistical impacts were severe, the establishment of a resilience task force and renewed focus on infrastructure investment demonstrate a commitment from government and industry to the long-term security of this vital economic corridor. Investment in port resilience, robust contingency planning, and operational logistical flexibility, is essential to mitigate the impacts of future unplanned events.



Port infrastructure, Dublin, Image credit: Irish Sea Rim

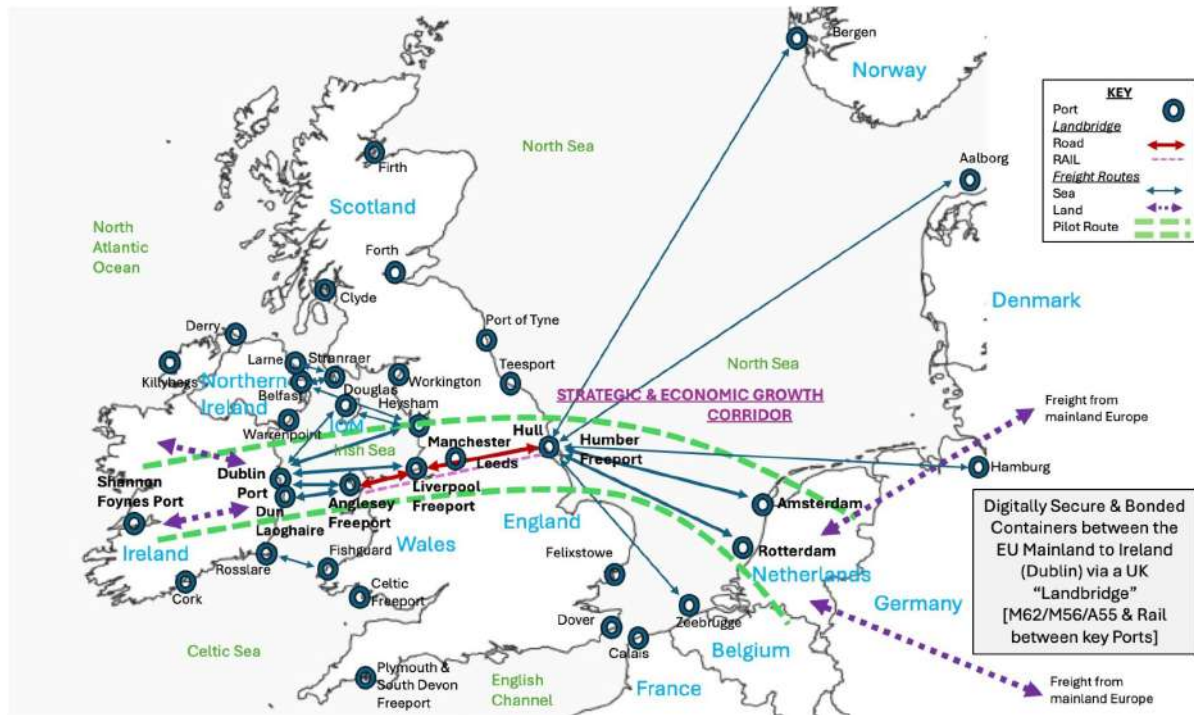
SECTION 12: IRISH SEA RIM BONDED LAND BRIDGE

The Irish Sea Rim Bonded Land Bridge is a proposed flagship logistics and trade innovation project designed to restore speed, reliability and strategic value to the movement of freight between mainland Europe and Ireland via Great Britain. Before Brexit, the UK land bridge operated as a highly efficient internal market route, allowing freight from the Netherlands, Belgium and northern France to move rapidly across the UK road and rail network before crossing the Irish Sea to Dublin, Belfast and other Irish Sea ports. Brexit fundamentally changed this operating environment. Great Britain is now a third-country customs territory between two EU points, creating a “double border” problem for EU-Ireland freight using the UK as a transit route. The result has been a shift of some traffic to direct Ireland-continental Europe ferry services, particularly for lower-value or less time-sensitive goods.

However, the UK land bridge remains strategically important because it offers a speed and frequency advantage that direct maritime routes cannot fully replicate. For time-critical sectors such as pharmaceuticals, fresh and chilled food, advanced manufacturing components, medical products, express logistics and just-in-time supply chains, the difference between an 18-22 hour transit and a 40-60 hour direct maritime alternative can materially affect inventory costs, shelf life, contract performance and supply chain resilience. The ISR bonded land bridge therefore repositions the route not as a return to the pre-Brexit status quo, but as a next-generation “smart corridor”: a secure, digitally integrated, customs-compliant and lower-carbon freight route connecting the Benelux, northern England, Wales, Ireland and the wider Irish Sea economy.

The regulatory basis for the project already exists. Under the Common Transit Convention, EU goods can move from one EU point to another via Great Britain using a T2 internal transit procedure, preserving Union customs status and avoiding double duty, provided the goods remain under customs supervision and are not interfered with while in the UK. For non-EU goods, T1 external transit can suspend duty until the goods reach their final customs destination. The challenge is therefore not whether a bonded land bridge is legally possible; it is whether the administrative, safety and security, sanitary/phytosanitary and data requirements can be made sufficiently frictionless for operators to choose the route at scale.

The ISR project addresses this challenge through systems integration. A current land bridge movement can require interaction with several disconnected systems. Re-keying the same data across multiple platforms increases cost, error rates, and delay risk, particularly for SMEs and groupage operators. The ISR proposition is to create secure and trusted digital trust pipeline which can connect data across multiple systems to create a seamless, monitored, bonded transport route through the UK ([figure 12.1](#)). The aim is not to bypass customs control, but to make lawful transit easier, auditable, and predictable.

Figure 12.1: Irish Sea Rim Bonded Landbridge between EU Mainland – UK - Ireland

Cybersecurity, satellite monitoring, and trusted data asset services have been built into the Bonded Land Bridge from the start. The Land bridge will be a critical digital logistics asset connecting customs authorities, port systems, ferry operators, hauliers, rail freight providers, freeports, insurers, consignors, and consignees. The risk profile includes data manipulation, ransomware, denial of service, GPS spoofing, compromised IoT devices, fraudulent seal events, identity misuse, and attacks on port or carrier interfaces. The project is based on a secure-by-design model: strong identity and access management; multi-factor authentication; API security; encryption in transit and at rest; event logging; tamper-evident audit trails; segmentation between operational technology and business systems; incident response protocols; and compliance alignment with UK maritime cyber guidance, NCSC good practice and EU NIS2 expectations for transport and critical infrastructure. Smart seals and IoT devices will form trusted border assurance devices whose integrity is central to the customs and SPS risk model.

Freight logistics will initially be organised around a small number of high-value pilot corridors. The most immediate road corridor is the east–west route from Rotterdam, Zeebrugge or Antwerp into Humber Freeport, across the M62 corridor to Liverpool Freeport, and onward to Dublin. A second strand would test an intermodal bonded corridor between Humber Freeport and Liverpool City Region Freeport, using rail for the cross-Pennine leg and sea freight at either end. This “Freeport-to-Freeport” model could create a secure bonded tunnel across northern England, reducing HGV mileage on the M62, improving resilience against driver shortages and

road congestion, and aligning the land bridge with green shipping corridor investment on the North Sea and Irish Sea.

The M62 corridor and Transpennine rail network are therefore not peripheral infrastructure issues; they are central to the economic logic of the project. The M62 is the landside spine connecting the Humber and Mersey, two major maritime and industrial gateways. Its role in the pilot would be to support fast accompanied and unaccompanied RoRo freight, while identifying where digital pre-clearance, secure parking, EV/HGV charging, hydrogen refuelling, incident response and traffic management can improve reliability. In parallel, Transpennine rail upgrades – particularly freight gauge enhancements and the ability to carry high-cube containers more efficiently – could enable a lower-carbon bonded rail bridge between east and west coast ports. This creates the basis for a multimodal corridor that is not simply faster, but also greener, more resilient and more investable. The Irish Sea Rim Bonded Land Bridge should be integrated with future Northern Powerhouse Rail developments (Figure 12.2) to ensure further development and operation of a rail bridge.

Figure 12.2: Proposed Northern Powerhouse Rail routes



The potential trade and GVA impacts are significant, and a key pilot project will be to model this through a full economic impact assessment. At minimum, the project could generate value through five channels.

1. **FIRST**, it could recover a proportion of high-value, time-sensitive EU–Ireland traffic that has been displaced to longer direct routes.
2. **SECOND**, it could reduce total landed cost for selected goods by cutting inventory time, spoilage, delay risk and administrative duplication.
3. **THIRD**, it could improve port, warehousing, customs brokerage, digital trade, cyber security, rail freight and maritime services activity across Liverpool City Region, the Humber, North Wales, Dublin and Belfast.
4. **FOURTH**, it could support inward investment by positioning the ISR as a demonstrator for secure digital trade corridors, bonded logistics, smart seals, digital twins and green freight systems.
5. **FIFTH**, it could strengthen the competitiveness of advanced manufacturing, food, life sciences and energy supply chains that depend on fast, predictable and legally compliant cross-border movement.

For the Irish Sea Rim, the bonded land bridge is therefore more than a transport project. It is a systems integration project, a customs innovation project, a cyber-secure trade corridor, a green logistics demonstrator, and a strategic economic growth platform. It aligns the region's ports, freeports, universities, logistics operators, technology companies and public authorities around a shared proposition: that Brexit-related friction can be mitigated not by ignoring borders, but by building trusted, data-rich and resilient systems across them. Delivered through a phased pilot, the project would provide a credible route to de-risk future investment, support policy innovation, and establish the Irish Sea Rim as a leading testbed for next-generation UK–EU trade connectivity.

The Irish Sea Rim has brought together a powerful consortium across the government, industry, and academia, and is currently mapping expertise, work packages, and pilot / long term funding.

SECTION 13: IRISH SEA RIM ENVIRONMENTAL AND SCIENTIFIC OBSERVATORY (ISRESO)

The Irish Sea Rim proposes to develop an Environmental and Scientific Observatory around the Irish Sea that will act as a Marine Environment Services Framework to measure baseline parameters of the geographical area of the Irish Sea and assess the potential for energy projects. Data collection will include air quality, wind and wave potential, weather data, water quality, the ecosystem and environment, and the underpinning economies and supply chains.

There are many scientific measurements and observations collected and mapped in and around the Irish Sea. These range from sea state, water chemistry, tidal current measurement, weather, radar, lidar and many other wide-ranging parameters. Currently, many of these are not well connected. This project will engage and link across a number of projects and activities to enable the building of a clear and comprehensive platform of scientific measurement in the region. This will support the development of improved connectivity of data sets and informed decision making with regard to Irish Sea energy installations and coastal infrastructure.

Natural estuarine environments are dynamic and are in a constant state of flux, naturally changing over time. As a result, these environments are particularly vulnerable to external interventions. Erecting a bridge or installing a tidal barrier will lead to changes in the local environment and, over time, this may impact the tides and channels within the estuary. Civil infrastructure in an estuary can have a positive and/or negative effect, such as causing the channel to silt up, and without accurate mapping and records, there is no way to accurately estimate or evaluate the effect of installation of an energy device.

A data-based model will be developed from the measured parameters, with additional economic data also analysed. Assessment of the economics of renewable and other energy devices is a key driver in determining whether the technology and device are installed in a particular location and environment. This combination of data sources will underpin a multi-layered sequential decision-making model. This will also facilitate the development of an advanced supply and value chain that will create jobs and economic growth.

A. WHAT ISRESO WILL MEASURE

ISRESO will monitor estuarine regions, particularly in areas where energy and or infrastructure projects are proposed. This monitoring would continue both during and post installation of any key energy stations such as a tidal device (lagoon, bridge, fence, etc.) It will also address policy with respect to shipping routes and sulphur dioxide emissions. Scientific and environmental monitoring, combined with economic modelling, can support the assessment of the

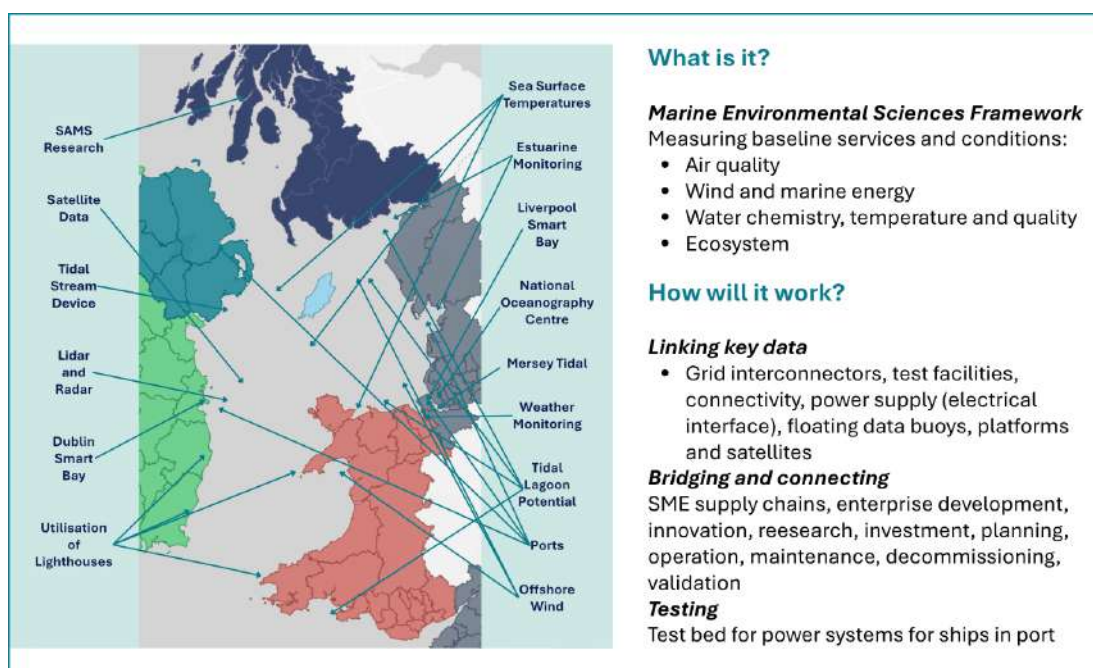
environmental and economic parameters for any developed and installed technology. Critically, this monitoring will occur in three phases:

- **PRE-INSTALLATION MONITORING:** To measure and monitor the natural environment as accurately as is possible with current devices prior to any civil engineering work. A time series of data will be collected, mapped, and monitored. This will enable a picture of the area to be created, allowing the potential impacts of the installation of tidal and marine energy devices to be modelled and evaluated.
- **ACTIVE INSTALLATION MONITORING:** Measuring and monitoring the environment during construction of tidal and marine devices will allow the overlaying of data over pre-installation models, enabling the discovery of any status changes and impacts to the local area arising from installation of any structural devices. Combining these measurements with economic data (including time and cost overruns) will be vital to gain an accurate picture of the true cost and economic benefit.
- **POST-INSTALLATION MONITORING:** Continued monitoring of natural environment and economic data once any tidal or marine structures have been installed will be critical, not only to assess the impact of that structure, but also to build up a more detailed bank of data to support environmental and economic impact modelling and planning for future projects.

B. ISRESO GEOGRAPHICAL REGION

ISRESO will include all Irish Sea Rim member countries and will also include the North Channel (north of the Irish Sea) and the area of the Celtic Sea in the region of South West Wales and South East Ireland (Figure 13.1).

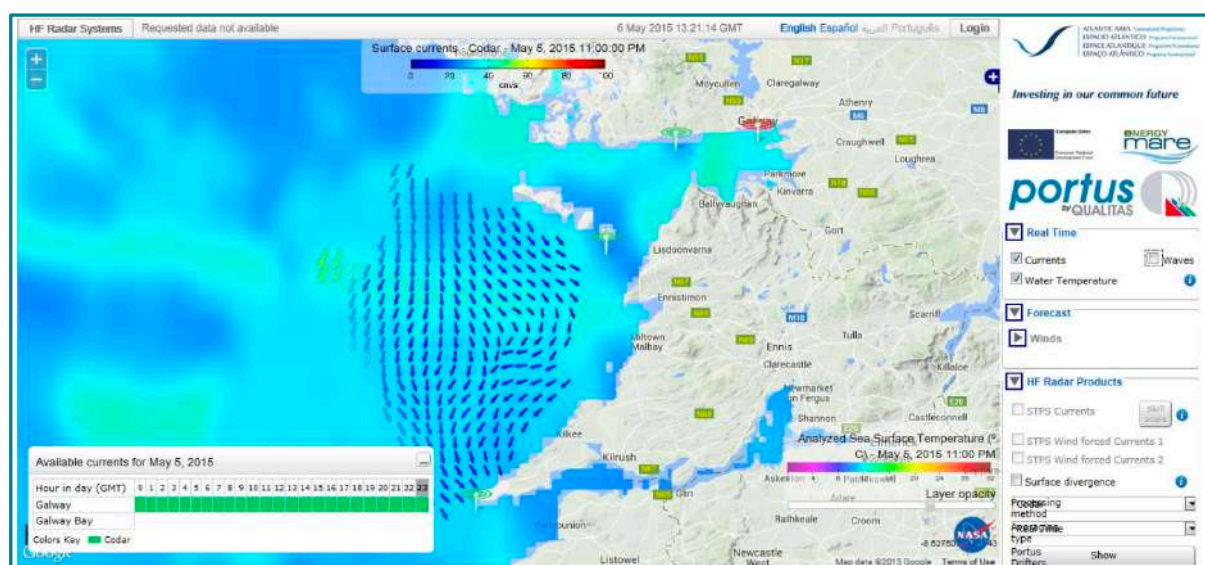
Figure 13.1: The Irish Sea Rim Environmental and Scientific Observatory



C. HOW ISRESO WILL WORK

ISRESO will monitor data from grid interconnectors, test facilities, data acquisition, supply chain, enterprise development, innovation, research, investment, environment, planning, operational, maintenance, decommissioning, validation, connectivity (Internet), power supply (electrical interface), floating data buoys, and platforms. Other relevant data sources will include the use of lighthouses situated around the Irish Sea Rim as scientific laboratories to house monitoring equipment.

Figure 13.2: Galway Smart Bay Monitoring Project



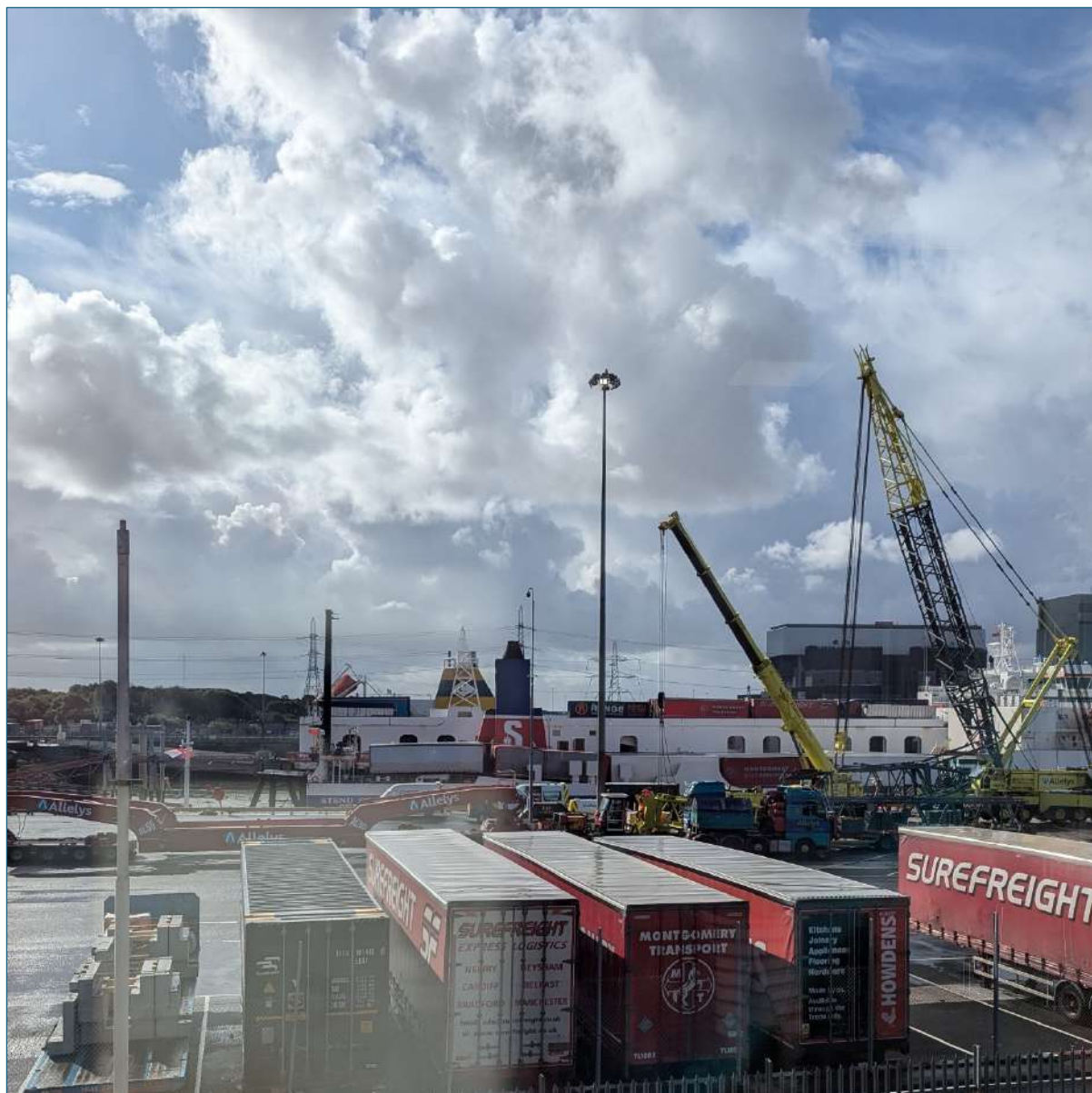
Innovation will be a key aspect of ISRESO in helping to solve the challenges of developing and installing energy devices in harsh marine environments, and advances in drone technology may be key to this. We will work closely with universities with an environmental and maritime focus.

This will be a big data project, and it is envisaged that ISRESO will be able to develop a holistic interconnected model that can encompass many of the key environmental and logistical areas, such as environment impact statements, planning, fisheries reports, and emissions from shipping that can help shape policy and ultimately support the UK and Ireland to demonstrate global leadership in marine energy planning. The project will require a matrix funding model from multiple sources, phased over a number of years. The project lifetime is planned to continue over a 20-year timeframe, allowing long time series of environmental data to be collected, mapped and researched. Preliminary projects may form part of the planned Irish Sea Rim Doctoral Training Centre ([Section 15](#)).

This will be a partnership across the quadruple helix, encompassing national and regional governments, industry, academia and place. In addition to research, this project could support education and employment opportunities for under-resourced schools and communities, particularly in coastal areas.

The Irish Sea Rim Environmental and Scientific Observatory will be a driver of significant regional growth, supporting the region's aim to provide an economic and technical

counterbalance to London and the Greater South East as well as the creation of a world-leading supply chain in Marine Technology. This will be created through the development of manufacturing expertise around the Irish Sea Rim that will develop the capability to export this expertise.



Logistics and Activity at Heysham Port, Image credit: Irish Sea Rim

PART FOUR

ECONOMIC AND INNOVATION LANDSCAPE



ECONOMIC AND INNOVATION LANDSCAPE

Section 14: **The strategic innovation landscape**

Section 15: **The economic and innovation landscape**

Section 16: **Productivity**

Section 17: **Skills and Place**

Section 18: **Regional economic inequalities and deprivation**

Section 19: **The Irish Sea Rim as a driver for regional development and innovation**

SECTION 14: THE STRATEGIC INNOVATION LANDSCAPE

The Irish Sea region constitutes a unique geopolitical and socio-economic space, encompassing six distinct governmental jurisdictions: the United Kingdom government (representing England and setting UK-wide policy in reserved areas), the devolved governments of Scotland, Wales, and Northern Ireland, the government of Ireland, and the government of the Isle of Man self-governing Crown Dependency. These nations and regions are bound by deep historical ties, intricate cultural connections, and significant economic interdependence, yet they also exhibit political divergence and operate within varied constitutional frameworks.

Understanding the stated priorities of each government is crucial, particularly in the contemporary context shaped by the United Kingdom's departure from the European Union, the ongoing recovery from the COVID-19 pandemic, and the pressing global challenges of climate change, energy security, economic volatility, geopolitical uncertainty, and rapid technological disruption. The need for effective intergovernmental and inter-regional cooperation remains paramount for regional stability, productivity and prosperity, and interconnected place-based innovation is consistently viewed as a vital tool for achieving diverse economic, societal, and cultural goals.

A. UK-IRELAND SUMMIT

The UK-Ireland Summit in March 2025 marked a significant step forward in the relationship between the two nations, signalling a renewed commitment to partnership and cooperation. The summit, led by Prime Minister Keir Starmer and Taoiseach Micheál Martin, aimed to move beyond the recent challenges posed by Brexit and establish an ambitious program of collaboration through to 2030. The overarching theme was one of mutual respect and a shared vision for a prosperous and secure future for both nations.

The summit was set against the backdrop of new political landscapes in both the UK and Ireland. With a new government in the UK, there was a clear intent to "reset" the relationship with Ireland and the wider European Union. This was seen as crucial for stabilising the political and economic environment, particularly in relation to Northern Ireland and the implementation of the Windsor Framework to simplify trade between Great Britain and Northern Ireland.

Operationally, the summit focused on establishing concrete frameworks for cooperation across a range of sectors. This included the creation of new dialogues and exchanges to facilitate knowledge sharing and joint initiatives. The emphasis was on practical, tangible outcomes that would deliver real benefits to people and businesses in both countries.

The joint statement released after the summit detailed a comprehensive set of objectives, underscoring the depth and breadth of the renewed partnership. These are summarised below:

Figure 14.1: March 2025 UK-Ireland Summit Key Objectives



- **SECURITY AND SHARED INFRASTRUCTURE:** A strengthened commitment to working together on the global stage, including on peacebuilding, security, and defence. This included a specific focus on maritime and cybersecurity to protect shared interests.
- **ENERGY AND CLIMATE TRANSITION:** A joint ambition to harness the renewable energy potential of the Celtic and Irish Seas. This involves collaboration on offshore energy projects, data sharing, and the decarbonization of the maritime sector.
- **TRADE AND ECONOMIC GROWTH:** A plan to build on the already strong economic ties to attract investment and drive growth. This includes new frameworks for infrastructure development, support for SMEs, and collaboration in science and innovation.
- **PEOPLE, SKILLS, AND CULTURE:** A commitment to deepening the connections between the people of the UK and Ireland. This includes a new strategic partnership between cultural institutions, joint hosting of major sporting events, and the establishment of a youth forum.

The Summit also voiced a shared ambition for a peaceful and prosperous Northern Ireland. This involves continued support for the Good Friday Agreement and the delivery of the PeacePlus program to promote reconciliation and economic development

The Irish Sea Rim has the potential to play a pivotal role in realising the objectives of the summit and helping to reshape the region's economic and social geography. Our power lies in our ability to work effectively at both strategic and operational levels, forming conduits between high level diplomacy and place-based implementation, driving impact through a durable, cross-border network of places, universities, and businesses. This allows momentum to be built from the ground up, making the partnerships and initiatives more resilient to shifts in national and global political climates

The Irish Sea Rim's core mission is to re-imagine the Irish Sea not as a barrier that divides, but as the central organising principle of a coherent, functional economic region. This principle is critical for achieving success across all the summit's strategic priorities. By establishing a

unified platform for communication, collaboration, and co-production, the Irish Sea Rim can reduce the complexity and friction inherent in cross-border ventures, whether in infrastructure, life sciences, or digital technology. It creates the critical connections and bridges that support the pooling of research and development capabilities from the region's universities and the formation of globally competitive innovation ecosystems. This approach transforms a collection of separate coastal economies into a powerful and integrated Investment, Innovation, and Enterprise Zone. In doing so, the Irish Sea Rim can provide an essential mechanism to transform the high-level political and economic ambitions of the summit into a shared, sustainable, and prosperous reality.

B. GOVERNMENTAL STRATEGIC PRIORITIES

There is significant alignment between the strategic priorities of Scotland, England, Wales, Northern Ireland, Ireland, and the Isle of Man, particularly around core themes of economic growth, public service improvement, and the transition to a green economy.

- **ECONOMIC GROWTH AND PROSPERITY:** Through the Modern Industrial Strategy⁴⁵, the UK Government's mission is to achieve the highest sustained growth in the G7. In Scotland, economic growth is a priority alongside eradicating child poverty. Northern Ireland's focus is on a globally competitive and sustainable economy, while Wales seeks green jobs and growth. Ireland's National Development Plan aims to boost international competitiveness, and the Isle of Man has set a GDP target of £10 billion by 2032.
- **CLIMATE CHANGE AND THE GREEN ECONOMY:** The UK Government has a mission to make Britain a clean energy superpower, Scotland is focused on investment in green energy, and Wales is creating green jobs to address the climate crisis with an aim for a net-zero NHS by 2030. Northern Ireland includes protecting the environment as a core priority. Ireland's infrastructure plan is designed to meet climate goals, and the Isle of Man aims to substantially decarbonise its services economy by 2030.
- **IMPROVING PUBLIC SERVICES:** This is a universal priority with a significant focus on delivering better healthcare for all, including cutting waiting times and hospital backlogs. More broadly, delivery of high quality, sustainable public services is intended to create greater efficiencies and improve quality of life.

Despite these shared priorities, distinct differences in approach and emphasis exist across the six jurisdictions of the Irish Sea Rim, reflecting their unique political, social, and economic contexts. The most significant difference is the philosophical framework underpinning economic strategies (Figure 13.2). Both Scotland and Wales have explicitly adopted a "wellbeing economy" model. Wales's Well-being of Future Generations Act 2015, seeks to balance economic, social, environmental, and cultural outcomes, moving beyond traditional metrics like GDP⁴⁶. In contrast, economic growth is the UK Government's key priority, focussing on a more traditional growth model, while the Isle of Man has quantitative targets for GDP, job

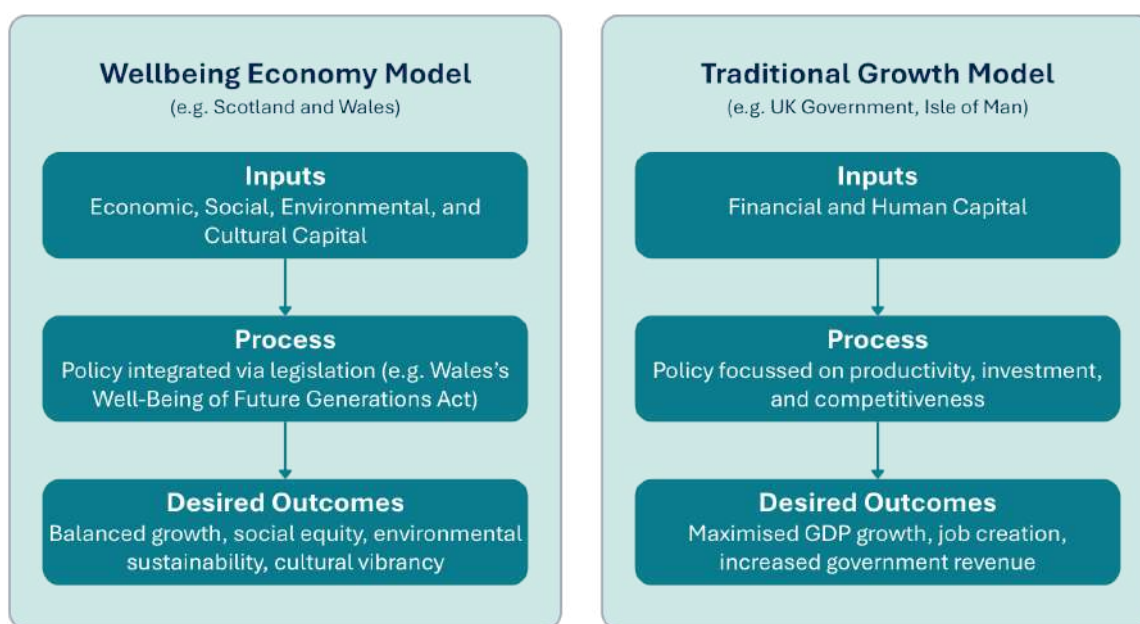
⁴⁵ <https://www.gov.uk/government/collections/the-uks-modern-industrial-strategy-2025>

⁴⁶ <https://www.gov.wales/well-being-of-future-generations-wales>

creation, and targeted population growth, seeing these as essential for maintaining a healthy and dynamic economy.

Northern Ireland's priorities are shaped by its strategic economic drivers, climate plan, and infrastructure plan, with a focus on safer communities through social cohesion, underpinned by a Wellbeing Framework that includes an overarching commitment to peace. Ireland emphasises large-scale transformative infrastructure projects in energy, water, and transport as the primary enablers of all other national goals, from housing to competitiveness.

Figure 14.2: Summary of Wellbeing Economy and Traditional Growth Models



The Irish Sea Rim is uniquely positioned to support delivery of the strategic priorities of all six member governments, delivering sustainable, inclusive economic growth through cross-border collaboration and the creation of a unified, transnational Investment, Innovation, and Enterprise Zone. We work through our Board of Governors, comprising senior representatives from each country ([Section 30](#)), to understand each government's unified and specific priorities and learn from previous experience, to design cross-border collaborative strategies and projects with mutually beneficial and agreed outputs, outcomes and impact. In this way we can support economic growth and the prosperity and wellbeing of all communities around the Irish Sea.

C. INNOVATION AND INDUSTRIAL STRATEGIES

The UK, Ireland, and Isle of Man each have distinct but complementary approaches to delivering on governmental priorities through innovation-led growth, targeting key sectors, and building robust ecosystems to support enterprise.

Ireland's cross-governmental [Impact 2030 Strategy](#) places research and innovation at the core of addressing national challenges. It is structured around five pillars: 1) Maximising the impact

of research and innovation on the economy, society, and the environment; 2) Ensuring research and innovation structures support excellence and outcomes; 3) Driving enterprise success through innovation; 4) Placing talent at the heart of the research and innovation system; and 5) Strengthening all-island, EU, and global connectivity. This outward-looking approach is demonstrated through initiatives like the North-South Research Programme, which funds collaborations with Northern Ireland. Supporting policies include the National Smart Specialisation Strategy for regional innovation and Global Citizens 2030 to attract international talent.

The UK's **Modern Industrial Strategy 2025** is a ten-year plan designed to increase business investment and cultivate the industries of the future. The strategy is built around targeted



support for eight priority growth-driving sectors where the UK has, or can build, a comparative advantage: Advanced Manufacturing, Clean Energy Industries, Creative Industries, Defence, Digital and Technologies, Financial Services, Life Sciences, and Professional and Business Services. The strategy is centred around a place-based approach, concentrating support in specific Industrial Strategy Zones. The Modern Industrial Strategy is reinforced by a commitment to raise public R&D spending to £22.6 billion per year by 2029/30, focusing on frontier technologies like AI and quantum computing.

The Isle of Man Government integrates innovation as a central theme within its overarching 10-15 year **Our Island, Our Future** economic strategy. The vision is to increase productivity and strengthen and diversify the economy via innovation- and business focussed initiatives, such as digital and technology adoption, business growth support programmes. The strategy combines protecting and growing existing key sectors, while targeting investment to grow new sectors such as the knowledge, data, and green economies.



Titanic Belfast, Image credit: Irish Sea Rim

SECTION 15: THE ECONOMIC AND INNOVATION LANDSCAPE

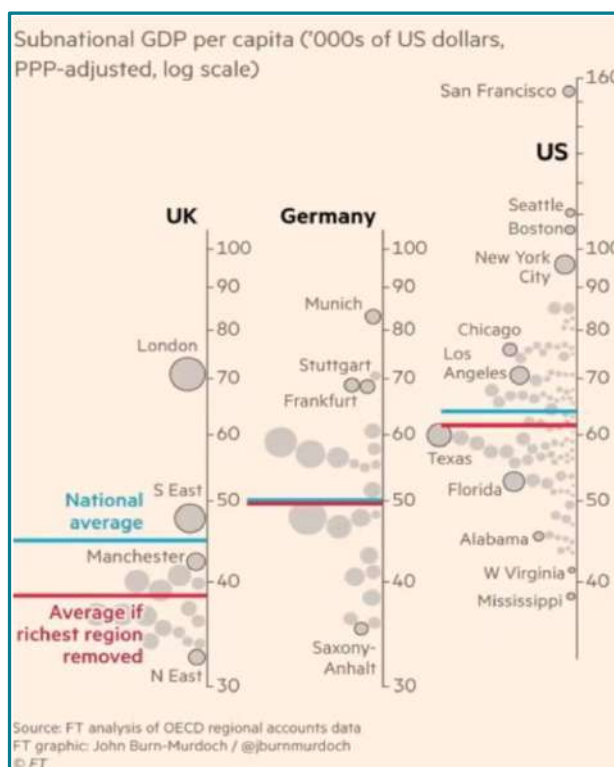
The Irish Sea Rim is a thriving area of economic activity, encompassing major city regions including Glasgow, Liverpool, Manchester, Bristol, Cardiff, Belfast, Dublin, and Cork. The region is well-defined and has sufficient closeness to allow face-to-face collaboration. Together the Irish Sea Region has a powerful critical mass, alongside diverse, yet complementary research and innovation centres of excellence.

A. THE NEED FOR GREATER REGIONAL ECONOMIC BALANCE

London is a global economic powerhouse and investment centre, far outstripping any other region within the UK. The economic health of London is critical to the UK, as its GDP far outstrips any other UK city, even Manchester, which is consistently described one of the fastest growing cities in Europe. As part of the Greater South East (London, South East England and the East of England), London is a significant draw for national and global investment and talent.

Yet such intense financial concentration in a single area creates significant vulnerability for the UK economy. According to data from the Organisation for Economic Cooperation and Development (OECD), the UK is characterised by a significant regional economic imbalance compared with other OECD countries, including the United States, Germany, and the Netherlands⁴⁷. **Figure 15.1** highlights the relative regional economic concentration compared with Germany and the United States. This figure also indicates that the impact of a significant economic or environmental shock to London could be catastrophic for the rest of the UK.

Figure 15.1: Comparison of regional economic concentration



⁴⁷ Adams, J., Grant, J., Smith, D., and Szomszor, M. (2024). HEPI Report 168: Regional Research Capacity: What Role in Levelling Up? Higher Education Policy Institute <https://www.hepi.ac.uk/wp-content/uploads/2024/01/Regional-research-capacity-what-role-in-levelling-up.pdf>

As a region, London and the Greater South East face significant challenges. The core economy of this region is dominated by the global financial services hub within London, with a focus on high growth, high tech in the rest of the region. Environmentally, the region is vulnerable to environmental changes, with water scarcity an increasing problem, and flooding from increasing sea levels a major risk to the City of London.

While no single UK city can create the stability to put the UK on a par with more economically diverse nations, a high-level summary comparison indicates that, together, the combined cities and regions comprising the Irish Sea Rim both complement and create a powerful economic and innovation complement and counterweight to London and the Greater South East (Figures 15.2 and 15.3).

Figure 15.2: High-level summary comparison: Irish Sea Region vs Greater South East

Metric	Irish Sea Rim	Greater South East
Approx Population	~23.6 million	~24.8 million
Approx GDP (GVA)	~£930 billion	~£1.09 trillion
Approx Businesses	~1.0 million	~1.3 million
Universities	55-60	65-70
Student Population	~1.2 million	~1.2 million
Academic Staff	~130,000	~120,000



In addition, the regional economies comprising the Irish Sea Rim are more diverse and distributed, with strengths in a wide mix of industries, including technology, advanced manufacturing, maritime transport and logistics, life sciences, and energy (including renewable). Through its climate and natural environment, the region has a more stable water supply and access to renewable energy. In recent years, the Irish Sea Rim has been regarded increasingly as a desirable place to live and work, while globally it is seen as a safe place for trade in the light of increasing global volatility and uncertainty.

Figure 15.3: Regional influence of cities around the Irish Sea Rim compared with London

The economic comparison should be viewed within the context of research and innovation investment. Traditionally, the Irish Sea Rim has received significantly less investment than London and the Greater South East (see below). Formally establishing the unified, cross-border Irish Sea Rim Investment, Innovation, and Enterprise Zone, and targeting investment into its industries and regions therefore creates an unprecedented opportunity for delivering non-linear returns on investment in terms of sustainable, inclusive economic growth.

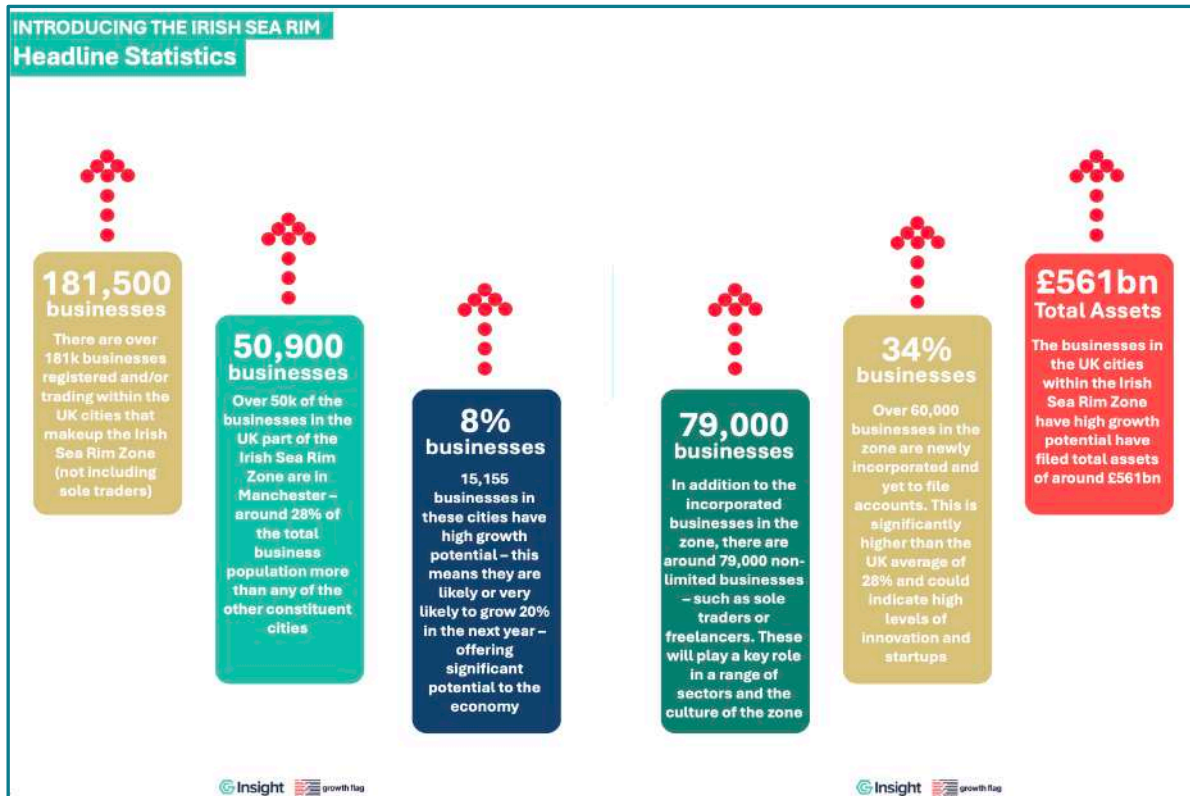
B. IRISH SEA RIM CITIES ECONOMIC OVERVIEW

The economic geography of the Irish Sea Rim is dominated by several powerful urban hubs that serve as the primary engines of growth and innovation. These cities have largely navigated the transition from industrial pasts to futures grounded in knowledge-intensive sectors, attracting investment and talent. However, this narrative of success coexists with underlying structural weaknesses, including persistent productivity gaps and wage disparities, which hint at a more complex reality.

A snapshot business analysis of the six UK cities around the Irish Sea Rim (Glasgow, Liverpool, Manchester, Cardiff, Bristol, and Belfast) was carried out by GC Insight using Growth Flag, their proprietary data tool. This analysis provides insights into the size, health and growth of the business base in these cities and supports the further development of the Irish Sea Rim Investment, Innovation, and Enterprise Zone and its associated projects (Figure 15.4).⁴⁸

Figure 15.4: Business analysis of the cities of Glasgow, Liverpool, Manchester, Cardiff, Bristol, and Belfast – headline statistics

⁴⁸ (2025) Irish Sea Rim Business Analysis: Growth Flag Report Prepared for the Irish Sea Rim. GC Insight.



Key takeaways include:

- **There are over 181,000 businesses actively registered and or trading in the key UK cities of the Irish Sea Rim:** These businesses are spread across the zone, offering significant economic opportunities. Beyond these businesses, there are at least a further 79,000 non-limited businesses within these UK cities (such as sole-traders and freelancers) while the wider zone around these cities is home to many more businesses
- **Businesses in these cities are generally in strong financial health, and there are many more new businesses here than the UK average:** Around 34% of businesses in these cities are newly incorporated and yet to file accounts, compared with 28% in the UK overall. This could indicate strong levels of innovation and startups, supporting the aims of the Irish Sea Rim.
- **Over 15,000 businesses in the zone have high growth potential:** These businesses are likely or very likely to grow by 20% over the next year and could offer significant economic returns for the zone and its local communities if supported to achieve this growth (Figure 15.5).

- **While most businesses in the Irish Sea Rim are in strong financial health, some exhibit signals of financial risk:** Nearly 20,000 businesses within the eight cities demonstrate some signals of financial distress, with over 1,000 of these showing critical signs. Understanding the landscape of business health and risk will be important for developing support and programmes that can drive productivity and economic growth throughout the Irish Sea Rim
- **99.5% of businesses within the cities are small or medium enterprises with under 250 staff:** With 870 large businesses.
- **Businesses in the Irish Sea Rim cities have a range of international links:** Including through directors of foreign nationality and through parent / group companies located in foreign countries outside the UK.

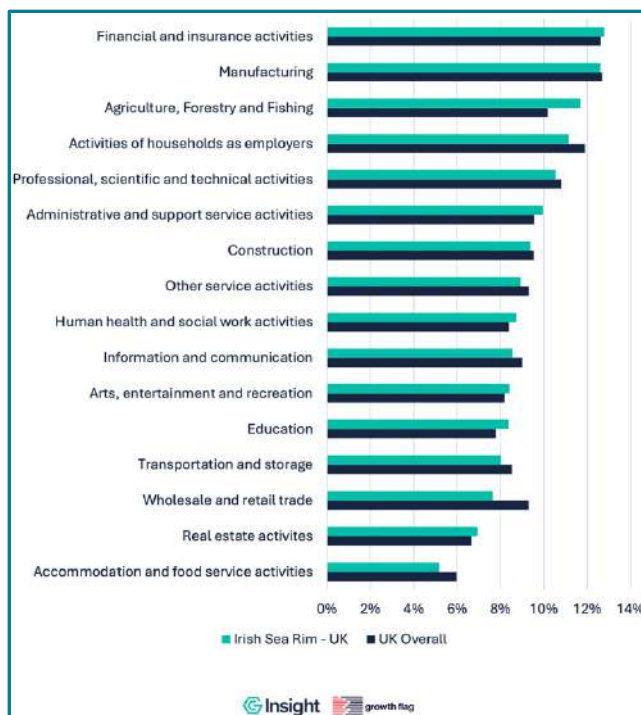


Figure 15.5: Percentage of businesses with high growth potential by sector

We will continue to work with GC Insights as a partner to undertake wider high-level analyses of the Irish Sea Rim, with focussed reports providing insights on the unique strengths and challenges of the Irish Sea Rim overall, and its constituent regions.



C. THE LIVERPOOL AND MANCHESTER CITY REGION BUSINESS OVERVIEW

GC Insights also provided more focussed analyses of businesses within the Liverpool and Manchester City Regions (Figures 15.6 and 15.7).

Figure 15.6: Liverpool City Region business overview

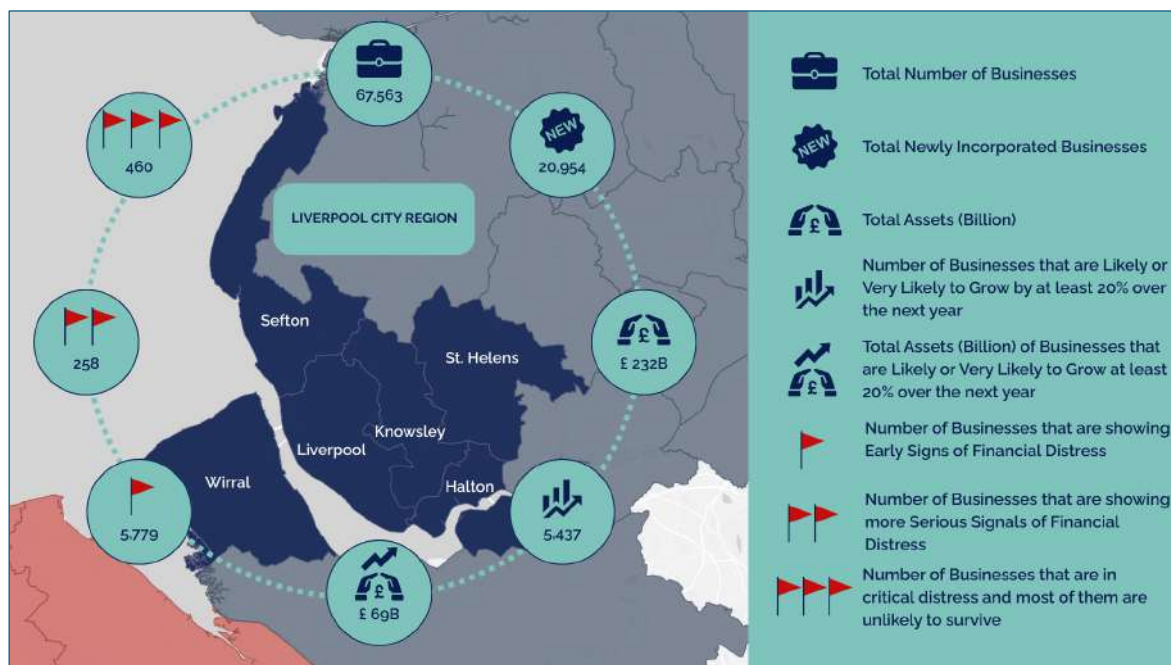


Figure 15.7: Greater Manchester Region business overview



This highlights the power of these two globally recognised Northwest England cities and their importance as key city regions within the Irish Sea Rim, with well over £2,000 billion in combined assets (Note: figure for Manchester includes assets of international banks in the city).

D. REGIONAL RESEARCH AND DEVELOPMENT INVESTMENT

Within the UK, Research and development investment shows a significant imbalance, with research capacity in the UK being disproportionately concentrated around London and South East England. A 2023 House of Commons Library report showed that while the ratio of total 2021 Gross Expenditure on Research and Development (GERD) for the Greater South East compared with the rest of the UK was 1.07 (£34.4 billion vs £31.9 billion) (Figure 15.8), a population-based expenditure per head analysis showed significant regional variation, from £1,406 per person in the Greater South East, to £534 per person in Wales (Figure 15.9)⁴⁹

Figure 15.8: Gross Expenditure on Research and Development £B: 2021

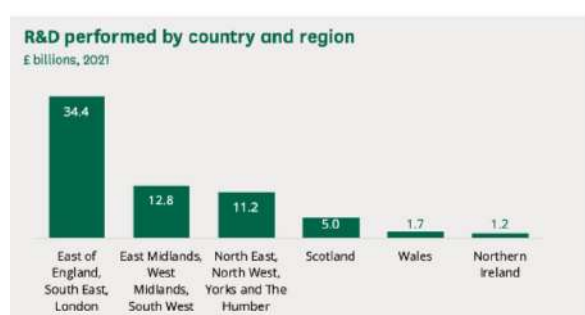


Figure 15.9: Gross Expenditure on Research and Development £ per head 2021



Similarly, UK Research and Innovation (UKRI) investment data show a long-term concentration of investment in the Greater South East. The 2023-2024 financial year was the first in which UKRI invested more in the rest of the country compared with the Greater South East (£4,614 million vs £4,550 million)⁵⁰. However, 50% of UKRI investment is still concentrated within the Greater South East, and significant regional disparities remain for Research Councils, Innovate UK, and Cross-UKRI (Figure 15.11) and Research England-specific funding (Figure 15.12).

For reference, the combined population of London, the South East, and East of England is ~25 million compared with ~44 million in the rest of the UK (Figure 15.10).

Figure 15.10: UK population and UKRI investment ratios 2023-24

⁴⁹ Panjwani, A., Hutton, G., Rhodes, C., Ward. (2023). Research & Development Spending. *Commons Library Research Briefing*. <https://researchbriefings.files.parliament.uk/documents/SN04223/SN04223.pdf>

⁵⁰ UKRI (2025). Geographical distribution of UKRI funding, financial years 2022 to 2023 and 2023 to 2024. UK Research and Innovation. <https://www.ukri.org/publications/2022-to-2023-and-2023-to-2024-geographical-distribution-of-funding/geographical-distribution-of-ukri-funding-financial-years-2022-to-2023-and-2023-to-2024/>

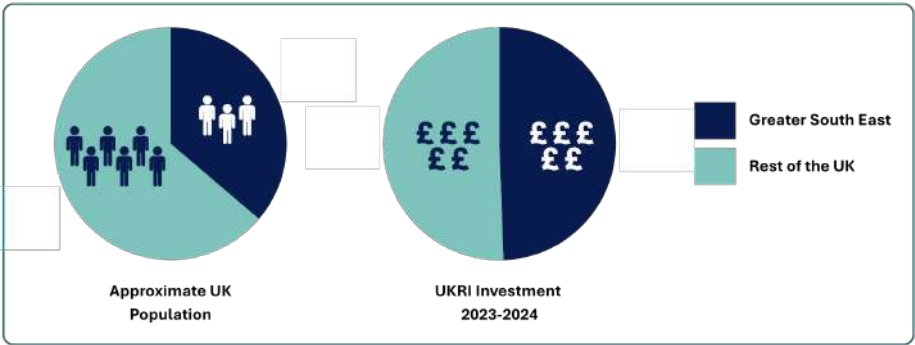
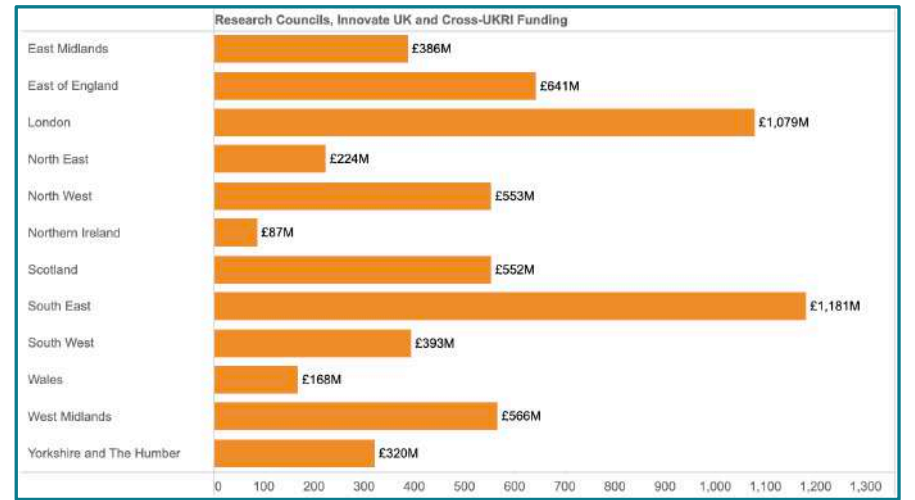
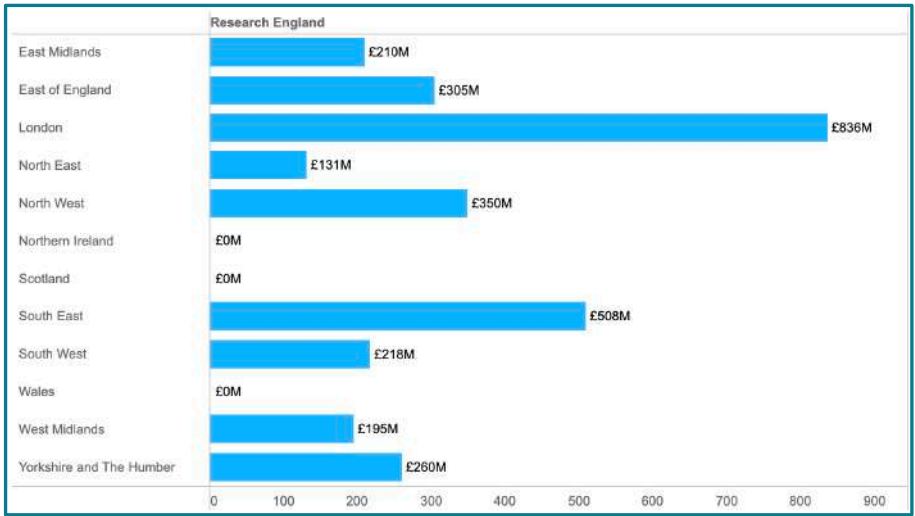


Figure 15.11: Geographical Distribution of UK Research Councils, Innovate UK, and Cross UKRI Investment £M – Financial Year 2023-24



Source: UKRI⁵¹

Figure 15.12: Geographical Distribution of Research England Investment £M – Financial Year 2023-24



⁵¹https://public.tableau.com/app/profile/uk.research.and.innovation.ukri./viz/Geographical_Distribution_of_UKRI_Investment_in_2022-24/UKRIInvestment

Source: URKI

UKRI investment per person has increased in recent years. It is positive that the ratio between the Greater South East and the rest of the UK has fallen from 2:1 to 1.7 in recent years, however, investment per person remains substantially higher in the Greater South East (£183) compared with the rest of the UK (£106). Figures 15.13 and 15.14 show investment per person for UK regions for Research Councils, Innovate UK, and Cross-UKRI, and Research England.

Figure 15.13: Geographical Distribution of UK Research Councils, Innovate UK, and Cross-UKRI Investment Per Person £ – Financial Year 2023-24

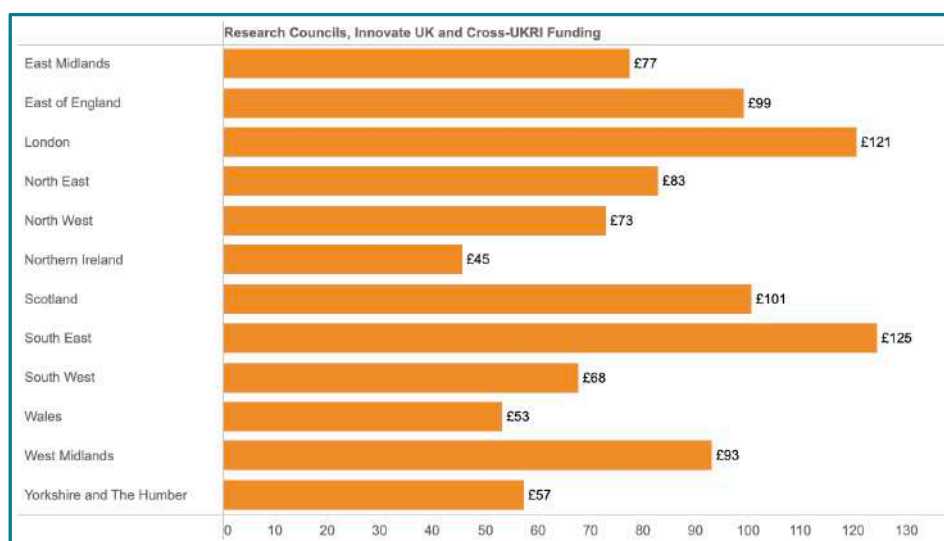
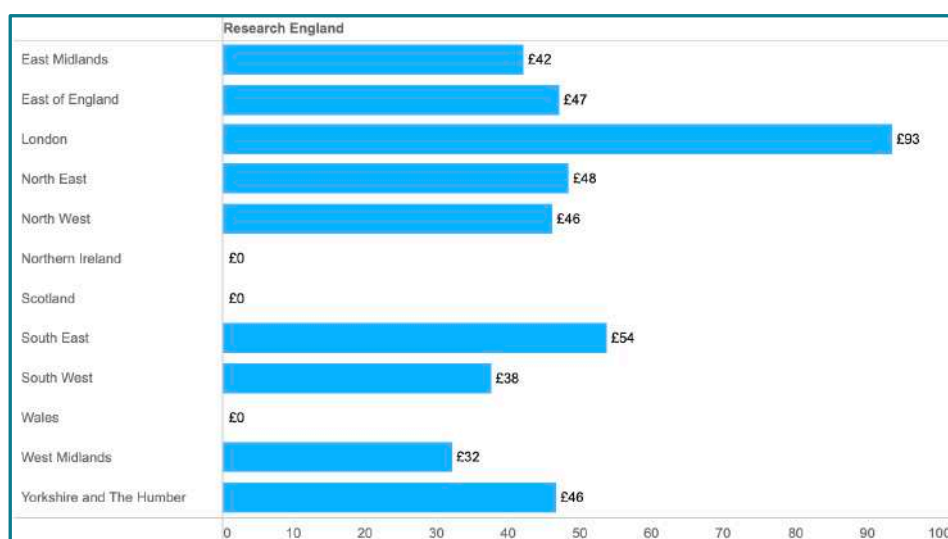


Figure 15.14: Geographical Distribution of Research England Investment Per Person £ – Financial Year 2023-24



The Irish Sea Rim will work closely with partners in Ireland to evaluate the research and innovation investment landscape and identify priorities for funding and rebalancing.

In a 2024 report on regional research capacity, the Higher Education Policy Institute (HEPI) highlighted that research and development investment and activity is not distributed evenly across each region⁵². There is significant concentration within key cities such as Birmingham, the M62 corridor and the Scottish central belt, with much of the focus on research collaboration being international rather than intra-regional. This leaves wider regional networks across the West Midlands, the North West, Yorkshire and the Humber and across Scotland underdeveloped, leaving many populations and communities in these areas underserved. This is particularly relevant for coastal communities around the Irish Sea Rim.

A July 2025 report by the Committee of Public Accounts (PAC) on UK Research and Innovation⁵³ emphasised the vital role that UKRI plays in developing and maintaining the UK's research and innovations system. However, the report also highlighted that there was a lack of a joined up, coherent set of priorities set by the Department of Science, Innovation and Technology (DSIT) which should inform UKRI's strategic approach.

E. UK RESEARCH AND INNOVATION STRATEGIC UPDATE

In response UKRI's updated funding settlement, there has been a marked shift from Research Council-led allocation of research and innovation funding towards a more explicitly strategic, outcome-focused investment model aligned with the UK Government's Modern Industrial Strategy, wider public missions, and the Plan for Change. Across the 2026/27 – 2029/30 Spending Review period, the Department for Science, Innovation, and Technology (DSIT) has allocated £38.6 billion to UKRI, with UKRI's annual budget rising from £9.2 billion in 2026/27 to almost £10.0 billion by 2029/30. This sits within DSIT's wider £58.5 billion R&D budget and the Government's stated £86 billion public R&D commitment over the Spending Review period. The new approach is intended to protect foundational discovery research while more deliberately using public R&D as a lever for productivity, private investment, industrial capability, technology adoption and national renewal.

From April 2026, the majority of UKRI funding will be allocated through three main priority "buckets", underpinned by a fourth enabling bucket. The largest bucket is curiosity-driven, foundational research, receiving £14.5 billion over the period, including £3.3 billion for applicant-led research, £8.9 billion for quality-related research funding to English universities, and £2.3 billion for other discovery-enabling investments such as institutes, infrastructures, open access and metascience. The second bucket, strategic government and societal priorities, will receive £8.3 billion, including £6.8 billion of programmatic support for Industrial Strategy sectors and wider government priorities, £500 million for the R&D Missions Accelerator Programme, and £750 million for large-scale national compute. The third bucket, supporting innovative companies, will receive £7.4 billion, including £5.1 billion for Industrial Strategy

⁵² Adams, J., Grant, J., Smith, D., and Szomszor, M. (2024). HEPI Report 168: Regional Research Capacity: What Role in Levelling Up? Higher Education Policy Institute <https://www.hepi.ac.uk/wp-content/uploads/2024/01/Regional-research-capacity-what-role-in-levelling-up.pdf>

⁵³ Committee of Public Accounts (2025). UK Research and Innovation. Forty-first report of Session 2024-2025. <https://committees.parliament.uk/publications/48971/documents/257323/default/>

sectors and wider government priorities, £1.8 billion for knowledge exchange, translation and commercialisation, and £440 million for the Local Innovation Partnership Fund. A fourth enabling bucket of £8.4 billion will support the underpinning capabilities required across the system, including institutes, collective talent, infrastructure, international partnerships and UKRI transformation.

The strategic significance of the settlement is that UKRI is now being positioned more explicitly as a delivery partner for the UK's 10-year Modern Industrial Strategy. The Industrial Strategy identifies eight growth-driving sectors: Advanced Manufacturing, Clean Energy Industries, Creative Industries, Defence, Digital and Technologies, Financial Services, Life Sciences, and Professional and Business Services. UKRI will establish cross-UKRI programmes across the strategic priorities and innovative companies' buckets, to create more coherent points of engagement for government, industry, investors, universities and research organisations. Targeted investment across Industrial Strategy sectors totals £9.0 billion within the two mission-facing buckets, with the largest combined allocations going to Digital and Technologies, including AI (£1.584 billion), Quantum Technologies (£1.013 billion), ACT / Semiconductors/Cybersecurity (£718 million), and Engineering Biology (£643 million), alongside Life Sciences (£1.508 billion), Advanced Manufacturing (£1.336 billion), Clean Growth and Energy (£1.176 billion), Defence and National Security (£555 million), Creative Industries (£369 million), and Professional, Business and Financial Services (£118 million). Wider priorities, including climate adaptation, environment and resilience, space, and food, animal and plant health, account for a further £2.944 billion.

For the Irish Sea Rim, the funding architecture creates a clear strategic alignment opportunity, as its key sectors and Economic Engines model map strongly onto UKRI's emerging priorities: place-based innovation leadership through the Local Innovation Partnership Fund:

- Industrial translation through Innovate UK, Catapults, HEIF and proof-of-concept mechanisms
- Infrastructure and skills through the enabling bucket
- Sectoral alignment through clean energy, advanced manufacturing, maritime and ports, logistics, cybersecurity, creative industries, life sciences and professional services.

The Irish Sea Rim's Economic Engines model is particularly relevant to the strategic shift towards cross-UKRI programmes, private leverage and outcome-led investment, as this is designed to connect government, industry, academia and place around investable, productivity-enhancing propositions. In practical terms, the Irish Sea Rim not only acts as a powerful regional collaboration platform, but also as a delivery vehicle capable of aggregating demand, aligning innovation assets, de-risking cross-border investment, and translating UKRI and Industrial Strategy priorities into bankable, place-based growth projects across the Irish Sea economy.

F. THE RESEARCH AND KNOWLEDGE EXCHANGE LANDSCAPE

The 2024 HEPI report also highlighted the critical importance of research and knowledge exchange in underpinning wider wealth creation and quality of life through *‘the training of highly qualified people, the development of knowledge capacity, and the delivery of innovation’*. Yet the report also notes that, despite the concentration of research and development within the Greater South East, this area *‘does not evidently deliver research that is – on average – much more highly rated, nor does it enhance relative GDP beyond that achieved in other regions’*. The report’s second finding is that *‘research quality is more evenly distributed across the UK than is funding or volume output’*.

HEPI’s conclusion is that the higher levels of funding within the Greater South East are not driven by, nor do they result in, research that is of inherently higher *quality* than elsewhere in the UK, and that the higher volume of world leading research in this region is related to the higher *concentration* of funding, rather than an inherent difference in the capability of the research base. Moreover, the report identifies that higher education institutions which receive relatively less funding deliver outcomes that are *‘of a value equal to those better funded’*.

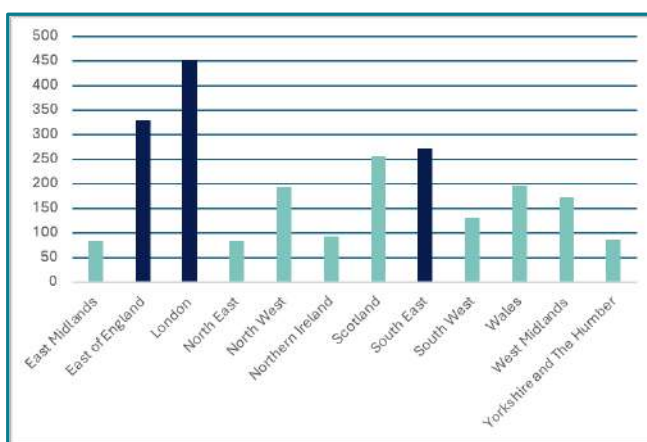


Figure 15.15: UK University spin outs (as of 25th July 2025)

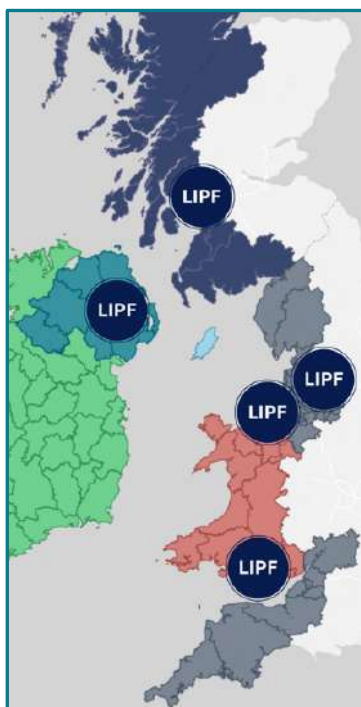
A similar pattern can be seen in the knowledge exchange distribution across UK Universities. The University Spin Out Register provides a publicly curated list of all University spin out companies. As of 25th July 2025, the Register shows a total of 1,052 spin outs from universities in the Greater South East compared with 1,300 in the rest of the UK⁵⁴ (Figure 14.15).

G. THE NEED FOR A STRATEGIC APPROACH TO RESEARCH AND INNOVATION INVESTMENT

One key takeaway from these data is that there is an urgent need for a rethink of the policies and strategies which drive government and UKRI decisions around research and innovation investment in the UK. Traditionally, awards and allocations of funding have been based on a retrospective model – with past performance informing future funding. The track record of any university or research institution is an important criterion in decision-making, yet the systemic imbalances in research and innovation investment outlined above, combined with findings of the HEPI report, highlight that past performance is not necessarily an accurate predictor of the potential future capability and impact of an institution. Basing funding on retrospective

⁵⁴ University Spin Out Register <https://www.hesa.ac.uk/data-and-analysis/business-community/spin-out-register>

measures risks ‘hard wiring’ inequities into the funding model, and makes it challenging for universities to increase performance, due to lack of funds.



The need for a joined-up strategic approach to regional research and innovation across the whole UK was further highlighted by two UKRI announcements in July 2025. The first launched the Local Innovation Partnership Fund (LIPF), a UKRI-led £500m programme to scale high potential innovation clusters around the UK⁵⁵. Of the 10 earmarked regions which will each receive £30m in funding, nine are situated outside the Greater South East, and funds will be released based on future-focussed strategies and project plans. The Irish Sea Rim will work closely with regions around the Irish Sea receiving earmarked funding (Figure 15.16) to connect, bridge, and amplify innovation projects across the quadruple helix of government, business, academia, and place, to support regenerative economic growth and sustainability.

Figure 15.16: Location of Irish Sea LIPF earmarked regions

The second announcement outlined the allocation of the £54m UKRI Global Talent Fund, which has been established to support selected institutions to recruit and embed teams of international researchers. In contrast to the LIPF, of the twelve institutions which will receive each £4.5m, five are in the Greater South East (including two in Cambridge). While Queen’s University Belfast was successful, no institutions in the North of England received funding. From the information available, investment decisions have been made based on ‘*organisational strengths in successfully receiving and using competitive international funding and recruiting and retaining international researchers*’.⁵⁶ This approach has led to criticism from the N8 Research Partnership.

The Committee of Public Accounts report on UKRI noted that ‘*it can be more attractive for investors, and more effective for government, to invest in geographic regions where there are existing clusters of high-quality research, essential infrastructure, and local skills*’. To some extent, this explains the continued imbalances in investment across the UK. Yet it also provides a significant opportunity for growth outside the Greater South East. Strategic government and UKRI investment, support, and capacity building in priority regions outside the Greater South East will help amplify previously underfunded clusters of excellence and draw in new investment from UK and global partners.

⁵⁵ UKRI (2025). Local Innovation Partnerships Fund. UK Research and Innovation.
<https://www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/local-innovation-partnerships-fund/>

⁵⁶ <https://www.ukri.org/news/uk-launches-scheme-to-attract-world-class-researchers/>

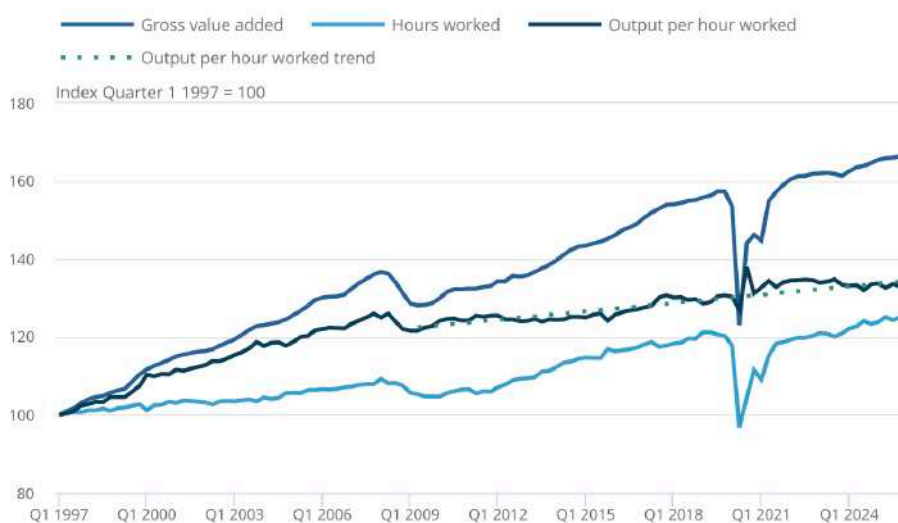


SECTION 16: PRODUCTIVITY

A. PRODUCTIVITY AS THE CORE GROWTH CHALLENGE

Productivity is the fundamental driver of long-term living standards, real wage growth, business competitiveness and fiscal sustainability. It measures how effectively an economy converts labour, capital, infrastructure, knowledge, technology, data and institutional capability into higher-value output. For the Irish Sea Rim, productivity is not an abstract economic indicator; it is the core test of whether the region can generate better jobs, stronger firms, more resilient trade, higher wages, cleaner growth and more sustainable public finances. However, according to the Office for National Statistics, while UK productivity for the first quarter of 2026 was 3.5% above the 2019 average level, productivity growth, in terms of output per hour worked, remains weak compared with pre-2008 trends (figure 16.1)⁵⁷.

Figure 16.1: Output per hour worked was 3.5% above its pre-coronavirus (COVID-19) pandemic level (2019 average level) in January to March 2026



Across the UK, Ireland and the Isle of Man, productivity is now central to government economic strategy. The UK's Modern Industrial Strategy is a ten-year plan to increase business investment and grow future-facing sectors, including advanced manufacturing, clean energy industries, creative industries, defence, digital and technologies, financial services, life sciences, and professional and business services. Ireland's Action Plan on Competitiveness and Productivity sets out 85 actions, including 26 priority actions, covering research, innovation and skills; FDI

⁵⁷

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/ukproductivityintroduction/januarytomarch2026andoctobertodecember2025>

and exports; SME creation and scaling; regulation and costs; infrastructure delivery; and sustainable business and regional development⁵⁸. Northern Ireland's economic vision is explicitly structured around Good Jobs, Raising Productivity, Decarbonisation and Regional Balance⁵⁹. Scotland's National Strategy for Economic Transformation identifies increasing productivity as one of five transformational programmes, alongside entrepreneurship, new markets, skills and fairer opportunity⁶⁰. The Isle of Man's economic strategy links growth to productivity, investment, innovation, population, jobs and GDP growth⁶¹.

The strategic relevance of the Irish Sea Rim is that these priorities overlap geographically, economically and politically around the Irish Sea. The region contains ports, freeports, universities, logistics corridors, clean energy assets, advanced manufacturing clusters, digital and cyber capability, maritime industries, professional services, island-economy specialisms and significant SME populations. However, these assets are fragmented across national, devolved, regional and island jurisdictions. The Irish Sea Rim productivity opportunity is therefore to connect complementary assets into a functional transnational economic system: a unified Investment, Innovation and Enterprise Zone that treats the Irish Sea as shared economic infrastructure rather than as an administrative boundary.

B. THE MACRO PRODUCTIVITY PICTURE: UK, IRELAND, AND ISLE OF MAN

The productivity challenge is structurally different across the UK, Ireland and the Isle of Man.

The UK faces a long-running productivity slowdown and a deep spatial imbalance. The latest ONS productivity flash estimate shows that UK output per hour worked in Q1 2026 was 3.5% above its 2019 average level and 0.4% higher than Q1 2025. However, ONS also states that productivity growth remains weak compared with trends before the 2008 global financial crisis. This is the core UK productivity puzzle: the economy is producing growth, but not at the efficiency trajectory needed to drive sustained wage growth and fiscal resilience.

Ireland presents a different productivity profile. Headline Irish productivity is very high, but it is heavily shaped by foreign-owned multinational enterprise activity. In Q4 2025, Ireland's total economy labour productivity was €120.50 per hour, but domestic-sector productivity was €58.20 per hour, while foreign-sector productivity was €511.40 per hour (figure 16.2). CSO Ireland therefore prioritises the domestic sector for analytical purposes because of the considerable influence of the foreign sector on total-economy measures⁶². Ireland's productivity challenge is therefore a dual-economy challenge: sustaining world-leading

⁵⁸ <https://enterprise.gov.ie/en/publications/action-plan-on-competitiveness-and-productivity.html>

⁵⁹ <https://www.economy-ni.gov.uk/topics/ministers-economic-vision>

⁶⁰ <https://www.gov.scot/publications/scotlands-national-strategy-economic-transformation/>

⁶¹ <https://www.gov.im/categories/business-and-industries/our-island-our-future-isle-of-man-economic-strategy/>

⁶² <https://www.cso.ie/en/releasesandpublications/fp/fp-piiq/productivityinirelandquarter42025/>

multinational performance while strengthening productivity, scaling and innovation diffusion across indigenous and domestic firms.

Figure 16.2: Ireland Labour Productivity for Domestic Sector, Foreign Sector and Total Economy



Source: CSO Ireland
Highcharts.com

The Isle of Man represents a third model: a small, high-income, service-dominant island economy with high-value specialisation but acute scale constraints. In 2023/24, insurance accounted for 16.9% of the Isle of Man economy, eGaming for 14.2%, and professional services for 13.8%⁶³. This supports a high-value economic model, but also creates exposure to sector concentration, labour supply constraints, housing pressures, digital infrastructure needs and external income flows. For the Isle of Man, the productivity challenge is not about scale in the conventional sense, but about maximising value from a finite workforce and connecting specialist capability into wider markets.

These three models create a strong case for the Irish Sea Rim. The UK needs stronger regional productivity beyond London and the South East. Ireland needs wider productivity spillovers into domestic and regionally embedded enterprise. The Isle of Man needs routes to scale specialist capabilities through partnership rather than volume. The Irish Sea Rim can address all three by connecting firms, ports, supply chains, universities, investors, skills systems and innovation assets across the Irish Sea.

C. REGIONAL PRODUCTIVITY AND THE IRISH SEA OPPORTUNITY

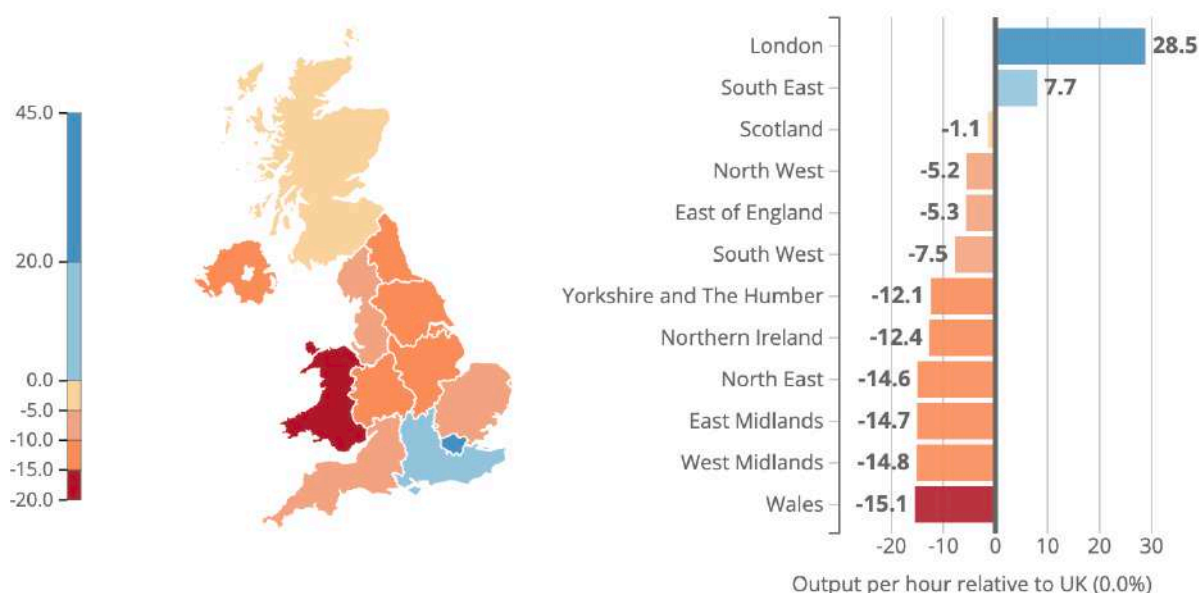
The UK productivity problem is also a regional systems problem. ONS regional productivity data show that, in 2023, London's output per hour worked was 28.5% above the UK average and the South East was 7.7% above the UK average. Every other UK country and English region was below the UK average. Wales, the West Midlands, the East Midlands and the North East had the

⁶³ <https://www.gov.im/media/1391286/national-income-2023-24-report-updated-jan-26.pdf>

four lowest output-per-hour levels, at 15.1%, 14.8%, 14.7% and 14.6% below the UK average respectively⁶⁴ (figure 16.3).

This matters directly to the Irish Sea Region. Wales had GVA per hour worked at 84.9% of the UK average in 2023, the lowest of the UK countries and English regions⁶⁵. Northern Ireland remains below the UK average but has placed productivity improvement at the centre of its economic vision. The North West and South West of England remain below the UK average on productivity levels, but contain major assets in ports, advanced manufacturing, clean energy, logistics, digital, life sciences, universities, professional services and freeport activity. Scotland sits closer to the UK average than several other UK regions, but its national economic strategy still identifies productivity as a core transformation priority.

Figure 16.3⁶⁶: Output per hour worked by International Territorial Level 1 region relative to the UK average, UK, 2023



Source: Regional Productivity from the Office of National Statistics

There are also important signs of momentum around the Irish Sea. ONS data show that the North West made the largest positive contribution to UK output-per-hour growth in 2023 compared with 2019 and had the strongest cumulative average annual growth rate of any UK region between 2019 and 2023, at 2.4% compared with 0.7% for the UK as a whole⁶⁷. This is strategically significant because North West England is one of the Irish Sea Rim's central

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<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/regionalandsubregionallabourproductivityuk/2023>

⁶⁵ <https://www.gov.wales/sub-regional-productivity-2002-2023-html>

⁶⁶

<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/regionalandsubregionallabourproductivityuk/2023>

⁶⁷

<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/regionalandsubregionallabourproductivityuk/2023>

productivity anchors. Liverpool, Manchester, the M62 corridor, the Liverpool City Region Freeport, advanced manufacturing, nuclear, hydrogen, health innovation, materials, logistics, ports, universities and professional services together form a powerful but still under-connected productivity platform.

The ISR proposition is therefore not that the Irish Sea Region lacks productive assets. It is that these assets are not yet sufficiently connected into a coherent economic system. The productivity opportunity lies in improving the connectivity, scale, visibility and interoperability of the region's assets so that firms can access larger markets, universities can collaborate across borders, ports can function as intelligent logistics nodes, and SMEs can participate in higher-value supply chains.

D. THE IRISH SEA RIM AS A PRODUCTIVITY PLATFORM

The Irish Sea Region comprises South West Scotland, North West England, Wales, the Great South West of England, Northern Ireland, Ireland, and the Isle of Man. It is not a single administrative economy, but it is a coherent functional economic geography. Its productivity potential lies in the interaction between complementary assets.

South West Scotland brings maritime, rural innovation, clean energy, food, ports, tourism and environmental assets. North West England provides major productivity anchors through Liverpool, Manchester, the M62 corridor, the Liverpool City Region Freeport, advanced manufacturing, nuclear, hydrogen, health innovation, materials, logistics, ports, universities and professional services. Wales brings ports, freeports, marine energy, compound semiconductors, cyber security, advanced manufacturing, agri-food and university assets, while also facing acute productivity gaps. The Great South West contributes clean energy, aerospace, defence, marine engineering, environmental science, food, farming, natural capital and coastal innovation. Northern Ireland brings advanced manufacturing, cyber, fintech, agri-food, logistics, life sciences and a distinctive position between the UK internal market and the EU-facing Irish economy. Ireland adds multinational investment, domestic enterprise, research capability, export orientation, ports, energy, data and advanced services. The Isle of Man adds specialist financial, digital, regulatory and island-economy capability.

The purpose of the Irish Sea Rim is to create an Investment, Innovation and Enterprise Zone connecting the six jurisdictions around the Irish Sea Rim, with a wider model built around prosperity, innovation, cross-border business networks, research partnerships, sustainable energy and regional collaboration. In productivity terms, this is best understood as a platform proposition: the Irish Sea Rim can create the connective tissue that enables the region's assets to operate at greater scale.

Trade and logistics are the most immediate opportunity. The UK Government's Ireland trade and investment factsheet reports total UK-Ireland trade in goods and services of £89.3bn in the four quarters to the end of Q4 2025, an increase of 5.6% in current prices compared with the previous year. UK exports to Ireland were £56.4bn and UK imports from Ireland were £32.9bn;

Ireland was the UK's sixth largest trading partner, accounting for 4.7% of total UK trade⁶⁸. These flows already constitute a major productivity corridor. However, post-Brexit trade conditions, customs requirements, regulatory divergence, port capacity, documentation burdens, cyber risk and fragmented digital systems can add time, cost, uncertainty and duplication.

The Irish Sea Rim addresses this through smart trade and logistics infrastructure: bonded logistics corridors, smart port data-sharing, trusted trader models, digital customs processes, interoperable trade documentation, real-time seal integrity, cyber-secure freight systems, coordinated freeport links and better integration with road and rail corridors such as the M62 and trans-Pennine routes. The outcomes of this are not just to improve transport efficiency, but to raise the productivity of companies whose business models depend on speed, reliability, compliance, inventory control and supply-chain resilience.

E. ECONOMIC ENGINES AS A DRIVER OF PRODUCTIVITY

The Irish Sea Rim's productivity additionality comes through six practical mechanisms.

1. **REDUCE TRADE FRICTION:** Align ports, freeports, customs systems, freight data, cyber security, trusted trader models and bonded logistics.
2. **ACCELERATE INNOVATION DIFFUSION:** Enable SMEs to access applied research, demonstrators, university expertise, procurement opportunities, investment networks and testbeds across the whole region rather than only within their local geography.
3. **DEEPEN LABOUR-MARKET PRODUCTIVITY:** Support shared skills programmes in maritime logistics, customs, cyber security, AI, green energy, advanced manufacturing, food systems, health innovation and visitor economy productivity.
4. **SUPPORT CLEAN GROWTH:** Connect offshore wind, floating wind, marine energy, hydrogen, nuclear, geothermal, green shipping, port decarbonisation and energy-system innovation.
5. **CREATE INVESTABLE SCALE:** Bundle fragmented local projects into larger transnational portfolios.
6. **STRENGTHEN INCLUSIVE REGIONAL GROWTH:** Link high-value innovation activity to coastal, rural and peripheral communities.

Clean growth is one of the strongest ISR productivity opportunities. The Great South West Clean Energy Powerhouse Prospectus identifies major opportunities including GW-scale floating offshore wind in the Celtic Sea, Hinkley Point C, geothermal power, solar, onshore wind, tidal and wave energy, hydrogen and biofuel production and storage, critical minerals, and battery production and storage. It states that the Great South West has the potential to supply up to 11% of Great Britain's clean power demand by 2035, unlocking up to £10bn in GVA and 175,000 jobs⁶⁹. Through ISR, these assets could be connected to Welsh ports and freeports, Northern

⁶⁸ <https://assets.publishing.service.gov.uk/media/6a01f5ec2a6137e93226b9bb/ireland-trade-and-investment-factsheet-2026-05-14.pdf>

⁶⁹ https://greatsouthwest.co.uk/wp-content/uploads/2024/11/GSW-Energy-Prospectus_2024_FINAL.pdf

Irish engineering and maritime capability, Irish ports and energy systems, Scottish clean energy strengths, North West industrial corridors and Isle of Man finance and regulation.

The Irish Sea Rim's Economic Engines will therefore work as productivity platforms, via interlinked programmes that convert regional assets into measurable outcomes. Priority Economic Engines include Smart Trade and Bonded Logistics; Clean Maritime and Green Shipping; Offshore and Marine Energy; Digital, AI and Cyber Assurance; Advanced Manufacturing and Resilient Supply Chains; Food, Farming and Blue Economy Innovation; Health and Life Sciences; and Coastal Visitor Economy Productivity. Each will be measured through output per hour where available, GVA per job, business investment, export growth, innovation adoption, SME participation, private investment leveraged, freight reliability, skills participation, higher-value job creation and reduced trade friction.

F. THE IRISH SEA RIM AS A STRATEGIC FORCE MULTIPLIER FOR PRODUCTIVITY

The Irish Sea Rim can act as a productivity force multiplier for the UK, Ireland and the Isle of Man. Its role is not to replace national, devolved or regional strategies, but to connect them where their priorities already overlap via growth, innovation, trade, infrastructure, clean energy, skills, investment and inclusive regional development.

The evidence shows both the scale of the productivity challenge and the scale of the opportunity. UK productivity remains weak by historic standards and spatially uneven. Ireland's productivity is strong but dualistic. Wales and parts of the Irish Sea periphery face deep productivity gaps. Northern Ireland and the North West show opportunities for productivity momentum. The Isle of Man requires specialist scale and resilience. UK-Ireland trade already exceeds £89bn a year, but remains exposed to friction, delay and system fragmentation.

The Irish Sea Rim proposition reframes this challenge. It turns the Irish Sea from an administrative boundary into shared economic infrastructure. By connecting ports, freeports, logistics corridors, universities, SMEs, clean energy assets, industrial clusters, digital capability, island economies and investment platforms, the Irish Sea Rim can create the conditions for agglomeration, knowledge spillovers and productivity diffusion. This is the core additionality of a unified, transnational Investment, Innovation and Enterprise Zone – raising productivity not by concentrating growth in one place, but by connecting complementary assets across the whole region. In doing so, the Irish Sea Rim can support sustainable, inclusive growth; strengthen UK-Ireland trade resilience; improve productivity in coastal, rural and peripheral communities; and create a vital economic complement and counterbalance to London and the Greater South East.

SECTION 17: SKILLS AND PLACE

In conversations with stakeholders, skills shortages and retention of staff have been identified as core issues for development and growth. The skills gap is a common threat to the entire Irish Sea Region, impacting the area's collective ability to achieve its economic potential.

A. THE SKILLS LANDSCAPE IN UK AND IRELAND

Both the UK and Ireland report that extensive skill shortages. While the region's cities are magnets for university graduates, this masks deep internal inequalities in educational attainment. In Bristol's most deprived areas, participation rates in higher education are extremely low. A key strategic priority for Belfast is to reduce the significant gap in educational outcomes between pupils entitled to free school meals and their peers. In Lancashire, community needs analyses point to a focus on improving adult skills and providing better pathways for young people who are Not in Education, Employment, or Training (NEET). In Northern Ireland, the Department for the Economy's 'Skills for a 10x Economy' strategy similarly prioritises upskilling and reskilling, with a focus on green technology and digital skills. An annual Skills Barometer report provides detailed analysis of the labour market, identifying areas of skills imbalance to inform policy and provision.

- The World Economic Forum reports that globally, on average, workers can expect that 39% of a worker's existing skill sets will be transformed or outdated by 2030, highlighting the risks of 'skill instability', and the need for a rapid and innovative response⁷⁰.
- In 2024, 62% of UK organisations reported facing skills shortages, with higher rates for manufacturers and mid-sized firms (74% and 77% respectively)⁷¹.
- In Ireland, the situation is even more acute with 83% of employers reporting difficulties in finding the skilled talent they need in 2025. This figure has more than doubled since 2019 and represents an all-time high⁷².
- In 2024, 27% of all vacancies in the UK were classified as skills-shortage vacancies⁷³.
- Key findings from the 2020 PwC report on Isle of Man digital skills identified that 32.5% of jobs were potentially at risk from 2020-2035, with financial services the most

⁷⁰ (2025). Future of Jobs Report 2025: Insight Report. World Economic Forum. https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf

⁷¹ (2024). Business Barometer: An Analysis of the UK Skills Landscape. The Open University and British Chambers of Commerce. https://www.britishchambers.org.uk/wp-content/uploads/2024/06/The_Open_University_Business_Barometer_2024.pdf

⁷² (2025). 2025 Ireland Talent Shortage Survey. Manpower Group. <https://www.manpowergroup.ie/blog/2025/02/talent-shortages-report-ireland-2025>

⁷³ (2024). Employer Skills Survey Calendar Year 2024. UK Government. <https://explore-education-statistics.service.gov.uk/find-statistics/employer-skills-survey/2024>

disrupted sector. It was estimated that the cost of doing nothing will ultimately be six times the cost of upskilling now⁷⁴.

Skills shortages are most pronounced in many of the sectors which are critical to the development of world leading clusters and economic growth within the Irish Sea Region, including digital and data skills, construction workers for the green economy, and innovation and research and development. The Manpower Ireland Talent Shortage survey identified major talent shortages across key industries (Figure 17.1).

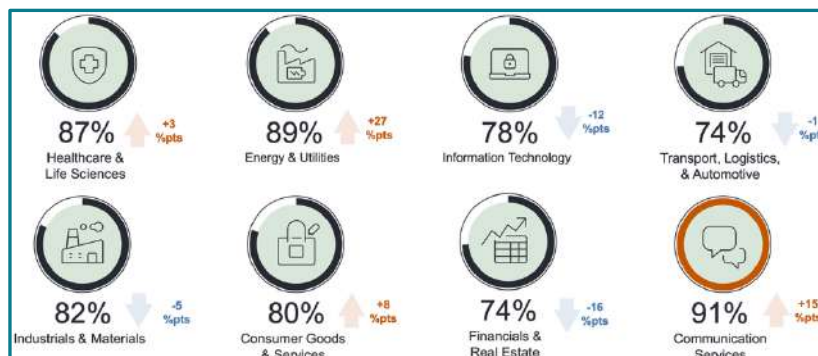
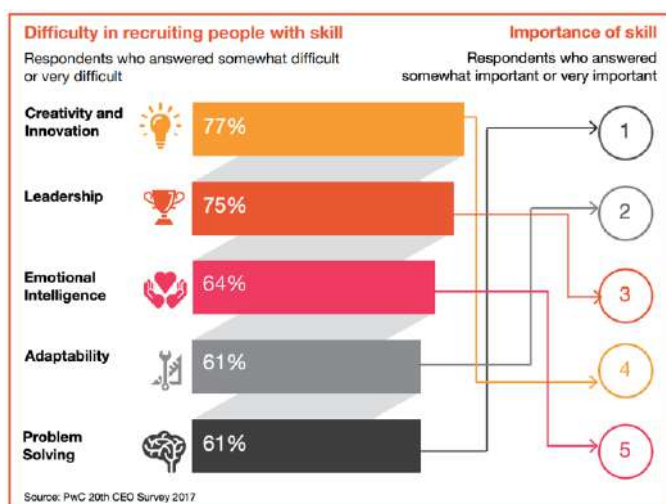


Figure 17.1: Ireland Talent Scarcity Across Industries

More importantly, the World Economic Forum reports that, alongside technical expertise, the ‘softer’ skills of analytical thinking, commercial awareness, leadership, resilience,



communication, and creative thinking are consistently ranked as priorities. Yet employers frequently report that graduates, while strong academically, lack these vital skills. The PwC Isle of Man Digital Skills report identified that, while the use of automation and AI is accelerating rapidly, there is an increasing need for human capabilities that cannot be undertaken by these systems. It is these interpersonal skills that are most prized which can be difficult to source. (Figure 17.2).

Figure 17.2: Challenges in recruiting interpersonal skills

B. CYBERSECURITY: A CRITICAL REGIONAL AND GLOBAL CHALLENGE

All countries around the Irish Sea Rim are prioritising cybersecurity infrastructure and skills development. Cyber-attacks from hostile actors, combined with significant cybersecurity skills shortages, and digital poverty, and a lack of cyber and digital literacy in SMEs and businesses in the region pose a significant risk to national security and economic growth.

⁷⁴ (2020). New World. New Skills: Upskilling the Isle of Man’s Workforce for a Digital World. PricewaterhouseCoopers LLC. <https://www.pwc.com/im/en/assets/document/digitally-upskilling-the-isle-of-man.pdf>

According to the World Economic Forum, globally, 'networks and cybersecurity' is the second fastest-growing skill in importance, driven by broadening digital access and increasing geoeconomic fragmentation. Yet there are acute shortages in cybersecurity skills across the Irish Sea Region, which impact every jurisdiction of the Irish Sea.

- **UK-Wide:** The UK cyber security skills gap is substantial, with an estimated annual shortfall of over 14,000 people. Across the economy, 44% of businesses lack basic cybersecurity skills with key needs including professionals with 3-5 years' experience in incident management, penetration testing, cryptography, and AI security⁷⁵. In response, the UK Government has launched the £2.6 billion National Cyber Strategy⁷⁶, the £1.9 million regional training fund, and the Cyber Explorers programme for students⁷⁷.
- **Ireland:** A 2024 Cyber Ireland report and associated analysis identified a significant cyber talent gap⁷⁸, with 48% of cybersecurity roles unfilled due to booming tech sector⁷⁹, and a need for the workforce to grow from 8,000 to 17,000 by 2030. Key needs include cloud security, data privacy, incident response, and AI security skills. This shortage is considered a major operational risk for businesses and a strategic risk to Ireland's position as a leading digital and technology hub, as it impacts the country's ability to attract foreign direct investment and protect its critical infrastructure. In response, the industry-led Cyber Ireland initiative is focussing on education partnerships and talent pipeline expansion⁸⁰.
- **Isle of Man:** Cyber is critical to the island's economic success as a secure and stable place for business, particularly for its prominent finance and e-gaming sectors. Yet the Isle of Man Office of Cyber-Security and Information Assurance cites a severe shortage of skills, and notes that around one in three government cyber posts are vacant⁸¹.

In its 2022-2027 National Cyber-Security Strategy, the Isle of Man lists five priority areas:

1. Safer and secure citizens in cyber space
2. Resilient and responsive digital island
3. Education and skills for a safe, secure, and resilient digital
4. deter, detect, disrupt, and respond to cyber-crime
5. Internationally responsible

The UK's National Cyber Force (NCF) has established its permanent campus in Samlesbury, Lancashire, a move designed to cement the North West of England as a pivotal hub for cyber innovation and skills⁸². This strategic placement is of paramount importance for the nation's

⁷⁵ <https://www.gov.uk/government/publications/cyber-security-skills-in-the-uk-labour-market-2024/cyber-security-skills-in-the-uk-labour-market-2024>

⁷⁶ <https://www.gov.uk/government/publications/national-cyber-strategy-2022/national-cyber-security-strategy-2022>

⁷⁷ <https://www.gov.uk/government/news/new-regional-skills-projects-to-bolster-uk-cyber-defences-and-deliver-on-plan-for-change>

⁷⁸ (2024) Cyber Ireland: Ireland Cyber Security Sector Snapshot 2024. Perspective Economics. Cyber Ireland. <https://cyberireland.ie/wp-content/uploads/2024/09/Ireland-Cyber-Security-Sector-Snapshot-2024.pdf>

⁷⁹ <https://cyberireland.ie/wp-content/uploads/2023/09/Cyber-Labour-Market-Report-2023.pdf>

⁸⁰ <https://cyberireland.ie/about-us/>

⁸¹ (2025). Isle of Man Cyber Threat Update. Cyber Security Centre for the Isle of Man. <https://csc.gov.im/media/11uce1pq/threat-update-january-february-2025.pdf>

⁸² <https://www.gov.uk/government/news/permanent-location-of-national-cyber-force-campus-announced>

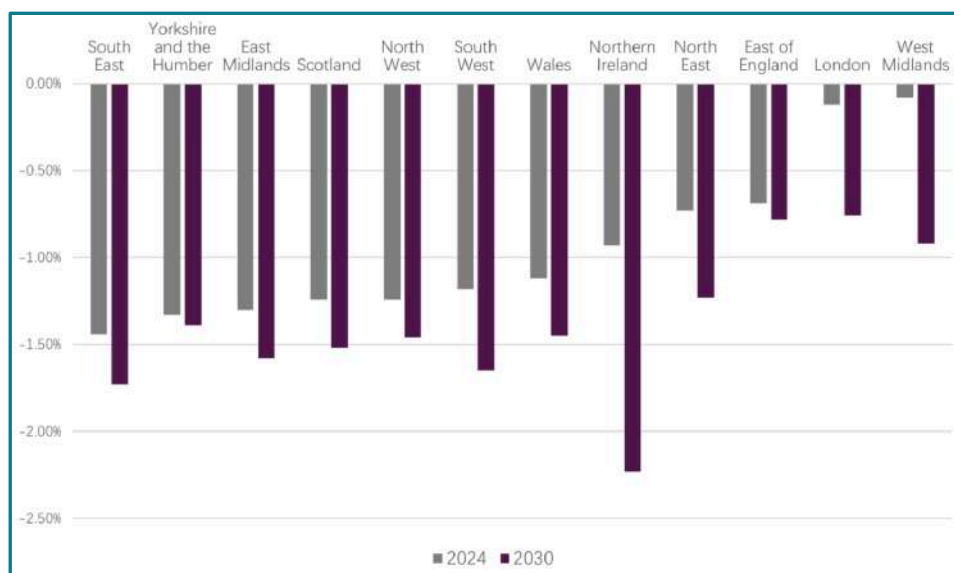
cyber skills development, aiming to create thousands of highly skilled jobs and foster a collaborative ecosystem between government, industry, and academia. The NCF's presence is intended to act as a catalyst for investment in the region, nurturing a new generation of cyber experts to defend the UK against a growing number of digital threats. However, this initiative is set against the backdrop of significant challenges in the UK's current cyber skills capacity. The success of the National Cyber Force's new campus will therefore be crucial in not only bolstering the nation's offensive and defensive cyber capabilities but also in addressing the pressing need to cultivate a robust and sustainable pipeline of cyber talent.

In Northern Ireland: Belfast is home to one of the UK's most significant cybersecurity clusters, with the highest concentration of cyber security firms outside of London. This ecosystem is anchored by the Centre for Secure Information Technologies at Queen's University Belfast, the UK's lead Innovation and Knowledge Centre for cybersecurity. The city's dedicated Cyber Security strategy aims to build on this strength, though it also faces the challenge of finding enough skilled professionals to meet the high demand from this rapidly growing sector.

C. IMPACT OF SKILLS SHORTAGES ON PRODUCTIVITY AND GROWTH

Addressing these complex challenges and improving the UK and Irish skills base is seen as fundamental to addressing the long-standing productivity and growth problems. A recent University of Birmingham report noted that the digital skills shortage could cost the UK economy up to £27.6 billion by 2030, coupled with more than 380,000 job losses and reduced productivity (Figure 17.3), with Northern Ireland facing the most significant impact⁸³.

Figure 17.3: Impact of Digital Skills shortages on employment (%) by region 2024 and 2030

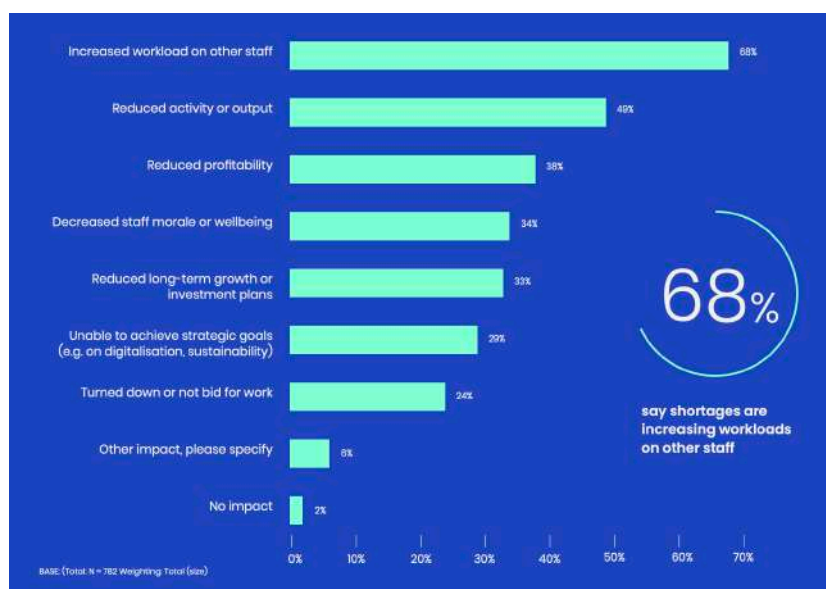


⁸³ Ma, H., Lyons, M., Kollydas, K., Green, A. (2025). Digital Skills Shortage: UK Faces £27.6 Billion Loss by 2030 Due to Digital Skills Shortage. University of Birmingham City-Redi Blog. <https://blog.bham.ac.uk/cityredi/digital-skills-shortage-uk-faces-27-6-billion-loss-by-2030-due-to-digital-skills-shortage/>

A lack of skilled workers places direct constraints on growth, with the Open University's 2024 Business Barometer identifying multiple impacts from skills shortages, including 68% of firms reporting increased workload on other staff – leading to burnout – and 49% reporting reduced output (Figure 17.4).

While the green economy presents a major economic opportunity for the UK and Ireland, and particularly the Irish Sea Region, this is threatened by a skills bottleneck. According to Skills England, in construction the transition towards green skills will require new and updated qualifications, and a substantial increase growth in the existing green-skilled workforce. Support to help businesses gain new skillsets is also a priority. Similarly, there is a recognised shortage of skilled researchers and technicians needed to fuel the pipeline to translate research.

Figure 17.4: Impact of Skills Shortages on UK firms – Open University 2024 Business Barometer



D. UNDERLYING FACTORS IMPACTING SKILLS

The current shortage in key skills is a long-standing and complex global problem, arising from a combination of interlinked challenges across the economic and educational landscape. Employer investment in skills has fallen significantly in the UK in recent years, with businesses opting to hire trained staff, rather than developing them in-house. The Open University Business Barometer reported that 71% of organisations do not have a written skills plan to identify and address their future needs. This is compounded by the perception that the UK skills landscape is complex and confusing to navigate, particularly for SMEs, creating a barrier to engaging with apprenticeships and training programmes. Skills England reports employers and training

providers perceive a lack of clarity in how different training programmes fit together and the responsibilities of different government bodies⁸⁴.

Universities and Further Education (FE) Colleges within the Irish Sea Region play a critical role in driving growth and addressing the technical and transferable skills gap through degree courses and lifelong learning. As civic anchor institutions, universities and FE colleges play a crucial place-based role in tackling regional skills gaps by working directly with local employers and communities⁸⁵. Yet in many cases, universities will be unable to fill the skills gap alone. In the key sector of Data, in 2021, the estimated potential supply of data scientists from the UK was around 10,000 per year compared with 178,000 vacancies requiring data ‘hard skills’.

E. NATIONAL STRATEGIES FOR SKILLS IMPROVEMENT

All governments across the Irish Sea Region have put in place strategies to address skills gaps, strengthen existing opportunities, and meet the needs of their employers and economies. There are several common threads across all countries, including: prioritising evidence-based, employer led systems: enhancing and promoting lifelong learning and upskilling / reskilling: tackling inequalities and barriers through inclusion and fair access to work; and a need for joined up governance and clear accountability at local, regional, and government levels. This is exemplified in Northern Ireland, where the annual Skills Barometer acts as a labour market observatory to monitor skills provision against employer demand. Furthermore, the Belfast Region City Deal includes a major employability and skills pillar, directly linking funding for skills development to the specific needs of regional growth industries. There is a shared focus on priority skills, such as digital / AI, green / net-zero, health and social care, construction / housebuilding, and life sciences^{86, 87, 88, 89, 90}.

Within Ireland, the Manpower Ireland Talent Shortage survey identified the key actions that Irish employers are taking to address skills shortages (Figure 17.5), with upskilling current employees and increasing wages the most prevalent approaches⁹¹.

⁸⁴ (2024). Skills England: Driving Growth and Widening Opportunities. Department for Education. UK Government.

https://assets.publishing.service.gov.uk/media/66ffd4fce84ae1fd8592ee37/Skills_England_Report.pdf

⁸⁵ Redmond, J., Themiminulle, S. (2025). Civic Universities and Regional Skills Gaps: University – FE College Collaborations. The Institute for Community Studies at The Young Foundation.

<https://eprints.icstudies.org.uk/id/eprint/473/1/Civic-Universities-and-Regional-Skills-Gaps.pdf>

⁸⁶ (2024). Skills England: Driving Growth and Widening Opportunities. Skills England. Department for Education. UK Government.

https://assets.publishing.service.gov.uk/media/66ffd4fce84ae1fd8592ee37/Skills_England_Report.pdf

⁸⁷ Skills Development Scotland Strategic Plan 2022-2037.

<https://www.skillsdevelopmentscotland.co.uk/skills-for-a-changing-world>

⁸⁸ (2022). Stronger, Fairer, Greener Wales: A Plan for Employability and Skills. Welsh Government.

<https://www.gov.wales/sites/default/files/publications/2022-05/stronger-fairer-greener-wales-plan-employability-and-skills0.pdf>

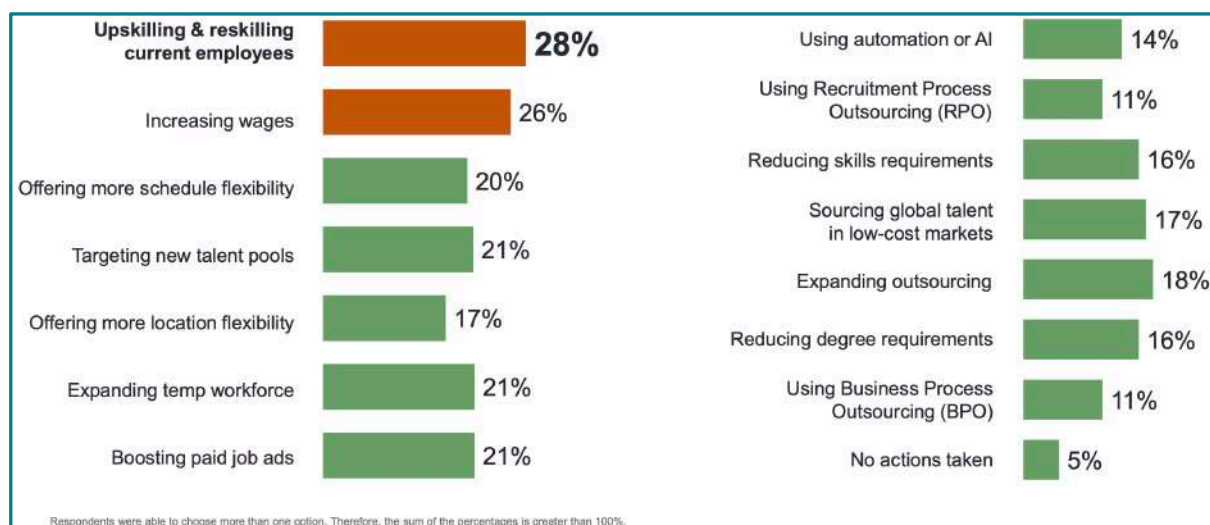
⁸⁹ (2022) Ireland’s National Skills Strategy 2025. Department of Education and Skills. Irish Government.

<https://assets.gov.ie/static/documents/irelands-national-skills-strategy-2025-irelands-future.pdf>

⁹⁰ (2024). Skills Strategy 2024-2027. Skills Isle of Man. Isle of Man Government.

⁹¹ (2025). 2025 Ireland Talent Shortage Survey. Manpower Group.

<https://www.manpowergroup.ie/blog/2025/02/talent-shortages-report-ireland-2025>

Figure 17.5: Actions Irish Employers are Taking to Overcome Ongoing Scarcity

F. A QUADRUPLE HELIX STRATEGY FOR THE IRISH SEA RIM

The Irish Sea Region is home to 40+ Universities and even more FE colleges. Through the quadruple helix model of government, business, academic, and community, we plan to connect, catalyse, and amplify skills development in key areas. In its 2024 report, The Social Mobility Commission emphasised the need for a joined-up approach to linking employment and skills. The report indicates that generating real change will require a wider range of technical skills and knowledge, alongside enterprise and entrepreneurialism across a range of economic sectors, as innovative economies support greater opportunities even to lower income, lower skilled people and communities⁹².

Figure 17.6 demonstrates how the Irish Sea Rim adds value to this agenda.

Figure 17.6: Irish Sea Rim Added Value for Skills Development

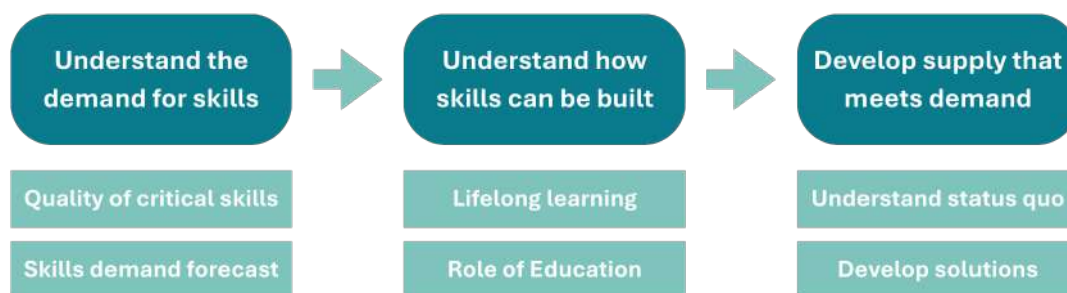


⁹² (2024). Innovation Generation: Next Steps for Social Mobility. Social Mobility Commission. UK Government. <https://socialmobility.independent-commission.uk/app/uploads/2024/11/Innovation-Generation.pdf>

Through the Irish Sea Rim Mapping Project ([Section 26](#)), we will work with industry partners to understand and define the current and future skills demands and supply needs for skills in critical sectors and supply chains, such as energy, green economy, cybersecurity, defence and logistics. This will lead onto further work involving regional authorities, communities, businesses, and education partners to discover innovative ways in which skills can be built, both within and outside education, and development of initiatives to gain a deeper understanding of the status quo and inform the development of solutions to help develop supply that meets demand ([Figure 17.7](#)).

There are a number of ways in which the Irish Sea Rim plans to contribute to development of skills initiatives through its key role in connecting and convening partners to support the two key sources of skills – developing and training new talent, and up-skilling the workforce. Through this integrated approach, we aim to transform the skills gap into a catalyst for innovation, productivity and inclusive prosperity across the entire Irish Sea Region.

Figure 17.7: Model for enhancing skills development across the Irish Sea Rim



DEVELOPING NEW TALENT

- **REAL-WORLD PRACTICE:** Connecting universities with industry to support employer-informed real-world based teaching and learning experiences to support the development of transferable skills and upskill the pipeline. This includes, live briefs, ‘hackathons’, and service provision to local businesses and communities. Business and Law undergraduates at Liverpool John Moore’s University work in outward facing Clinics, delivering real-world services to charities, SMEs, and communities in the Liverpool City Region. Students gain vital professional and transferable skills and generate tangible impact for clients. We have had preliminary conversations with Liverpool Business School to explore ways in which the Irish Sea Rim could support wider connections and cross-border opportunities for students.
- **DEMAND-LED ACADEMIES:** A notable model of good practice in the region is Northern Ireland’s ‘Assured Skills’ programme. These employer-led academies, often delivered in partnership with Further Education colleges like Belfast Metropolitan College, provide bespoke, pre-employment training in growth sectors such as fintech, data analytics, and cybersecurity. Participants who complete the training are guaranteed an interview for a job with the partner company, creating a direct and effective talent pipeline that responds rapidly to industry needs.

- **STUDENT PLACEMENTS:** Sourcing and supporting short term student placements with businesses across the Irish Sea Region, providing students with critical experience, and businesses with low-cost support and innovation.
- **EMPLOYER-INFORMED CURRICULA:** Catalysing new undergraduate and postgraduate curriculum modules in partnership with industry, and exploring novel pedagogical approaches to support student engagement, learning, and development of key analytical, commercial, and social skills in real-world contexts.
- **RESEARCH AND INNOVATION:** Establishing an Irish Sea Rim Doctoral Training Centre to support interdisciplinary innovation and enterprise-based PhD projects in partnership with universities and industries (see below).

UPSKILLING THE WORKFORCE

- **SUPPLY CHAIN UPSKILLING:** Facilitating partnerships with key industries to enhance programmes for larger businesses to support critical skills development within their SME supply chains.
- **CONTINUING PROFESSIONAL DEVELOPMENT:** Working across the quadruple helix to support the development and deployment of novel, effective, adaptive, and accessible CPD training how and where it is needed.
- **COMMUNITIES OF PRACTICE:** Collaborating with academic partners at the University of Cumbria and externally to explore and develop a 'guilds' model for skills development in key areas. Create sustainable digital communities of practice through co-design of online training and development, underpinned by and secure and trusted digital platforms. In partnership with the University of Cumbria we have submitted a proposal to develop a prototype secure and trusted platform (CyberWaves) for cyber security professionals in academia and industry to network and collaborate.

TRANSFORMING PLACES

- **REGIONAL SKILLS GAPS:** Integrate communities and local authorities into strategic planning to address regional inequalities and underrepresentation which hold back entire regions. Ensure that skills strategies are tailored to local contexts, creating clear pathways into higher value jobs for all communities.
- **PLACE DRIVEN UPSKILLING:** Work with businesses, communities, and education organisations across the Irish Sea Region to support people into higher value, higher skilled jobs, and entry onto career pathways in key skills areas.
- **INFORMING POLICY:** Feeding experience and evidence from working across the quadruple helix into skills policy through white papers to create more favourable cases and conditions for employer training investment.

G. THE IRISH SEA RIM DOCTORAL TRAINING CENTRE

To focus key research, innovation, and skills development within the Irish Sea Rim, we propose establishing one or more Doctoral Training Centres (DTC), working with universities across the Irish Sea region to build capacity and generate impact within targeted sectors.

Doctoral Training Centres in the UK and Ireland are typically co-funded by Research Councils and Centres and industry and are targeted towards existing and emerging multi-institution

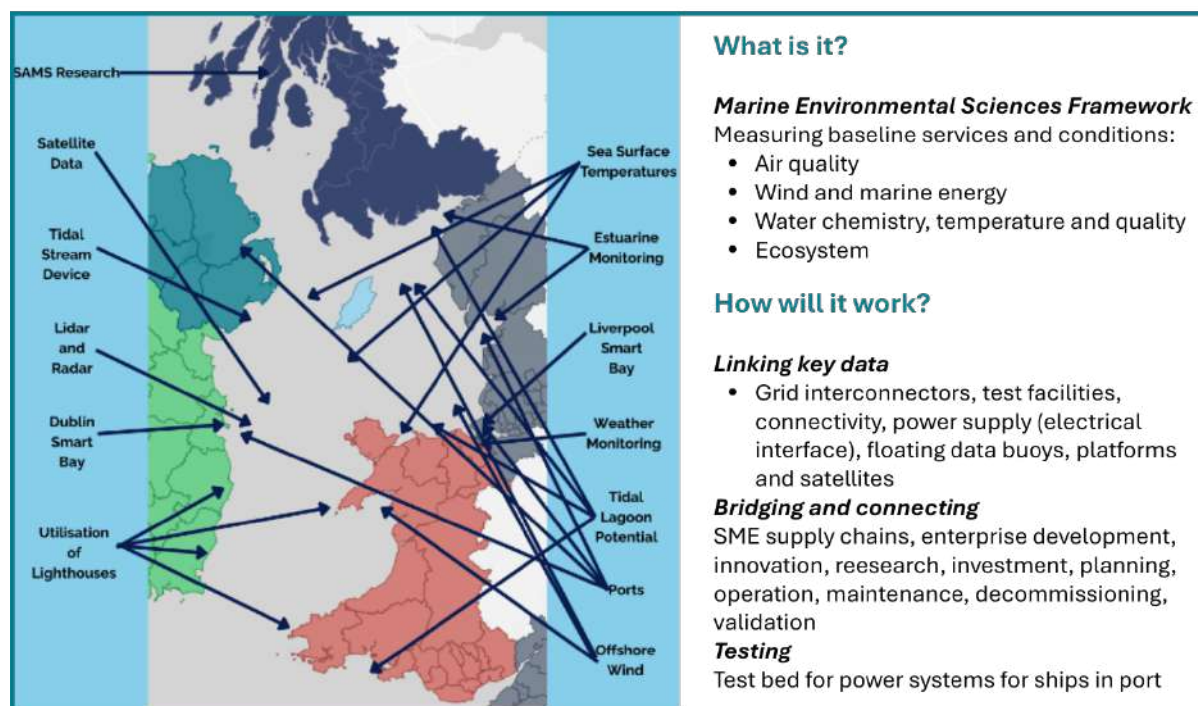
IRISH SEA RIM DTC KEY GOALS

- Increased focus on key challenges for places and society
- Encourage ambitious and transformative research and innovation
- Increase industry investment into research and innovation
- Support a healthy and diverse research and skills base
- Attract and nurture skilled and talented people
- Translate research into meaningful impact for sectors and places
- Align universities, industries, funders, and places to deliver on key challenges across the Irish Sea Rim

collaborative centres of excellence in priority research areas. Students are organised into cohorts, creating a mix of interdisciplinary expertise for maximal translation and impact generation. Unlike typical PhD programmes, which tend to be completed within three years, DTC PhD programmes last for four years and have an additional focus on transferable skills training.

We will work with funding councils and interested universities, industries, and places across the region to develop an initial DTC in **Maritime and Marine**, which will include the **Irish Sea Rim Environmental and Scientific Observatory (ISRESO)** (Figure 16.8). Where relevant we will also develop a programme of public / private co-funded Industrial Doctoral Landscape Awards in partnership with universities and relevant industries.

Figure 17.8: The Irish Sea Rim Environmental and Scientific Observatory



SECTION 18: REGIONAL ECONOMIC INEQUALITIES AND DEPRIVATION

The Irish Sea Rim is a region defined by connection. It is a cohesive economic, cultural, and ecological unit, bound together by centuries of trade, migration, and shared heritage. It is home to world-class universities and innovative businesses in sectors from life sciences to advanced manufacturing. Immense potential in renewable energy positions the Irish Sea region as potential global leader. However, beneath the positive story of high economic growth and innovation lies a story of deep and persistent inequality.

A. REGIONAL ECONOMIC INEQUALITIES AND DEPRIVATION

The defining challenge across the Irish Sea region is that of a 'dual economy'. Within the cities of Glasgow, Manchester, Liverpool, Bristol, Cardiff, Belfast, Dublin, and Cork, dynamic high-growth, knowledge-based sectors are thriving. Yet within the areas which surround these cities lie some of the most deprived communities in Western Europe. The growth and prosperity generated from high-tech and high-finance sectors is not reaching the people in post-industrial towns, overlooked urban areas, and coastal villages, and may be exacerbating economic inequalities. Figures 18.1, 18.2, 18.3, 18.4, and 18.5 show the distribution of deprivation in local authorities and regions in England and Wales, Scotland, Northern Ireland, and Ireland.

In England, **Liverpool** is ranked as the 3rd most deprived local authority, while the neighbouring borough of **Knowsley** is ranked 2nd⁹³. In 2019 **Blackpool** was rated the most deprived lower-tier authority in Lancashire⁹⁴. Despite **Manchester** being one of the fastest growing regions in the UK, deprivation is a majority experience rather than a localised problem, with over half the city's geographical area thought to fall within England's most deprived decile⁹⁵. This pattern is repeated across the Irish Sea region. In **Bristol**, 15.6% of the population resides in the most deprived 10% of areas in England⁹⁶. **Belfast** exhibits what has been described as a "low-skill, low-pay trap", alongside high levels of household indebtedness, with the city's minority ethnic and migrant communities facing acute challenges in securing adequate housing and employment⁹⁷. In Wales, **Cardiff** has the largest absolute number of young children (**6,600**) living in income deprivation in the country, and there are stark contrasts between affluent areas and deprived areas⁹⁸.

⁹³ <https://liverpool.gov.uk/council/key-statistics-and-data/headline-indicators/deprivation/>

⁹⁴ <https://www.lancashire.gov.uk/lancashire-insight/deprivation/indices-of-deprivation-2019/2019-deprivation-analysis/>

⁹⁵ https://en.wikipedia.org/wiki/Deprivation_index

⁹⁶ <https://www.internetgeography.net/topics/how-has-urban-change-created-challenges-for-bristol/>

⁹⁷ <https://www.belfastcity.gov.uk/Documents/Research-Summary-Report-Inequalities-Experienced-b>

⁹⁸ <https://www.gov.wales/welsh-index-multiple-deprivation-2019-deprivation-analysis-relating-young-children-html>

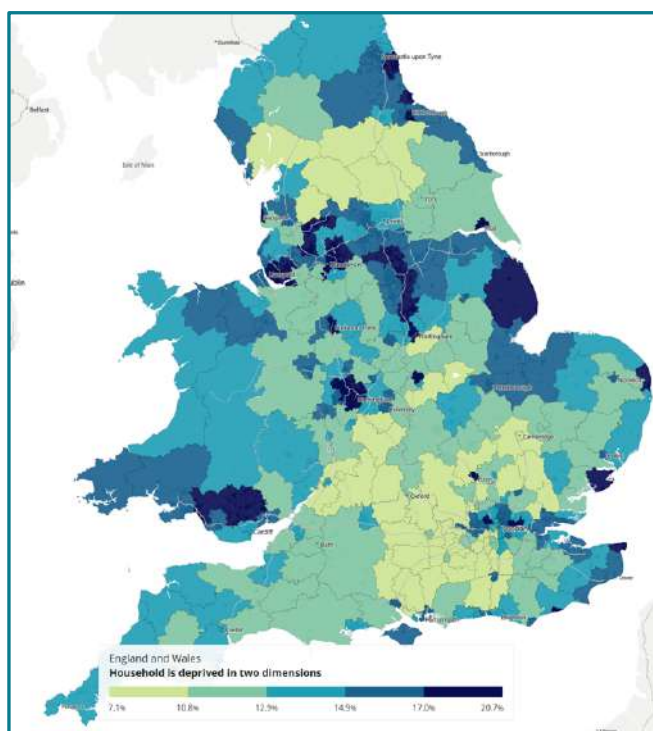


Figure 18.1: Geographical map of indices of deprivation in England and Wales⁹⁹

This map shows that a majority of Local Authorities in the Irish Sea Rim area have 13% or more households that are deprived in two of the four dimensions of deprivation (Education, Employment, Health, and Housing). The most deprived areas (with 15% or more households) are shown in Figure 17.2.

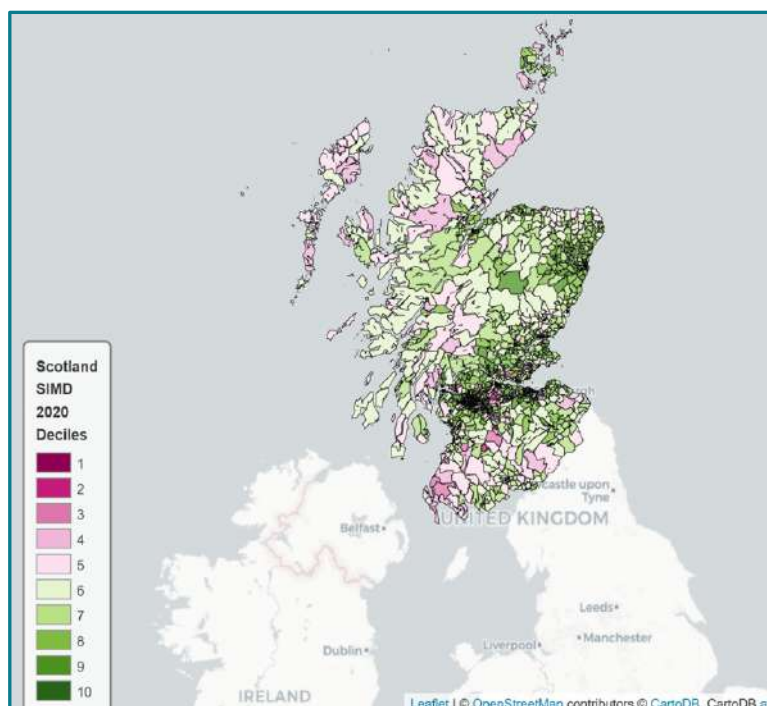
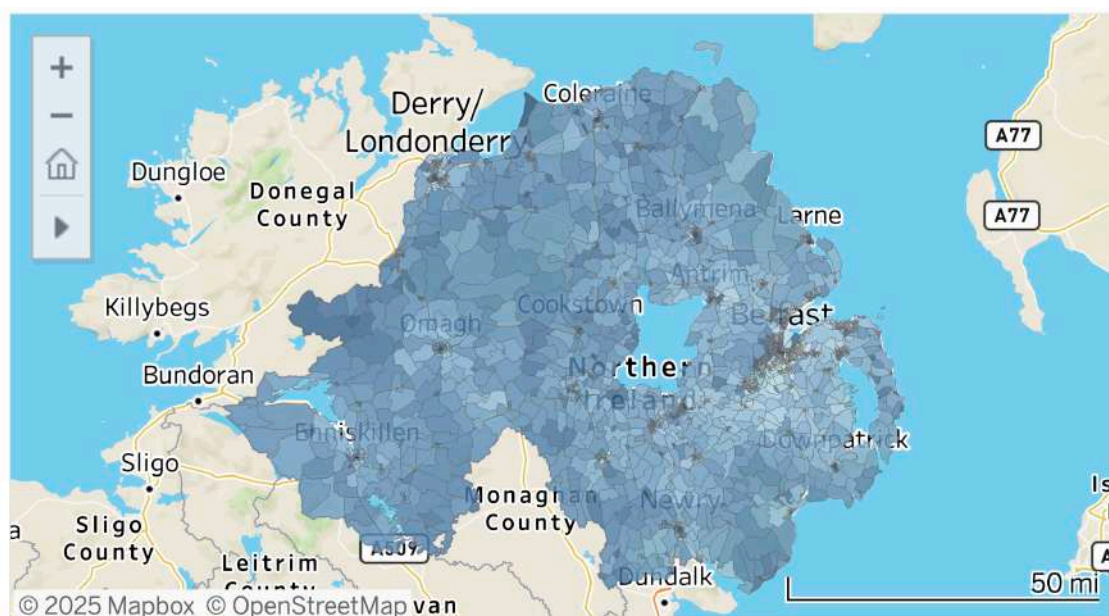
Figure 18.2: Most deprived areas within the England and Wales Irish Sea Rim area

North West	North East	Wales
Copeland	Sunderland	Denbighshire
Barrow	Gateshead	Conwy
Blackpool	Newcastle Upon Tyne	Wrexham
Preston	County Durham	Pembrokeshire
Wyre	Hartlepool	Carmarthenshire
Sefton	Stockton-on-Tees	Swansea
Blackburn with Darwen	Middlesbrough	Neath Port Talbot
Ribble Valley	Redcar and Cleveland	Merthyr Tydfil
Hyndburn	Yorkshire & Humber	Caerphilly
Burnley	Bradford	Blaenau Gwent
Bolton	Barnsley	Torfaen
St. Helens	Wakefield	Bridgend
Knowsley	Rotherham	Rhondda Cynon Taf
Liverpool	Sheffield	Newport
Manchester	Doncaster	West Midlands
Tameside	Kingston-Upon-Hull	Telford and Wrekin
Oldham	Scarborough	Newcastle-under-Lyne
Rochdale	South West	Stoke-on-Trent
Pendle	Plymouth	Wyre Forest
Kirklees	Torbay	

⁹⁹ [Household deprivation - Census Maps, ONS](#)

Figure 18.3: Geographical map of deprivation in Scotland¹⁰⁰

This map shows the geographical distribution of Scotland's deprivation and is based on analysis of all the individual measures of deprivation. These include health, income, education, employment, housing, access (rural services and isolation) and crime. The most deprived zones are depicted in purple and the least deprived zones in green with the zones being grouped into decile ranges. The map indicates that the top 40% of areas suffering multiple forms of deprivation lie in Highland, the Western Isles, Ayrshire, Dumfries & Galloway and South Lanarkshire.

**Figure 18.4: Geographical map of deprivation in Northern Ireland¹⁰¹**

SEISA (2021) Decile UK: Most deprived ⇌ Least Deprived



¹⁰⁰ [SIMD2020: Overall Deprivation Map - Scotland's data on a map](#)

¹⁰¹ <https://www.hesa.ac.uk/data-and-analysis/research/seisa/northern-ireland-map-2021>

Deprivation in Northern Ireland is intensely concentrated in specific urban pockets, with the Belfast City and Derry City and Strabane council areas containing over half of the most deprived zones. Within these cities, deprivation is hyper-localised; for example, areas in North and West Belfast (such as the Shankill and Falls roads areas) and in Derry-Londonderry (such as the Brandywell and Creggan) consistently rank as the most disadvantaged.

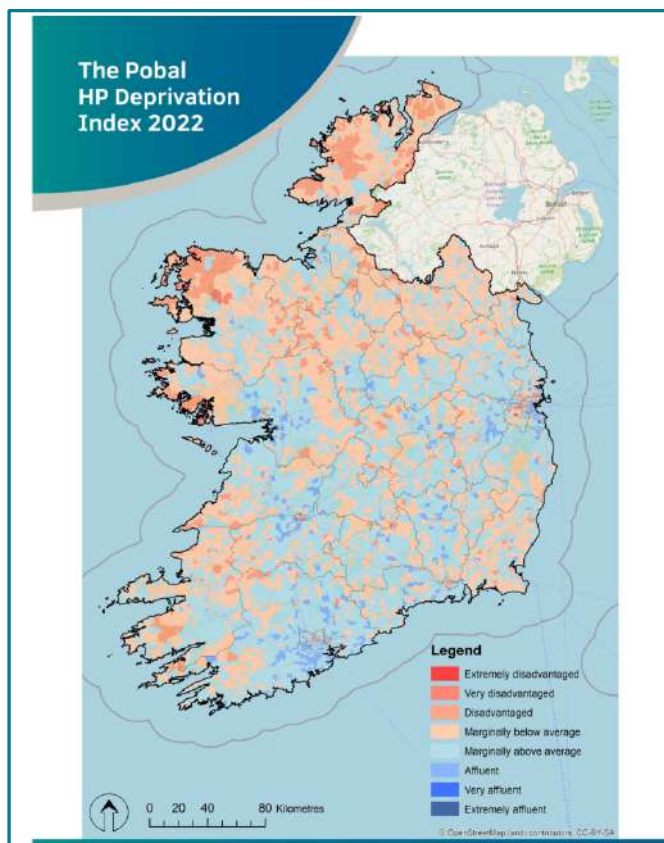


Figure 18.5: Geographical map of deprivation in Ireland¹⁰²

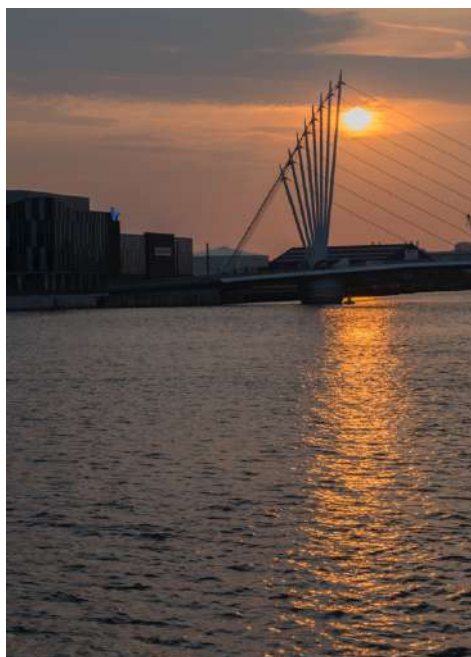
This map shows that the majority of the most deprived areas lie along the coasts. The Pobal HP Deprivation Index uses data from Census 2022, analysing ten measures of an area's levels of disadvantage. These include educational attainment, employment status and the numbers living in individual households and per room.

¹⁰² [Pobal HP Deprivation Index Launched - Pobal](#)

SECTION 19: THE IRISH SEA RIM AS A DRIVER FOR REGIONAL DEVELOPMENT AND INNOVATION

While the economic value of the UK-Ireland relationship is clear, the analysis of the economic and research investment landscape across the Irish Sea Region presents a strong argument not just of the need for the Irish Sea Rim Investment, Innovation, and Enterprise Zone, but also for the opportunities for creating quantifiable, non-linear improvements in sustainable, inclusive economic growth which benefits under-served places and communities and works in partnership with the environment.

The places that define the Irish Sea Rim hold some of the UK's richest natural resources with twenty UK National Landscapes, eight Irish Areas of Outstanding Natural Beauty, nine National Parks and thirty-seven UNESCO sites and cities. The land and seascapes of the Irish Sea have defined and been shaped by its people over millennia. Harnessing the Irish Sea Region's



innovation and enterprise potential *with and through* its physical, cultural, social and natural assets is the defining feature of the quadruple helix model.

As innovation drives investment, productivity and growth, places drive stories, visions for the future and reasons to lean in and engage with change. With community and place as the fourth core driver for the Irish Sea Region's unique ISR50 Spherical Economy growth model, the Irish Sea Rim will develop business and high street initiatives, sport and landscape initiatives, regenerative tourism and circular economy initiatives that generate new 21st century models for creating inclusive growth.

Manchester Ship Canal, Media City UK. Image Credit: Irish Sea Rim

A. A CROSS-BORDER REGIONAL DEVELOPMENT OPPORTUNITY

The Irish Sea Rim is an excellent example of a focussed cross-border regional development opportunity. It builds on the already strong economic and cultural relationships between the UK, Ireland, and Isle of Man, while defining a clear, 'innovation-relevant' functional region which transcends administrative boundaries, comprises defined environmental ecosystems, and

serves previously underserved coastal communities. It also builds on the active commitments of the UK government to invest in devolution in its nations and regions. The Great North Partnership is a self-initiated partnership led by eight current metro mayors in the North of England launched in May 2025 aimed at connecting the region towards common trade and investment, innovation and inclusive growth goals. The Irish Sea Region is perfectly positioned to build on this longstanding partnership and recent momentum.

The Irish Sea Rim aligns closely with the rationale and condition for cross-border collaboration for innovation outlined by the OECD in its 2013 *Regions and Innovation: Collaborating Across Borders* report¹⁰³, including: economies of scale; greater political power as a combined unit; enhanced delivery of specialised services; a diverse and complementary research, technology, and economic base; supply chain linkages; shared identity and cultures built on familial connections and migration; an internationally recognisable geographical region; attractiveness to both trading partners and skilled labour; centres of excellence in research and innovation; potential for shared science and technology facilities; and strong cross-border transport and cargo routes. This provides a unique opportunity for impact across the region, and a rebalancing of the currently London-centric UK economy.



The nature of the Irish Sea Region means that there exist many individual initiatives which cross national and administrative boundaries, such as including (but not restricted to) the Green Shipping Corridor, the proposed twinning of Liverpool and Dublin, and Freeports. The author has intensified relationships at all levels and in all regions, since the UK-Ireland Summit in March¹⁰⁴, with significant support from regional authorities from around the Irish Sea Region. **Appendix 3** gives a list of Irish Sea Rim presentations and papers, while **Appendix 4** provides a list of key partners and stakeholders. The power of the Irish Sea Rim is our cross-cutting remit, combined with our new paradigm for driving sustainable, inclusive economic growth (**Sections 21 and 22**), which enables us to connect individual projects and initiatives with key partners at the macro level, catalyse new projects or approaches, and connect, bridge, and amplify infrastructure projects and innovation ecosystems.

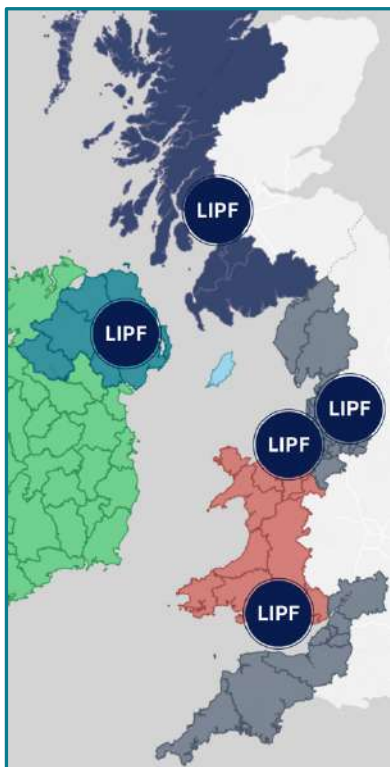
The Irish Sea Rim, as a collective, represents a significant market and a diverse talent pool. By collaboratively promoting the region as an attractive investment destination for key global sectors – such as green finance, advanced manufacturing, life sciences, and digital technologies – the constituent nations can amplify their individual efforts. This could involve joint trade missions, and shared branding initiatives which highlighting the combined strengths,

¹⁰³ OECD (2013), *Regions and Innovation: Collaborating Across Borders*. OECD Reviews of Regional Innovation, OECD Publishing. <http://dx.doi.org/10.1787/9789264205307-en>

¹⁰⁴ 6th March 2025. Joint statement between Prime Minister Keir Starmer and Taoiseach Micheál Martin following UK-Ireland Summit.

market access opportunities (including to both UK and EU markets where relevant), and supportive innovation ecosystems of the six stakeholder countries. Developing a stronger, shared "Irish Sea Rim" strategic identity can be a powerful tool for attracting investment, talent, and political attention, creating a virtuous cycle where collaboration enhances identity, and a stronger identity facilitates further collaboration.

B. THE ROLE OF THE IRISH SEA RIM IN PARTNERSHIPS



The UK Local Innovation Partnerships fund to develop and scale high potential innovation clusters will be a critical driver of regional development and innovation. The Irish Sea Rim's apolitical and cross-sector focus, diverse regional access, and strong relationships at all levels of the innovation ecosystem enables us to play a key role in identifying high value opportunities and convening leadership around shared growth objectives. We work within and across regions to identify, enhance, and catalyse innovation clusters, bridge and connect key actors, and broker relationships between civic institutions, businesses and universities at all levels. This form of supra-regional collaboration can only strengthen initiatives, by leveraging maximum return on investment, and access to wider markets.

In its 2024 report on the next steps for social mobility, the Social Mobility Commission identified the need for a wider approach to economic growth¹⁰⁵. The Irish Sea Region comprises many coastal and rural communities which have

traditionally seen lower levels of benefit from investment in larger urban areas and centres of excellence. As a purpose-led organisation, the Irish Sea Rim is committed to working with these communities to address regional and local disparities and generate inclusive place-based socio-economic benefit from innovation investment, by providing vital two-way communication link with Local Innovation Partners and projects. Enhancing the wider economic and social landscape is crucial for social mobility.

C. STUDENT OPPORTUNITIES ACROSS THE IRISH SEA RIM

Over the past two decades, Higher Education Institutions (HEIs) have increasingly developed their links with the private and public sectors to enhance and complement the provision of research and teaching. One of the principal ways in which this has been achieved is through the engagement of undergraduate and postgraduate students on business-related projects and

¹⁰⁵ (2024). Innovation Generation: Next Steps for Social Mobility. Social Mobility Commission. <https://socialmobility.independent-commission.uk/app/uploads/2024/11/Innovation-Generation.pdf>

placements. An exploration of university degree programme advertising reveals that most HEIs now offer students the opportunity to undertake a short-term or dissertation project in partnership with an external organisation. The rationale for this is clear; students gain valuable employment experience through their studies, whilst the business concerned gains new insights into an area with which it needs help or expertise but lacks in-house capacity or capability. Furthermore, many placements are undertaken at low or zero cost to the business involved, making them attractive, especially for the SME community. With academic supervisors also involved (usually in longer term placements) such projects have the potential to develop into longer term contract or collaborative research between the university and outside organisation involved.

The Irish Sea Rim project has the potential to link across the universities, businesses, and community organisations within the region, providing unparalleled opportunities for student placements, live briefs, continuing professional development, and enterprise-related research. This provides significant potential for students to gain real-world experience and develop much-needed transferable skills. This in turn supports enhancement of knowledge transfer and student employability throughout the area as a whole.



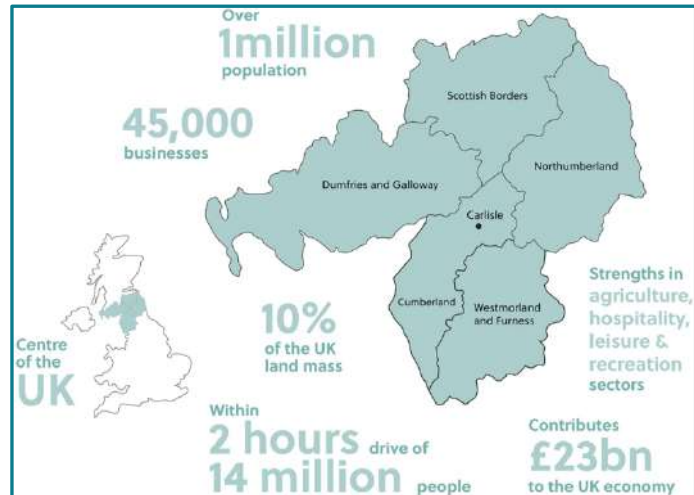
Ulster University, Belfast. Image Credit: Irish Sea Rim

Whereas many placements set up by HEIs may be sourced within the nearest town, county, or region, the Irish Sea Rim has the potential to enable HEIs to source placements from other regions and countries, whilst the businesses and organisations around the Irish Sea can access a much broader wealth of expertise than their local HEIs may be able to offer. Furthermore, as many students within the host organisations are from other parts of the UK, Ireland, Europe or indeed the rest of the world, and given the national and export aspirations of many businesses based around the Irish Sea, there is the potential for a considerable impact to be made far beyond the geographic boundaries of the Irish Sea Rim.

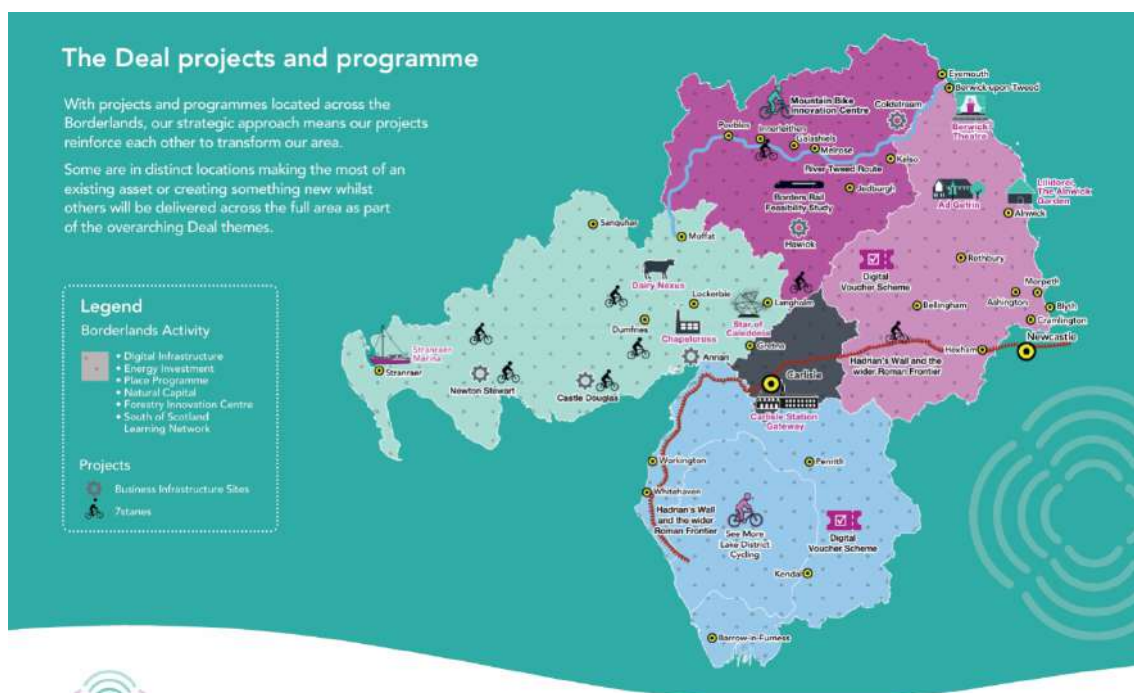
In an era of economic uncertainty, a highly competitive labour market, and increased tuition fees in some countries within the Irish Sea Rim, there is a strong case for student projects to benefit three distinct parties. For the businesses and organisations which wish to engage, there is an opportunity to investigate a new area of business without excessive expenditure, and potentially recruit a high-calibre future employee. For the student there is an opportunity to enhance their CV whilst still at university, gain a non-academic, work-based reference for future job opportunities, and potentially secure employment directly with their host. For the HEIs, there is the prospect of a more diverse range of placement opportunities for its students, identified from a larger pool, with associated benefits to student satisfaction scores and recruitment. The Irish Sea Rim has the potential to bring such benefits to a wide and diverse array of stakeholders based permanently or temporarily around the Irish Sea.

D. THE UK BORDERLANDS INCLUSIVE GROWTH DEAL

The UK Borderlands Inclusive Growth Deal is a significant long-term investment aimed at fostering economic prosperity across the border region of England and Scotland. Formally signed in March 2021, the deal brings together five local authorities: Cumberland, Dumfries and Galloway, Northumberland, Scottish Borders, and Westmorland and Furness. With a total funding package of £452 million, contributed by the UK and Scottish Governments along with the partner authorities, the initiative seeks to address historic economic challenges and unlock the region's full potential. The core objectives of the deal are to boost productivity, increase the working-age population, and deliver inclusive and sustainable growth that benefits all communities within this unique cross-border area.



The funding is allocated strategically across four key themes: improving places, enabling infrastructure, encouraging green growth, and supporting business, innovation, and skills. A wide array of projects is being implemented under these themes, ranging from large-scale infrastructure developments to targeted local initiatives. Notable investments include the development of the Mountain Bike Innovation Centre in the Scottish Borders, the regeneration of Carlisle Station Gateway, and the establishment of a Dairy Nexus in Dumfries to foster innovation in the agricultural sector. Furthermore, a dedicated 'Place Programme' is channelling funds directly into towns to support their revitalisation and enhance their appeal as places to live, work, and visit.



Over its ten to fifteen-year lifespan, the Borderlands Inclusive Growth Deal is projected to deliver substantial economic benefits. It is anticipated to generate an additional £1.1 billion in Gross Value Added for the region's economy and create approximately 5,500 jobs. The delivery of the various projects is being managed by the Borderlands Partnership, with ongoing monitoring to ensure the deal's objectives are met. By focusing on the region's unique strengths and addressing its specific challenges, the funding aims to create a more resilient, vibrant, and prosperous future for the communities spanning the Anglo-Scottish border.

Irish Sea Rim has the potential to enhance the Borderlands programme from a regional initiative into a strategically vital international gateway. By focusing on its coastal assets, the region can position itself as a critical hub for trade, energy, and tourism connecting Great Britain with both Northern Ireland and Ireland. As well as local improvements, the Irish Sea Rim could help open up opportunities to attract significant investment into logistics and supply chains, support the growth of the major offshore wind industry in the Irish Sea, and create a compelling, cross-water regenerative tourism proposition built on shared heritage. In essence, this will elevate the Borderland's Inclusive Growth Deal impact, anchoring the region's future prosperity in wider national and international economic currents.



Carlisle Citadels, Carlisle, Cumbria, Image credit: unknown

PART FIVE

A NEW PARADIGM FOR REGIONAL GROWTH, OPPORTUNITIES, AND COLLABORATION



Dublin Street Sign. Image credit: Irish Sea Rim

A NEW PARADIGM FOR REGIONAL GROWTH, OPPORTUNITIES, AND COLLABORATION

Section 20: **Irish Sea Rim context, rationale and history**

Section 21: **The case for a new approach**

Section 22: **Irish Sea Rim operational framework**

Section 23: **Irish Sea Rim Bridge framework**

SECTION 20: IRISH SEA RIM CONTEXT, RATIONALE, AND HISTORY

A. THE IRISH SEA RIM – A REGION OF CONNECTION AND CONTRAST

Situated across the waters that lie between the islands of Britain and Ireland, the Irish Sea Rim is a region rich in history, culture, and complexity. We often think of seas as boundaries or barriers, something that separates nations and communities. Yet, for centuries, the Irish Sea has been a vital corridor and bridge, a bustling highway of people, goods, ideas, and even empires. Living and working alongside the Irish Sea, coastal communities have shaped the economic, social and cultural relationships with the sea: from fishing and shipbuilding to seaside visits and active water sports.

The Irish Sea Rim refers to the coastal regions and communities that surround this sea – from Ireland and Northern Ireland to Wales, the Isle of Man, northwest and southwest England, and west Scotland. Each of these places has its own identity, but they are linked by geography, family, trade, history – and, sometimes, rivalry. Historically, this sea connected Celtic tribes, Viking raiders, Christian missionaries, and medieval merchants. Ports like Dublin, Liverpool, and Belfast became not just places of commerce, but of cultural exchange. The sea brought music, languages, and traditions from shore to shore.



Dublin. Image Credit: Irish Sea Rim

The Irish Sea Rim has always been a zone of dialogue. From the plantations of Ulster to the shipyards of Belfast and Glasgow and ports of Liverpool, Cardiff and Bristol, this region has shaped, and been shaped by, the tides of British and Irish history. Environmentally, the Irish Sea is a unique and delicate ecosystem. Home to seals, porpoises, seabirds, and fisheries that have fed communities for generations, it sits at the heart of debates around offshore wind energy, green transport, conservation, and sustainable development. Through the Irish Sea Network, the six administrations work together through a connected, ecologically coherent network to support policy, biodiversity and nature-positive growth across the Irish Sea through a shared vision for action to 2030.

Economically, this region remains vital. Ferries cross daily. Trade flows back and forth. And with a new geopolitical landscape, the Irish Sea Region has once again become a focal point; seen as a safe place for trade, and a desirable place to live – reminding us that in our modern and increasingly digital world, geography and place matter more than ever.

B. IRISH SEA RIM RATIONALE

The Irish Sea provides critical links between the Island of Ireland, the Isle of Man and the United Kingdom. This maritime area is effectively a member state border zone with its own characteristics, different from those of a land border. The Irish Sea is of high importance to the future economic and environmental development of the surrounding cities and regions. There are various strategic interests operating in and around the Irish Sea as well as overlapping uses which makes it crucial to put in place coherent planning and strategic integration of this region.

With the enlargement of the EU, Ireland now lies on the periphery of Europe. The Irish Sea provides an important 'land bridge' which connects Ireland and the UK with mainland Europe. The Irish Sea Rim possesses unique characteristics within the EU, which complement the diversity of the Union, and is a vital unifying link between post-Brexit UK and the wider EU, as defence, trade, and commerce across the Irish Sea continue to evolve into the 2030s and beyond.



Bridgewater Canal, Salford. Image Credit: Irish Sea Rim

C. THE UK-IRELAND SUMMIT – A NEW ERA FOR THE IRISH SEA REGION

The announcement of the historic UK-Ireland Summit of 6th March 2025, heralded a new era for the Irish Sea region, moving beyond recent complexities to unlock a wealth of shared opportunities¹⁰⁶. This renewed spirit of collaboration opens the door for deeper economic partnerships, creating a fresh impetus for joint ventures in strategic sectors, particularly the sustainable development of the Irish Sea's own unique ecosystem and the pursuit of key priorities like offshore wind energy and Green Shipping Corridors. Crucially, the summit provides a platform to reinforce the deep cultural, demographic, and historical ties that define the people of the Irish Sea Region.

D. THE IRISH SEA RIM – A NEW OPPORTUNITY FOR GROWTH

The Irish Sea Rim Investment, Innovation, and Enterprise Zone is unique in its scale and reach and presents a completely new opportunity for delivering on the regional economic, social, and environmental innovation, as well as the priorities identified at the UK-Ireland Summit (Figure 20.1). It should be thought of as a highly complex macro innovation ecosystem comprising

¹⁰⁶ UK Government (2025). Joint statement between Prime Minister Keir Starmer and Taoiseach Micheál Martin: 6 March 2025. <https://www.gov.uk/government/news/joint-statement-between-prime-minister-keir-starmer-and-taoiseach-micheal-martin-6-march-2025>



Figure 20.1: UK-Ireland Summit Priorities

To capture the complexity that exists in the multiple ecosystem levels, strategic priorities, and regions across which this project is proposing to operate, the Irish Sea Rim is designed to establish order and simplicity from complex situations and provide solutions across a wide number of sectors. Its inherent strategic, operational, and design principles contrast with traditional innovation models, which tend towards hierarchical structures or top-down management. As a purpose- and results-driven organisation, our principles of vision, partnership, values, consideration, and governance enable us to engender collaborations and grow partnerships across the Irish Sea Rim.

By creating a more dynamic and integrated innovation ecosystem, the Irish Sea Rim can enhance cross-border innovation, supporting multiple ideas across several platforms to deliver pre-agreed outcomes, such as the creation of new jobs and markets, increasing turnover and delivering inclusive and sustainable economic growth in businesses around key pre-defined regions, while also yielding substantial societal and environmental benefits.



Superlambanana, Liverpool. Image Credit: Irish Sea Rim



Heysham 1 and Heysham 2 Nuclear Power Stations. Image Credit: Irish Sea Rim

SECTION 21: THE CASE FOR A NEW APPROACH

The Irish Sea Rim Investment, Innovation, and Enterprise Zone is a powerful driver of regional and national economic growth. The creation of nation innovation and investment strategies across the countries and regions within the Zone, means that there has never been a better opportunity for creating cross-border, cross-sector place-based transformation that can shape the prosperity and international position of the region. With a distinct strand that focuses on place activation and innovation, the Irish Sea Rim Place Programme will bring social, environmental, and connected hyper-local regeneration that actively brings communities together through internationally significant sporting events, regenerative tourism, high-street initiatives, creative storytelling programmes, and campaigns.

A. THE CHALLENGE

Both the opportunities and barriers for transformation lie in the diverse nature of the economic, social, and environmental challenges prevalent across regions, nations, and continents. No one sector, academic institution, city or region can create and implement solutions at sufficient scale or complexity to fully leverage the opportunities. Existing innovation and investment models risk concentrating wealth and contributing to social inequalities and imbalances of



Glasgow. Image Credit: Artur Kraft on Unsplash

funding. A lack of connectedness both within and across sectors leads to gaps in procurement and supply chains, causing delays, lost productivity, and additional costs. Cultural and communication gaps between nations, government, business, and academia, as well as a separation from community, creates barriers to exploitation of research and innovation, and realisation of benefit to the wider population. There are significant gaps in skills, with a drain from rural communities to cities and, in the UK, to the Greater South East.

As described elsewhere in this report, within the current innovation and economic landscape there are also significant challenges relating to regional economic imbalances, fragility of the economic base, low productivity, and structural inequalities within communities ([Sections 14-18](#)). The traditional triple-helix model of government, business, and academia risks prioritising technical and economical outputs over social well-being and environmental sustainability. The defining challenge across the Irish Sea Rim is a ‘dual economy’. In our great cities – Liverpool, Manchester, Belfast, Glasgow, Cardiff, Dublin – dynamic, high-growth, knowledge-based sectors thrive. Yet, often only miles away, lie some of the most deprived communities in

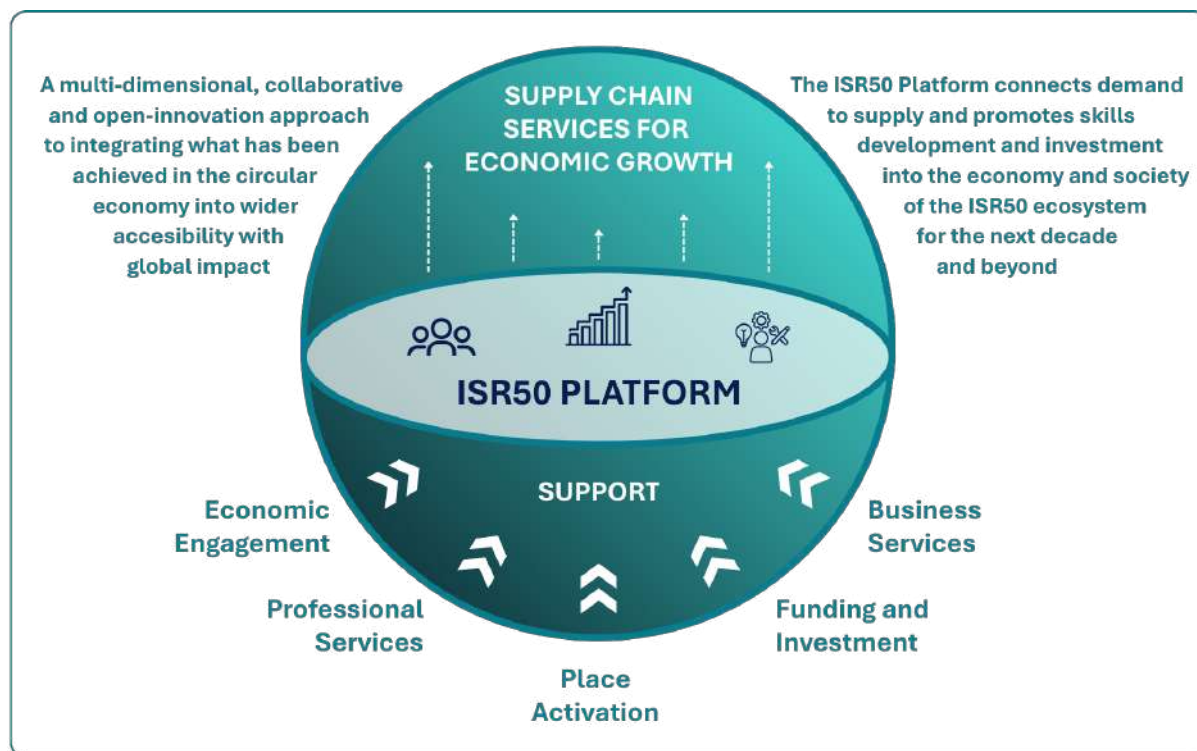
Western Europe. The prosperity generated in the science parks and creative quarters is not reaching the people in post-industrial towns, coastal villages, and overlooked urban neighbourhoods. In addition, the innovation potential of these towns, villages and urban neighbourhoods is both under-estimated and unrealised, deepening the cultural assumptions about what places and people are to be invested in. There is a clear priority for place- and needs-based initiatives and innovations to catalyse inclusive growth.

B. THE OPPORTUNITY

The post-Brexit landscape, combined with global economic uncertainty demands new models of regional development that are less dependent on traditional centralised structures. The nature of the Irish Sea Rim, as an apolitical, neutral cross border organisation with expertise in innovation, place, and technology, and a startup mindset, means that we are uniquely positioned to build a new approach to innovation and regional development in partnership with diverse stakeholders across the six jurisdictions of the Irish Sea region.

Our ISR50 Strategic Vision ([Section 2](#)) and novel Operational Framework ([Section 22](#)) provide the essential key to unlocking the potential of the Irish Sea Rim Investment, Innovation, and Enterprise Zone by fostering a dynamic, interconnected, and values-driven ecosystem that can learn, adapt, and evolve organically. There has never been a better time to formalise and empower the Irish Sea Rim so as to seize the opportunities created by recent global upheaval and build a more prosperous and resilient future.

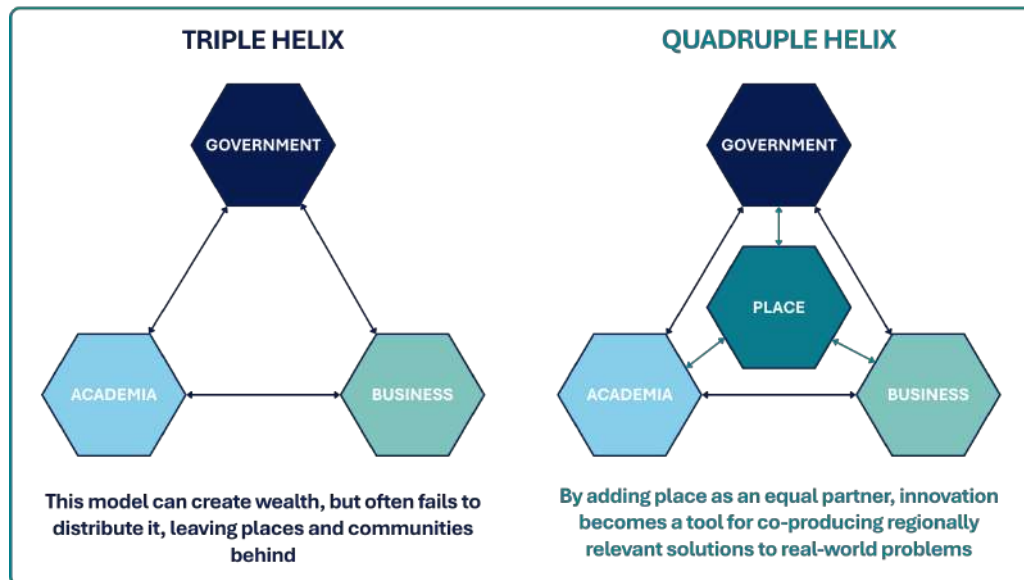
Figure 21.1: The ISR50 Spherical Economy Model



C. CREATING INCLUSIVE GROWTH

To tackle the challenge of inclusive growth, the Irish Sea Rim champions a Quadruple Helix model, which introduces a crucial fourth element: places and their communities (Figure 21.2). However, we seek to evolve this model beyond simple engagement and consultation towards genuine community co-production, empowering communities as equal partners from the beginning, working in partnership to identify needs, design solutions, deliver projects, drive impact, and share benefits. This approach ensures that development is done *with* and *by* communities, not *to* them. It places the lived experience and aspirations of local people at the heart of innovation and investment, ensuring initiatives are grounded in real-world needs, command local support, and deliver meaningful transformation which lasts beyond the timeframe of the project.

Figure 21.2: Irish Sea Rim quadruple helix



Our unique methodology is not built on a single doctrine but is informed by pioneering global frameworks that challenge traditional economic models.

- We draw inspiration from **Doughnut Economics**, which provides a powerful lens for ensuring our activities operate within a safe social and ecological space – meeting fundamental human needs (the ‘social foundation’) while respecting our planet’s limits (the ‘ecological ceiling’).
- We are guided by the place-based innovation strategies of economists like **Dan Breznitz**, who argue that regions must build on their unique, existing strengths rather than trying to imitate a generic Silicon Valley model.
- We support the creation of ‘**Antifragile**’ economies, as described by **Nassim Taleb**, within the Irish Sea Region and across the nations as a whole which are able to flex, adapt, and benefit from external shocks, rather than simply withstand them.

- Our principles and values are based on the **Utopia** principles developed by **Nigel Catterson** enabling us to build partnerships founded on mutual trust and shared success, supporting partners and communities to achieve long-term benefit and growth

By blending these concepts with our core commitment to community and stakeholder co-production across sectors and borders, the Irish Sea Rim has developed a practical framework for turning economic growth into meaningful, sustainable prosperity for all (**Sections 21 and 22**). Our goal is to create an ecosystem where investment directly addresses community needs—better housing, secure jobs, improved health, and a restored natural environment. This approach forms the foundation of our transformational Operational Framework and Bridge Model for innovation, which will create the foundation for a series of ambitious, cross-border flagship projects designed to pilot and prove this new way of working.



Belfast, Image Credit: Irish Sea Rim

SECTION 22: IRISH SEA RIM OPERATIONAL FRAMEWORK

The Irish Sea Rim is a complex, dynamic, interactive ecosystem of ideas, businesses, research institutions, clusters, industries, sectors, nations, policies, and socio-economic diversity. As such, it offers unparalleled opportunities for harnessing place-based innovation to create non-linear economic growth, social benefit, and a transformation in environmental sustainability.

A. A SYSTEMATIC APPROACH TO REGIONAL INNOVATION

Yet there are challenges in fully leveraging the opportunities which the Irish Sea Rim presents, including fragmentation within the innovation ecosystem, top-down management, concentration of investment and activity within the Greater South East of England, socio-economic inequalities, economic and political uncertainty, and skills shortages. To create a thriving, innovation “super cluster” across the diverse geographies, sectors, and stakeholders of the Irish Sea Rim, we are employing a systems thinking approach. This enables us to scale beyond isolated initiatives to create an interconnected Irish Sea Rim Investment, Innovation, and Enterprise Zone, which is greater than the sum of its parts which delivers non-linear growth and returns on investment.

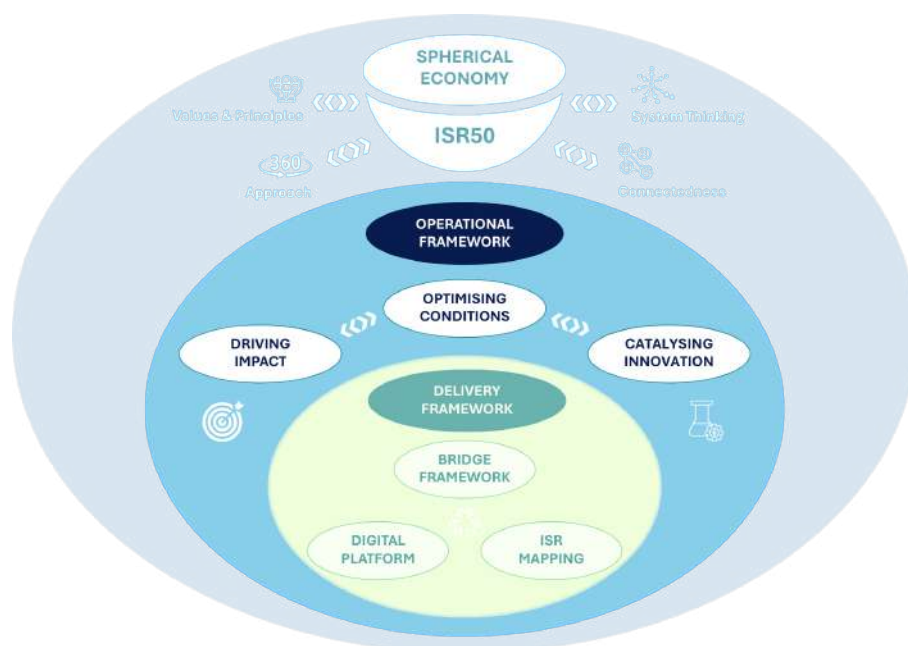


By mapping the intricate relationships and feedback loops between policy, funding, research, industry needs, community, and environmental factors, we can identify critical "leverage points" for intervention in different regions and sectors. This holistic and values-led perspective enables us to design integrated strategies that foster sustainable innovation, anticipate unintended consequences, and build resilient, collaborative partnerships that leverage the collective strengths of the entire Irish Sea Rim for mutual prosperity and global impact.

B. IRISH SEA RIM STRATEGIC OPERATIONAL FRAMEWORK

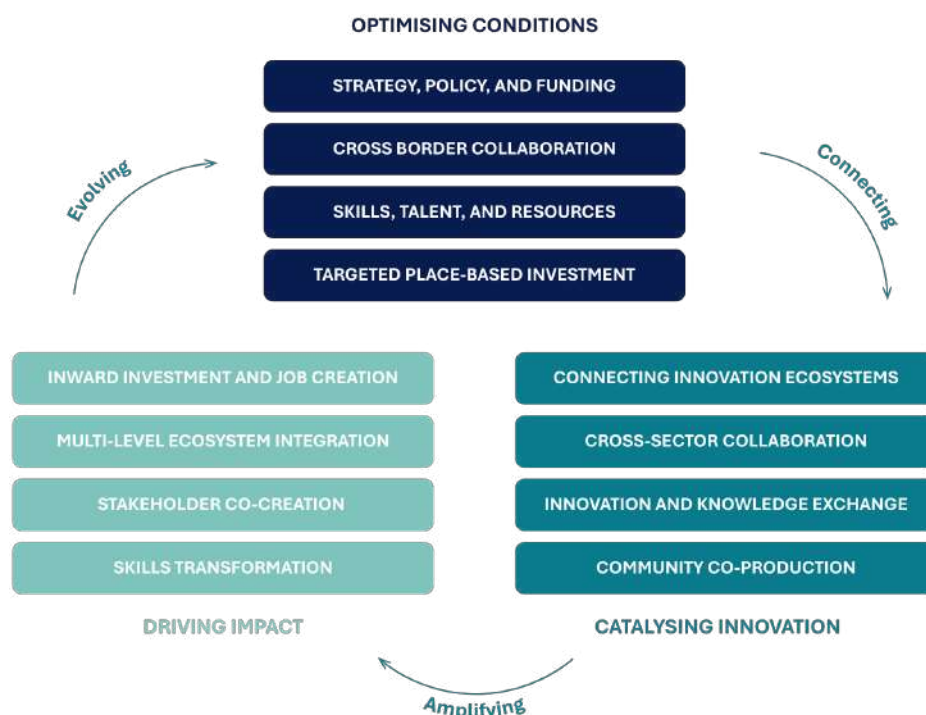
Through the ISR50 Spherical Economy Strategic Vision ([Section 2](#)), we propose a fundamentally different approach to promoting and growing innovation, which actively embraces the complexity of the Irish Sea Rim Investment, Innovation, and Enterprise Zone, bringing order to chaos, harnessing systems thinking, leveraging untapped innovation potential, and providing multiple feedback loops into policy and strategy development.

Figure 22.1: ISR50 Spherical Economy with Operational Framework highlighted



To create maximum strategic alignment, integration and impact, the Irish Sea Rim will work within a Strategic Operational Framework designed to support holistic and integrated self-organising, scalable innovation ecosystems. This will create a step-change in multi-layered, multi-regional, multi-sectoral innovation, sustainable and inclusive economic growth, and delivery of the individual and combined strategic priorities of the six countries within the Irish Sea Region. The Irish Sea Rim Strategic Operational Framework is divided into three main priorities: Optimising Conditions, Catalysing Innovation, and Driving Impact (Figure 22.2):

Figure 22.2: Irish Sea Rim Strategic Operational Framework



OPTIMISING CONDITIONS

For innovation ecosystems to thrive, they require supportive environments, optimised to their regional, place, and sectoral needs. We will work at all levels of the Irish Sea Rim ecosystem, and with all countries and cities, to co-create and co-design the optimal systemic and place-specific conditions and environments for innovation. This will pave the way for innovation and entrepreneurship to emerge and expand organically across the region and create sustainable, inclusive, economic growth, particularly in previously under-represented coastal communities around the Irish Sea¹⁰⁷.

STRATEGY, POLICY, AND FUNDING: Working across the quadruple helix we identify and support an effective and inclusive innovation policy and funding environment, mapped to national and sector priorities. We create feedback loops from placed, innovation ecosystems, and sectors to inform future policy and funding development.

COLLABORATION VS COMPETITION: Through intra-and inter-sectoral engagement, we help balance the transformative power of collaboration with the catalysing effect of healthy competition both nationally and internationally to drive, scale, and embed innovation in priority places and sectors.

SKILLS, TALENT, AND RESOURCES: We work across industries, sectors, and education institutions to create a critical mass of skills and entrepreneurship in key areas, connecting with deprived, or under-represented places to leverage skills development to create regenerative growth and shared prosperity.

TARGETED PLACE-BASED INVESTMENT: We will work with the quadruple helix of governments, businesses, academia, and places to identify strategic place-based investment needs and success measures. Where relevant, the Irish Sea Rim may operate as a conduit for targeted funding, working with innovation ecosystems and partners to ensure strategic deployment of funds and maximise return on investment.

¹⁰⁷ Isenberg, D., 2010. How to Start an Entrepreneurial Revolution. *Harvard Business Review*, June, pp. 41-50. <https://hbr.org/2010/06/the-big-idea-how-to-start-an-entrepreneurial-revolution>

CATALYSING INNOVATION

The Irish Sea Rim presents a powerful opportunity to identify, support, bridge, and catalyse innovation throughout the whole supercluster. The challenge with traditional innovation support is that it naturally focusses locally or regionally, and on specific sectors, potentially creating gaps and/or repetition. The unique advantages of the Irish Sea Rim are our political, sectoral, and regional independence, our ability to connect stakeholders across sectors and places, and our expansive reach throughout the whole region. This enables us to facilitate new connections and catalyse innovation at the intersection of different sectors, disciplines, or regions.

CONNECTING INNOVATION ECOSYSTEMS: The Irish Sea Rim acts as a bridge and relationship broker between nations, regions, sectors, disciplines, businesses, organisations, research and educational institutions, and places, supporting strategic interventions, facilitating ‘serendipitous’ interactions, and strengthening the pipeline for new talent and businesses. By connecting demand to supply, and simplifying access to critical services and investment, we can amplify inward investment into economies and societies.

CROSS-SECTOR COLLABORATION: We harness our networks to work across the Irish Sea Rim to bring together diverse perspectives and knowledge, promoting collaboration and the development of new innovations at the intersection of nations, sectors, industries, disciplines, research organisations, and places.

INNOVATION AND KNOWLEDGE EXCHANGE: The Irish Sea Rim has developed key academic partnerships and works with universities, businesses, and places to create new ways of translating research and innovation into real-world solutions, impacts, and skills. We facilitate and design networking events, knowledge exchange platforms, and conferences at sector, region, and national level to disseminate outcomes, promote new innovations, and generate ecosystem growth. The first annual Irish Sea Rim conference is planned for Autumn 2026.

COMMUNITY CO-PRODUCTION: We work across the quadruple helix to address the need for greater place and community involvement and co-production in regional and national decision-making, to address local needs effectively. We help connect problems with solutions, and opportunities with talent, to catalyse the identification, incubation, acceleration and scaling of new innovations and enterprises at the local level.

DRIVING IMPACT

The key to creating non-linear benefits throughout the Irish Sea Rim, is our ability to ‘close the loop’ between the policy and innovation environments by supporting integration at all levels of the innovation ecosystem and creating powerful relationships across the region. This will have three outcomes: enabling greater uptake, driving deeper impact, and creating on-the-ground feedback into the development of policy and funding schemes.

INWARD INVESTMENT AND JOB CREATION: We work at all levels within the innovation ecosystem to support measures to increase inward investment into the Irish Sea region, and prioritisation of the creation of long-term high-level and mid-level jobs that are geographically anchored to the region’s infrastructure, providing regenerative growth and stable employment for a wider section of the community.

MULTI-LEVEL ECOSYSTEM INTEGRATION: The Irish Sea Rim engenders a more inclusive and joined-up approach at the macro (national strategy and policy), meso (regional and sector), and local (innovation cluster, incubator, and entrepreneur) levels within the supercluster. Connection and integration between supply and demand and key services also create significant non-linear return on investment and stability of ecosystems, places, sectors, and markets.

STAKEHOLDER AND COMMUNITY ENGAGEMENT: Co-creation, co-design, and co-production with communities, stakeholders, and innovators at all levels is at the heart of the Irish Sea Rim’s way of working, managing complex stakeholder needs and priorities to build positive and productive relationships. By connecting community priorities and place activation with regional ecosystems and national strategies, we help drive sustainable and inclusive economic growth and societal benefit.

SKILLS TRANSFORMATION: We will work across the Irish Sea Rim to identify and address skills needs at both sector and community levels, partnering with communities, education organisations, businesses and local/regional authorities to support medium-and high-skill development in children and adults to fill gaps and build a stable pipeline of skills for the future.

The strategic ISR50 Operational Framework is designed to be dynamic and open, flexing and adapting to meet place and stakeholder needs, respond to strategic and other external developments, and evolve as the Irish Sea Rim matures and grows.

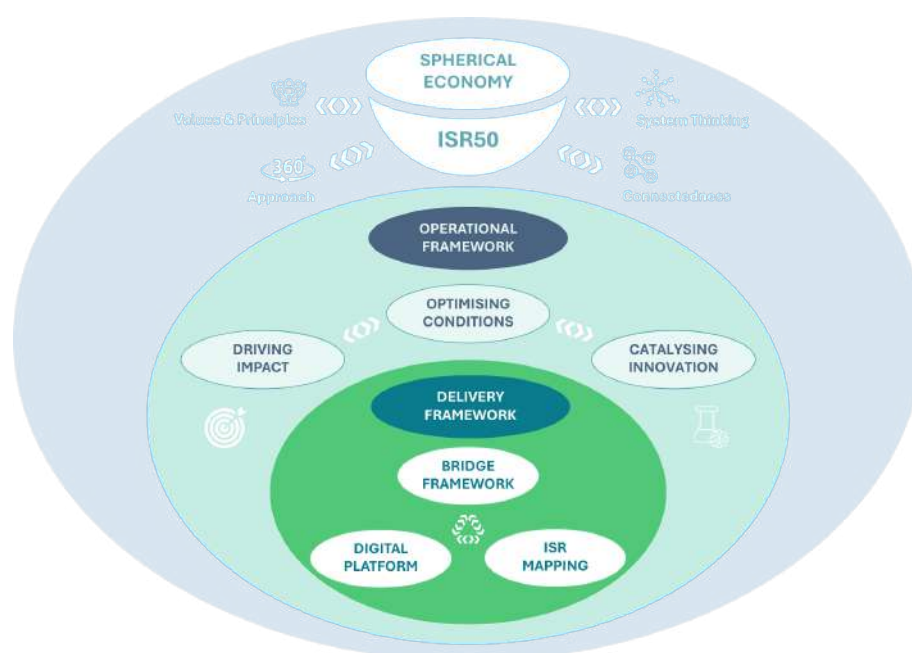
SECTION 23: IRISH SEA RIM BRIDGE FRAMEWORK

A. DELIVERING THE ISR50 STRATEGIC VISION

As outlined elsewhere in this report, the Irish Sea Rim is a highly complex macro innovation ecosystem, encompassing diverse range of environments, socio-economic status, and cultures. As such, top-down management or traditional linear support structures will not be sufficient to deliver on the ambitious ISR50 Strategic Vision, nor fully leverage the opportunities presented by the Irish Sea Rim innovation supercluster. As OECD data has shown, in cross-border areas, ‘border barriers overtake proximity benefits’¹⁰⁸ unless mechanisms are created to align strategy, policy, and practice, *and* build strong relationships across the ecosystem. The Irish Sea Rim has created a new paradigm for achieving both priorities by aligning innovation and places across the whole Irish Sea Rim ecosystem.

The **Cresswell-Leigh Bridge Framework** is the core means by which the ISR50 Spherical Economy and Digitally Enhanced Human Ecosystem vision is translated into a practical, reproducible, and highly effective way of working. The Bridge Framework has been designed specifically to bring simplicity to complex situations through a structured, yet infinitely adaptable process to deliver the three operational priorities of Optimising Conditions, Catalysing Innovation, and Driving Impact.

Figure 23.1: ISR50 Spherical Economy with Bridge Framework highlighted



¹⁰⁸ OECD (2013), Regions and Innovation: Collaborating across Borders, OECD Reviews of Regional Innovation, OECD Publishing.
<http://dx.doi.org/10.1787/9789264205307-en>

B. CONNECTING THE QUADRUPLE HELIX

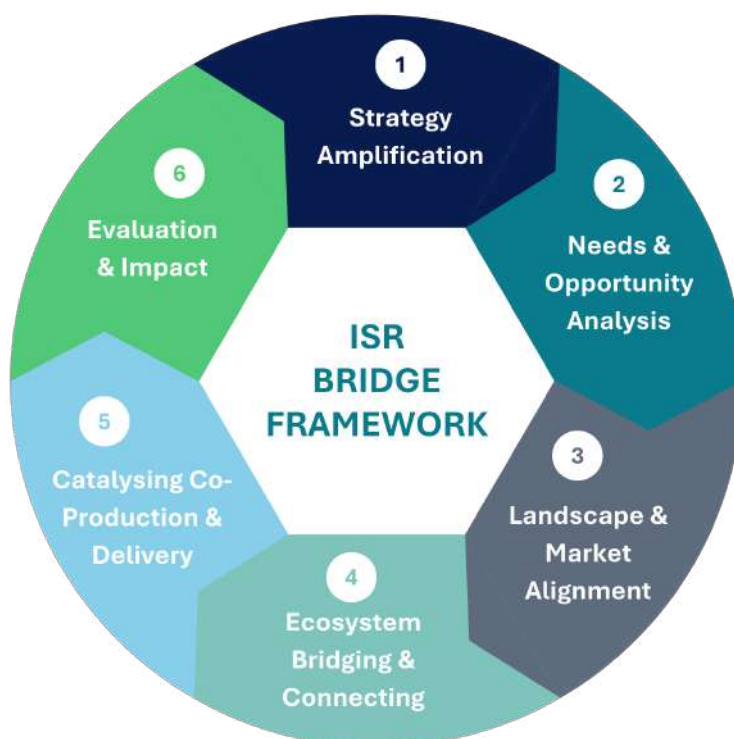
The success of any innovation ecosystem is dependent on building powerful, purpose- and values-based relationships. This is especially true when bringing such diverse interests and cultures as governments, businesses, academia, and places. The shared history of the Irish Sea region requires sensitivity and consideration of the past, to enable the creation and realisation of a unified vision for the future. The independence and neutrality of the Irish Sea Rim, as well as combined experience and expertise in creating and growing high-performing research and innovation ecosystems, place-based regional regeneration and connected prosperity, and technology-enhanced specialist communities enables us to act as a trusted partner, and driver of sustainable, inclusive economic growth.

C. THE BRIDGE FRAMEWORK IN OPERATION

The **Bridge Framework** is an iterative, six-stage process, based on systems thinking principles, which provides a comprehensive vehicle for co-producing, implementing, and evaluating strategic initiatives. It is designed to be applied at any point, and at any level of the ecosystem to support novel innovation, bridge across fragmented infrastructures, connect problems to solutions, build resilient partnerships, gain buy in, and drive sustainable growth and returns on investment.

The combination of the Bridge Framework, the feedback loops into policy across six countries, and the unparalleled depth of the Irish Sea Rim ecosystem mapping and network create a uniquely powerful collaborative vehicle for transforming the innovation landscape across the Irish Sea Region.

Figure 23.2 – The Cresswell-Leigh Bridge Framework



STRATEGY AMPLIFICATION: Combine a review of the partner / organisation's current state (vision, position, metrics) with a collaborative evidence-based, future focussed exercise. This stress-tests assumptions, stretches ambitions, and co-designs strategies and goals that transcend existing boundaries to deliver transformational rather than incremental impact within the context of the Irish Sea Rim and wider global markets.

NEEDS AND OPPORTUNITY ANALYSIS: Identify possible new opportunities arising from the expanded vision and access to the Irish Sea Rim networks. Map the capabilities, resources, and ecosystem dependencies required to achieve new objectives and targets to identify critical gaps in resource, skills, funding, or partnerships.

LANDSCAPE AND MARKET ALIGNMENT: Using the Irish Sea Rim's unique ecosystem map and network for the entire Irish Sea Region, work with the partner / organisation to connect them to national priorities, emerging sector trends, and the relevant funding environments. Identify existing initiatives with which the partner / organisation could align and / or create critical mass to support synergy, rather than competition or duplication.

ECOSYSTEM BRIDGING AND CONNECTING: Act as a neutral relationship and partnership convener, brokering introductions across the quadruple helix of the Irish Sea Rim (government, business, academia, and place), and support effective cross-border governance and collaboration. Work with the partner / organisation to identify key partners and stakeholders, connecting problems with solutions, and enabling access to key supply chains.

CATALYSING CO-DESIGN AND DELIVERY: Translate strategic priorities and connections into concrete, actionable projects. Provide direct expert input into project, funding, and governance co-design to create shared accountability, commercial viability, and routes to impact. Act as a connector and convenor for key stakeholder relationships, particularly across sectors, borders and cultures, and with community groups and public authorities.

EVALUATION AND IMPACT: Evaluate initiatives to evidence returns on investment and develop follow-on initiatives. Create a critical feedback loop back into the ISR50 operational priorities to produce white papers, inform future funding initiatives, and mainstream successful cross-border projects into future national and cross-Irish Sea Rim funding calls.

The Bridge Framework is effective in any setting and over any timeframe. With governments, and regional leaders, we may hold focussed workshops over a period of weeks or months. In industry this will form the basis of the Irish Sea Rim Consultancy model. With individual ecosystems or clusters, we can deliver this as a one-day workshop. In the future we plan to systemise the framework and its constituent parts and resources to make it accessible at scale in lower resource settings, such as community groups, hyper-local innovation ecosystems, and business startup incubators and accelerators.

We expect the Bridge Framework to develop and evolve over time as we work with a wider variety of partners, settings, and priority areas, and feed results back into Irish Sea Rim and national policies.

The scope and breadth of the Irish Sea Rim's networks, partnerships, and knowledge of the policy and funding landscape give us the ability to expand strategic ambitions, connect partners, provide expert guidance, and support stakeholder engagement and buy-in in at a scale and depth that has not been possible before.



Grant Thornton, Dublin, Image credit: Irish Sea Rim

PART SIX

ROADMAP AND KEY PROJECTS



Image credit: Irish Sea Rim

KEY PROJECTS

Section 24: **Irish Sea Rim Roadmap**

Section 25: **Irish Sea Rim pilot projects**

Section 26: **Mapping the Irish Sea Rim**

Section 27: **Irish Sea Rim Digital Membership Platform**

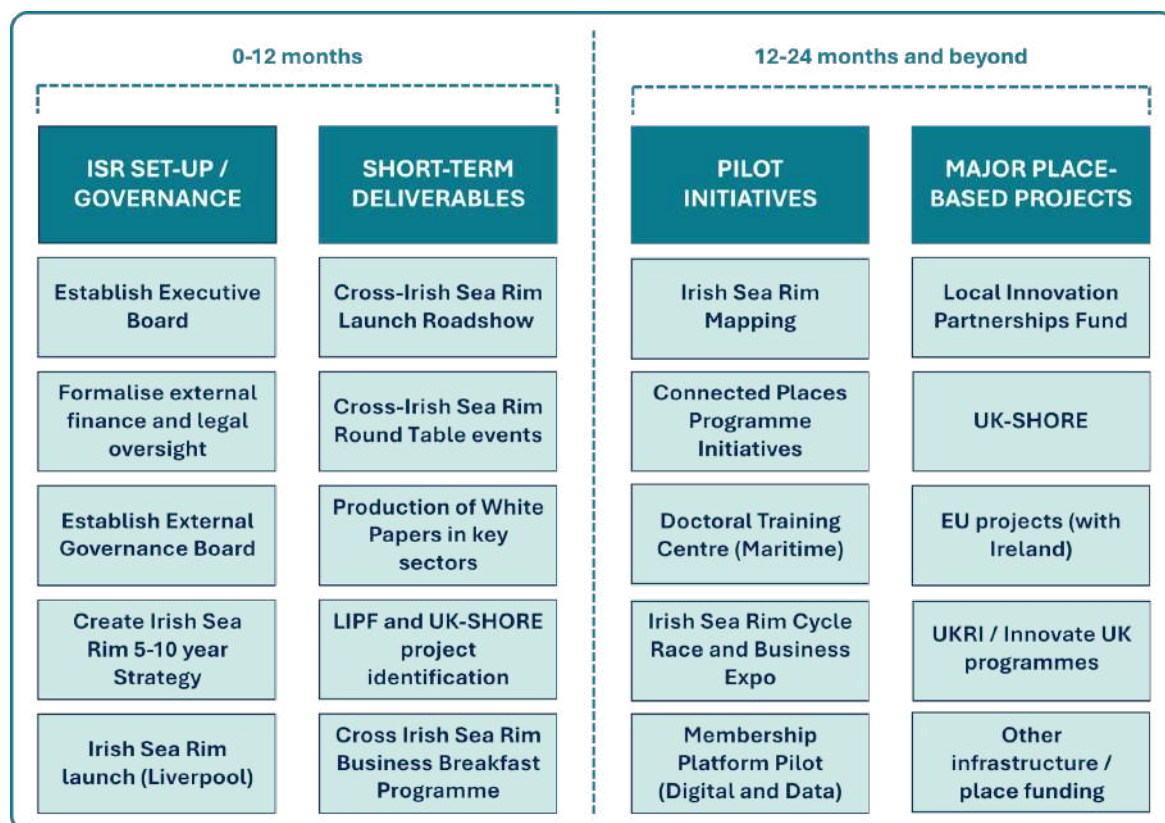
Section 28: **Irish Sea Rim Cycle Race & Connecting Places**

SECTION 23: IRISH SEA RIM ROADMAP

The Irish Sea Rim is essentially a practical delivery vehicle for innovation at scale across the Irish Sea region, breaking down barriers and catalysing cross-border collaboration. Our focus on the quadruple helix of government, business, academia, and place provides a strong foundation for regional regeneration and connected prosperity, particularly in urban, rural, and coastal areas and communities which have traditionally not seen the benefits of the rapid economic growth of city regions.

Figure 24.1 provides an outline delivery roadmap for establishment of the Irish Sea Rim, the development of pilot initiatives, and the contribution to major place-based initiatives such as Local Innovation Partnerships and UK-SHORE funded projects. This roadmap is a live plan and will be contingent upon establishing a sustainable funding base (Section 29) and on stakeholder opportunities and priorities. The Irish Sea Rim is an agile organisation, and we have expertise in delivering initiatives from concept to execution to impact. Establishing governance will be a top priority, and we will work with our partners across the six member countries to create the Irish Sea Rim 5-10 year strategy and operational plan.

Figure 24.1: Irish Sea Rim 2-year delivery roadmap



SECTION 24: IRISH SEA PILOT PROJECTS

The Irish Sea Rim will lead and engage with a series of interconnected projects and activities, designed around cross-cutting themes linked to the ISR50 Spherical Economy strategic vision ([Section 2](#)) and Operational Framework ([Section 22](#)). Strategic themes include maritime and green shipping corridors, business connectivity, science and technology, transport, sport, and regenerative tourism, and are underpinned by a central priority of regional rebalancing and connected prosperity.

The exact sequencing of projects will be determined in consultation with key stakeholders, and contingent upon funding and strategic prioritisation. Key projects in planning include:

PARTNERSHIPS AND ENGAGEMENT

- Irish Sea Rim launch and stakeholder engagement roadshow
- Strategic meetings and planning sessions with key stakeholders and funders
- Establish new, and strengthen existing, partnerships with Irish Sea regional initiatives

CORE IRISH SEA RIM PROJECTS

- Establish Irish Sea Rim Governance Board
- Develop Irish Sea Rim 5-10 year strategic plan
- Mapping key assets and sectors ([Section 26](#))
- Irish Sea Rim Digital Membership Platform ([Section 27](#))

INNOVATION AND INFRASTRUCTURE PROJECTS

- Develop Local Innovation Partnerships Fund projects in partnership with UKRI and regional leads
- Support Green Shipping Corridor initiatives
- Work with Eden Project partners and stakeholders for development of Eden Project Morecambe

IRISH SEA RIM DELIVERY PROJECTS

- Pan-Irish Sea Rim Business Breakfasts
- Irish Sea Rim Cycle Race and Business Expo ([Section 28](#))
- Doctoral Training Centre ([Section 17](#))
- Connecting Places Programme ([Section 28](#))
- Production of White Papers

SECTION 26: MAPPING THE IRISH SEA RIM

A key priority for the Irish Sea Rim is to create a comprehensive and nuanced map of the innovation ecosystems and regions comprising the Investment, Innovation, and Enterprise Zone. This detailed map of the whole “supercluster” will be essential to fully deliver the ISR50 Strategic vision and leverage the innovation potential to deliver non-linear increases in sustainable, inclusive, economic growth and societal benefit.

A. IRISH SEA RIM MAPPING STRATEGIC BENEFITS

The Irish Sea Rim mapping exercise will offer strategic value on multiple fronts including:

- **ATTRACTING INVESTMENT:** Document the ecosystem mapping to showcase the Irish Sea Region’s assets, centres of excellence, innovation clusters, places, and opportunities to attract investment, talent and partnerships nationally and globally.
- **HOLISTIC UNDERSTANDING OF THE REGION:** Identify interconnectedness across sectors and ecosystems to understand regional strengths, idiosyncrasies, interdependencies, weaknesses, gaps, and opportunities.
- **INFORMED POLICY AND INVESTMENT DECISIONS:** Support evidence-based and nuanced alignment of policy and resource allocation, leading to more effective and targeted policies, strategies, and initiatives tailored to regional strengths and needs.
- **STRATEGIC COLLABORATIONS:** Facilitate and broker cross-border and cross-sector collaborations and sharing of infrastructure, skills pipelines, and supply chains.
- **ECONOMIC GROWTH AND JOB CREATION:** Support strategic development of the innovation ecosystem to enable creation and growth of new businesses, inclusive wealth creation, and a diverse range of job opportunities.
- **SUSTAINABLE AND INCLUSIVE GROWTH:** Include places, communities, built and natural environments in mapping alongside traditional economic indicators to ensure inclusive, place-sensitive development which is aligned to sustainability and social priorities across urban, rural, and coastal areas.
- **CATALYSING ECOSYSTEMS:** Convene diverse stakeholders to surface hidden strengths and catalyse new conversations and relationships, creating momentum for ongoing ecosystem development and co-ownership of regional growth strategies.
- **TRACKING PROGRESS:** Establish a baseline for key metrics for benchmarking against other entrepreneurial ecosystems and monitoring and reporting on the effectiveness of interventions and polices, supporting accountability and continuous improvement.

B. MAPPING FRAMEWORK

In the first instance we propose to use an adapted version of Dan Isenberg’s Entrepreneurship Ecosystem model¹⁰⁹, based on a similar approach used by Liverpool Business School in its 2024 analysis of the Liverpool City Region scale up ecosystem¹¹⁰. We will also include selected OECD Pillars of Regional Development Policy¹¹¹. The Irish Sea Rim Mapping Framework will align to our strategic operating priorities of **Optimising Conditions**, **Catalysing Innovation**, and **Driving Impact** (Figure 26.1). The exact metrics and information collected will be informed by existing data and co-designed with key stakeholders across the quadruple helix of government, business, academia, and place.

In line with our principles and values of vision-led leadership, partnership, consideration, respect, support, integrity, learning, partnership, inclusivity and excellence (**Section 1**) we will approach mapping with an entrepreneurial and curiosity-driven mindset, encompassing the wider needs of places and entrepreneurs as well as focussing on the specific attributes of the regional innovation ecosystems.

Figure 26.1: Irish Sea Rim Mapping Framework

OPTIMISING CONDITIONS	CATALYSING INNOVATION	DRIVING IMPACT
Policy & Strategy	Structures & Supports	Culture
Socio-economic	Sectors & Markets	Data
Finance	Human Capital	Needs & Opportunities
Governance	Research & Development	Networks & Stakeholders
Environment	Knowledge Exchange	Impacts

¹⁰⁹ Isenberg, D. (2010). How to Start an Entrepreneurial Revolution. Harvard Business Review. June 2010, p41-50. <https://hbr.org/2010/06/the-big-idea-how-to-start-an-entrepreneurial-revolution>

¹¹⁰ Whiteman, G., Armstrong-Gibbs, F. (2024). Liverpool City Region Scale-Up Ecosystem Report 2024. Liverpool Business School. <https://www.ljmu.ac.uk/-/media/files/ljmu/campaigns/corporate-communications/lcr-scaleup-ecosystem-2024.pdf>

¹¹¹ OECD (2025). Recommendation of the Council on Regional Development Policy. OECD Legal Instruments Series <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0492>

C. DATA COLLECTION, STORAGE, AND SYSTEMS

Effective systems for data collection and storage are critical, as the Irish Sea Rim map and associated data will underpin many of our operational functions. To manage the information gathered through our multi-faceted mapping methodology, we will establish a robust and secure data infrastructure. This approach is directly informed by the expertise of our Director of Technology, based on experience implementing and overseeing such systems in large-scale organisations, including Citizens Advice.

- **DATA STORAGE & SECURITY:** The core of our system will be a secure, cloud-based database. This centralised repository will be designed for scalability and will adhere to strict data protection regulations, including GDPR. Access – which can also be granted via API for programmatic access - will be role-based and tightly controlled to ensure the confidentiality and integrity of the collected information.
- **DATA COLLECTION & INTEGRATION:** All data, whether from surveys, interviews, or desk research, will be fed into the digital database. We will use standardised templates and data entry protocols to ensure consistency and quality across information sources. This will allow for the effective aggregation of both quantitative (e.g., survey results, economic indicators) and qualitative (e.g., interview transcripts, workshop notes) data.
- **SYSTEMS & ANALYSIS:** This database will integrate with advanced data analytics and visualisation tools. For geospatial analysis, the data will be used in platforms like ArcGIS to create detailed, layered maps of assets, networks, and environmental data. The 'live map' of the Irish Sea Rim will be a dynamic, interactive web-based portal, providing stakeholders with controlled access to relevant, up-to-date information.

D. MAPPING METHODOLOGY

In mapping the Irish Sea Rim, we will employ a range of methods to engage stakeholders, tap into the wealth existing regional mapping data, and collect and collate the information gathered into a powerful and useful resource. Mapping methods may include:



The Irish Sea Rim will work in-house, with infrastructure support bodies (such as the Connected Places Catapult), and with specialised data analytics organisations (such as Growth Flag) to

synthesise and analyse data for commonalities, unique strengths and attributes, gaps, needs, and opportunities. We will use these analyses to inform the strategic priorities for Irish Sea Rim, and feed back into regional and national policy development through a series of co-authored White Papers.

We appreciate that across such a large and diverse region, the innovation ecosystem will be subject to constant evolution and change. We therefore regard the Irish Sea Rim 'map' as a live database and will update it regularly through our regional representatives and networks to ensure currency.



UK National Electricity Distribution Grid, Heysham (400kv), Lancashire, Image credit: Irish Sea Rim

SECTION 27: IRISH SEA RIM DIGITAL MEMBERSHIP PLATFORM

A. THE ISR50 DIGITAL MEMBERSHIP PLATFORM

A key delivery vehicle for the ISR50 Spherical Economy will be a digital platform where the ISR members, stakeholders and communities can interact. The ISR50 Digital Platform is a dynamic online hub designed to accelerate collaboration between the people, communities, and industries of the Irish Sea Rim. It acts as a central vehicle for sustainable economic growth, connecting demand with supply and seamlessly facilitating trade and collaboration across borders. By providing a direct route to new markets and opportunities, the platform serves as a powerful '*Force Multiplier*' for business development, skills enhancement, societal impact, and inward investment for the next decades and beyond.

At its core, the ISR50 Digital Platform is a space for interaction, enterprise and research. Key features will include:

- **DATA & INSIGHTS:** Access to a library of publicly available data, with enriched, in-depth datasets reserved for members to inform strategic decisions.
- **INTELLIGENT MATCHING:** A sophisticated system to connect members based on specific needs, such as finding suppliers, service providers, or partners for a new venture.
- **OPPORTUNITY MARKETPLACE:** A dedicated area where members can advertise, discover, and apply for investment opportunities, grants, and tenders.
- **SKILLS & MENTORSHIP HUB:** A feature allowing individuals and businesses to offer their expertise or seek mentorship, connecting students with industry veterans and SMEs with specialist advisors.
- **RESEARCH & INNOVATION NEXUS:** A dedicated space for universities and industry to connect, share research findings, and form collaborative R&D partnerships.
- **INTERACTIVE REGIONAL DASHBOARDS:** Live dashboards that visualise key economic, environmental, and social data for regions across the Irish Sea, helping to pinpoint challenges and highlight investment potential.
- **SHARED EVENTS CALENDAR:** A central calendar for members to promote and discover relevant workshops, webinars, and networking events throughout the ISR ecosystem.

Designed to work at all levels of the innovation ecosystem, the ISR50 Digital Platform is open to everyone – from entrepreneurial SMEs and large industries to enterprise councils, innovation agencies, academia and local communities.

ISR50 Digital Platform A central hub for connection, collaboration, and growth
Opportunity Marketplace: Access funding, grants, and new business ventures
Partnership Matching: Connect with businesses, suppliers, and collaborators
Research & Innovation Hub: Foster R&D partnerships between industry and academia
Skills & Mentorship Exchange: Find experts and share knowledge across the ecosystem
Data & Regional Insights: Make informed decisions with key economic and social data



Wind turbines on Cumbria Coast, Image credit: Irish Sea Rim

SECTION 28: IRISH SEA RIM CYCLE RACE AND CONNECTING PLACES PROGRAMME

The goal of the Irish Sea Rim is to connect the region's nations and administrations and places, catalysing growth and investment in clean, green and wellbeing-focused innovation. To realise the full potential of the Irish Sea region, place must have a central role and equal voice in supporting connected innovation, testing and driving place-specific economic, social and environmental impact and driving the animation, visibility and storytelling of this landmark initiative to integrate innovation with the people and places which define and connect the Irish Sea.

A. THE IRISH SEA RIM CONNECTING PLACES PROGRAMME

The Irish Sea Rim **Connecting Places Programme** is centred around on three core themes:

- **SPORT AND PLACE:** Supporting major elite events, active lifestyle and tourism development and increased public health wellness through engagement with nature.
- **COASTAL COMMUNITIES AND COASTAL HIGH STREETS:** Supporting micro-cluster corridor development and place-based SMEs and focusing on coastal towns and their high streets for major sport events, cultural programming and regeneration-focused initiatives.
- **REGENERATIVE TOURISM:** Championing a regenerative model which moves beyond simply sustainable or 'green' tourism to leave a place – its natural spaces, economic opportunities, health outcomes and shared pride in place – better than it was found. We have had preliminary conversations with Eden Project Morecambe partners in support of this theme.

These three themes work as an integrated whole within the Connecting Places Programme, focussing on tackling the unique and deep-seated challenges facing the region's coastal towns. These include seasonal economies, physical isolation, high deprivation, and the outward migration of young people. The Programme as a whole works on an asset-based model: recognising, celebrating, championing and catalysing the wealth of assets and innovation around the Irish Sea.

Blue-Green Regeneration is a strategic driver for the Connecting Places Programme, seeking to diversify local economies beyond a reliance on tourism by actively integrating them with the sustainable 'blue economy' (including marine renewable energy, aquaculture, marine biotechnology) and 'green economy' (for example agriculture and food production, green finance and wilder carbon market offers, 'bike and boots' tourism). Specific initiatives will be shaped with places, communities, and social enterprise / investment infrastructure to reimagine and revitalise coastal high streets as vibrant, year-round hubs for local enterprise,

services, culture, and innovation. Initiatives will draw on activity across the quadruple helix, including:

- **GOVERNMENT:** Providing the strategic framework and funding through local authorities, mayoral strategic authorities and national programmes like the UK's **Coastal Communities Fund** or the Welsh Government's '**Blue Recovery**' programme. We will seek to work with agencies like Visit Britain, Tourism NI and Fáilte Ireland, to support the network's development and promote the regenerative tourism kitemark scheme to international markets.
- **INDUSTRY:** Partnerships will be created between traditional high street businesses and emerging clean, blue / green and wellbeing economy enterprises, fostering innovation and creating new supply chains. Place-based SMEs in the hospitality festivals and experience economy sectors would form the core of the Irish Sea Rim **Regenerative Tourism Network**, sharing best practices and co-marketing their unique offerings.
- **ACADEMIA:** We will partner with regional universities and researchers, particularly in the natural and marine sciences, engineering, built environment, and creative industries, to support the vital research and technical support for new blue economy ventures and sustainable town centre redevelopment, as well as industry-based skills development across a wide range of sectors. Through institutions like Cork Institute of Technology's Centre for Regenerative Tourism, collaborative research and impact programmes will provide the research, frameworks, and educational tools to underpin the network's regenerative tourism activities.
- **PLACE:** This will be the foundation on which the shape and impact of the sporting events, high street interventions and tourism/experience offers will be co-produced. The Irish Sea Rim will support the creation of a cross-border network of tourism businesses and communities committed to practices that actively restore ecosystems, revitalise local cultures, and build community resilience. The Regenerative Tourism network will provide training, peer-to-peer support, and a co-created kitemark certification recognised across the Irish Sea Rim as a mark of authentic, high-quality, positive-impact experiences. It would build on the work of existing best-practice examples like the Burren EcoTourism Network and community-led heritage projects.

Ultimately, the Irish Sea Rim will work across local communities, conservation groups, and cultural heritage organisations to co-design and co-produce the tourism experiences, ensuring they are authentic, protect local assets, and deliver tangible benefits back to the community. This will help to move tourism from an extractive to a regenerative and restorative sector. Major place stakeholders, including social enterprises, community land / development trusts, residents' associations, youth organisations, and local business forums will co-produce the regeneration plan for their high street, ensuring it meets genuine local needs for quality jobs, affordable housing, sustainable transport infrastructure and accessible public spaces, supporting communities to co-create and connect more resilient futures.

A. THE IRISH SEA RIM CYCLE RACE, PLACE & BUSINESS EXPO

As a centrepiece and landmark focus for the Irish Sea Rim Connecting Places programme, we will create and host an internationally significant elite cycle race with stages across the cities, coastal roads and high streets on each of the Irish Sea Rim countries. With elite races for male, female and para-athletes, this will be the initial focal point for the wider Irish Sea Rim initiative, campaigns, identity and impact delivery.



Linking Sport with Regenerative Tourism, Active Transport and Wellbeing, this project will be a powerful catalyst for sustainable, inclusive economic growth and regional transformation. Passing through many under-served coastal and rural communities around the Irish Sea, we will focus on cycling as a mode of transport, a competitive elite sporting event, recreation, and healthy lifestyle pastime. This collaboration between industry, business, sport, innovation, tourism, universities, government, support agencies, funding avenues, cycling teams, sponsors, and communities aims to promote the Irish Sea region, and individual communities through wellbeing and sport.

Figure 28.1: Potential Irish Sea Rim Cycle Race route

The **Irish Sea Rim Cycle Race, Place & Business Expo** is a pioneering, two-week international event designed to catalyse economic regeneration, wellbeing, and environmental awareness. This transformative project blends the excitement of elite sport with business innovation, creating a unique platform that functions as a cycle race, a business engagement roadshow, and a major tourist event. Creative and cultural programming across the six nations for the full two-week programme will enrich the business engagement experience, drive wider visitor numbers (and geographic spread) and activate place connections, cementing the Irish Sea Region's place identity and values and celebrating the region's clean, green and wellbeing richness.

Modelled on the success of events like the Union Cycliste Internationale Cycling World Championships in Glasgow, which generated over £205 million in economic activity for Scotland, this race will serve as a powerful placemaking tool, creating new business

opportunities, promoting knowledge exchange, and stimulating local business growth. The event aims to catalyse regional regeneration by driving tourism, generating new skilled jobs, and opening new transnational markets and collaborations. Success will be driven by an "open innovation" approach that brings together key partners in a co-production model with four unique pillars that set it apart:

- **TOURING BUSINESS EXPO:** A core innovation is a touring business expo that travels with the race, programmed in advance of each route stage. This provides a dynamic platform for small and medium-sized enterprises (SMEs) to showcase innovations in sectors like regenerative tourism, green technology, and local food and drink, creating valuable business-to-business opportunities at each stage.
- **ELITE SPORT MEETS BUSINESS LEADERSHIP:** The project uniquely links the excellence of elite sport with the ambition of business leadership. It will explore how the focus and resilience learned from high-pressure situations in elite sport can be transferred to high-growth businesses and their leaders.
- **INNOVATION AND SKILLS ROADSHOW:** This event will parallel the Cycle Race and Business Expo, highlighting the broad range of skills and professions associated with planning and running both events, from cycling to logistics to event management. We will work with professionals, elite athletes, and place representatives to engage local people of all ages and generate new opportunities, particularly for coastal communities.
- **'BIKE AND BOOT' TOURISM OFFER:** Programmed directly after each stage, and focussed on coastal towns and high streets, wider place activation and cultural programming will focus on nature-based activities, wellness offers, sustainability festivals and events. The aim is to spread the geography and offer for diversified business and leisure visitors while building strong regenerative tourism infrastructure, identity and offers outside the major cities across the region.

The combination of elite races, community sportives and touring business expo will connect local government, industry leaders, SMEs, universities, and communities in a novel way.

- **GOVERNMENT:** Local authorities and national tourism bodies like VisitScotland and Fáilte Ireland will collaborate on logistics, permissions, and regional promotion.
- **INDUSTRY:** Corporate sponsors, logistics partners such as Stena Line and Irish Ferries, and hundreds of SMEs participating in the expo will be deeply involved.
- **ACADEMIA:** Universities will play a key role in measuring the event's socio-economic impact and researching sustainable event management.
- **COMMUNITY:** The event will be co-produced with local communities, cycling clubs, and volunteer organisations, ensuring the unique character of each location is reflected in the design of race stages and cultural festivals.

Initial conversations with local government representatives and leaders in elite cycling race design and management have indicated strong support for this event.

In subsequent years, further elite sporting events will be developed with focus on **sea rowing** and **surfing**, working with British Rowing and GB Surfing to support events and their wider

sustainability and wellness strategies. While each event would occur in a core three-month period (August-October annually), the aim would be to extend the peak tourist season with a true regenerative tourism offer while cementing the Irish Sea Region as a location for elite sport, business and visitor experiences.

B. THE IRISH SEA RIM REGENERATIVE TOURISM ROUTES

The Cycle Race, Place and Business Expo will be a focal point in the network's annual calendar, forming the platform on which the Connecting Places Programme will build a year-round offer for regenerative tourism. This will target nature-focused, active lifestyle, and values-driven tourism offers. With direct connections to sustainable transport and wellbeing, the creation of navigable routes and a changing focus for visitors with dark skies in winter, post-holiday wellness in the new year, competitive corporate sport and corporate social responsibility events in spring. This will expand the impact, innovation and investment opportunities in the regions' towns, rural and coastal areas. Celebrations of local culture, food and traditions will enhance these offers, working with networks like Placemaking Europe and its international partners.

Cycling can become part of corporate amateur, fundraising events, and sportive rides across the cycle stage routes and wider 'off the beaten track' locales. Accommodation offers around the 'bike and boot' model can support a wider range of visitors around this programme, diversifying the offer and price points for different clientele. Working with nature and wellbeing charities and social enterprises, the regenerative tourism routes can support visitors and local residents to enjoy more active lifestyles, positive engagement in nature, pride in place activation and societal change.



Gary McIlroy, Tour of Ulster 2016

PART SEVEN

FUNDING AND GOVERNANCE



FUNDING AND GOVERNANCE

Section 29: Irish Sea Rim sustainable funding model

Section 30: Irish Sea Rim governance

SECTION 29: IRISH SEA RIM SUSTAINABLE FUNDING MODEL

For the Irish Sea Rim to be successful, it is essential to develop and implement a sustainable and distributed funding and investment model, which is not wholly dependent of any single government, industry, region, or source. This will provide stability beyond electoral cycles, support cross-border buy-in, and maintain the independence of the Irish Sea Rim. We anticipate that this model could comprise two overlapping phases, with a graduated evolution from third party core investment to a self-sustaining membership and project-based model (Figure 29.1).

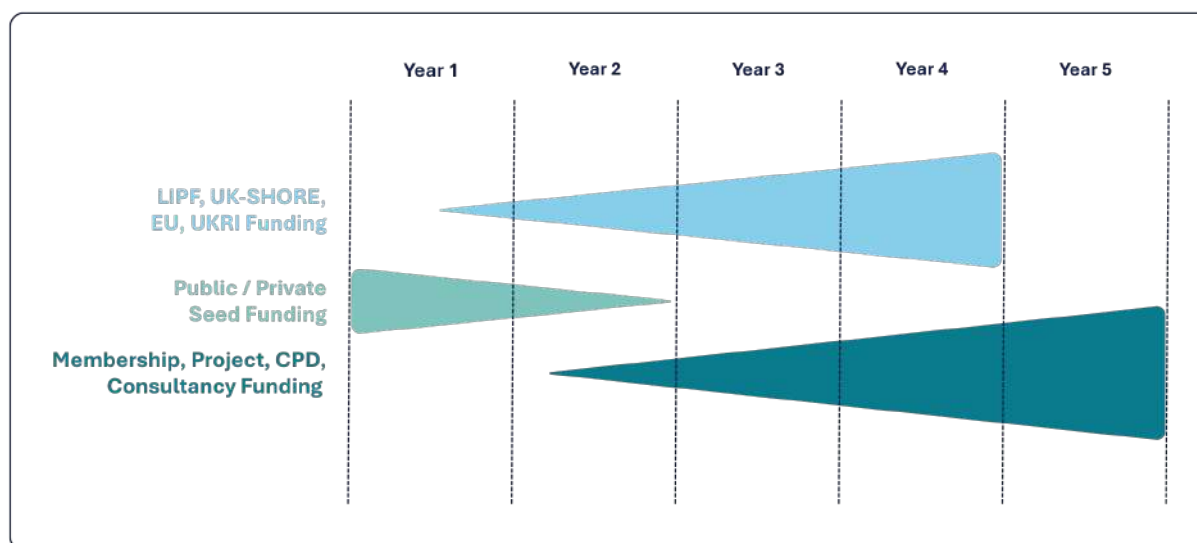
Figure 29.1: Irish Sea Rim Sustainable Funding Model

PHASE 1 (2 YEARS) THIRD PARTY CORE / MATCH FUNDING	PHASE 2 (YEAR 1-2 ONWARDS) SELF-SUSTAINING FUNDING		
Initial Investment	Recurrent Income	Opportunity-Based Income	Event-Based Income
Governmental Investment	Membership Model	Consultancy and CPD	Recurring Events
Private / Industry Investment	Specific Data Access Model	Collaborative Projects	Irish Sea Rim Cycle Race, Place & Business Expo
		Commissioned Projects	Networking Events

In the immediate term (0-1 year), we will seek to secure core set up funding from governmental and private sources to enable Irish Sea Rim-wide launch and roundtable events in the key cities around the region. This will serve three main objectives – place-based engagement across the whole quadruple helix, identifying synergies and making connections between regions, and identifying and co-producing large scale projects for Local Innovation Partnership Fund and, potentially, UK-SHORE programme applications. We expect the core set up funding to taper over the first 1-2 years as the Irish Sea Rim secures project-based funding in the UK and Ireland.

This will provide a strong foundation on which the Irish Sea Rim can build medium (2-3 years) - to long-term (5+ years) financial sustainability through consultancy and continuing professional development, expansion of place-based innovation projects, EU funding in partnership with Ireland, and the membership model which will form the basis of the Irish Sea Rim's stable, recurrent funding. Figure 29.2 provides an estimated roadmap for short term-versus long term funding plans.

Figure 29.2: Irish Sea Rim 5-year funding roadmap



A. PHASE 1: THIRD PARTY CORE / MATCH FUNDING

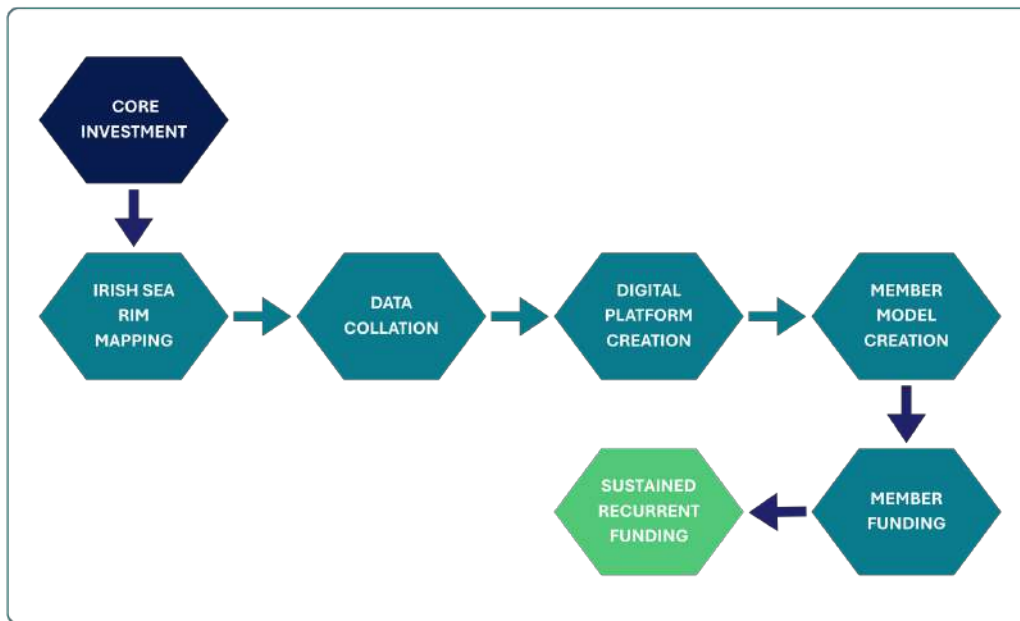
The Irish Sea Rim Ltd. is a wholly independent organisation set up to represent the interests of each of the six Governments, and to drive place-based innovation across the entire Irish Sea Region, with the aim of supporting the creation of 100,000 new jobs and £1 billion in investment. The Irish Sea Rim is an industry- and place-focussed Investment, Innovation and Enterprise Zone and while we will align with all universities in the region, this is not a university-funded initiative. The medium- to long-term aim is for the Irish Sea Rim to create a sustainable recurrent income source through a membership model and digital platform, alongside a public / private blend of consultancy-, project-, and event-based income.

To enable the Irish Sea Rim to recruit and retain core staff, engage stakeholders across the six countries, cover set-up and administrative costs, and undertake the critical mapping and digital platform development which will support the sustainable funding model, we recommend that the Irish Sea Rim is supported through immediate core funding and tapered investment for the first 1-2 years. To ensure that the interests of each country and region can be represented, and that the Irish Sea Rim can maintain its neutral, apolitical identity, we believe that it is critical for each of the six governments of the Irish Sea Rim to contribute to this investment. It may be relevant to allocate funding according to an algorithm, for instance based on population and / or size.

B. PHASE 2: SELF-SUSTAINABLE FUNDING MODEL

We anticipate that, from year 2, we will start to graduate to a sustainable funding model based on three main categories of funding: **recurrent**, **opportunity based**, and **event-based income** (Figures 29.1-29.3).

Figure 29.3: Irish Sea Rim Recurrent Funding Transition

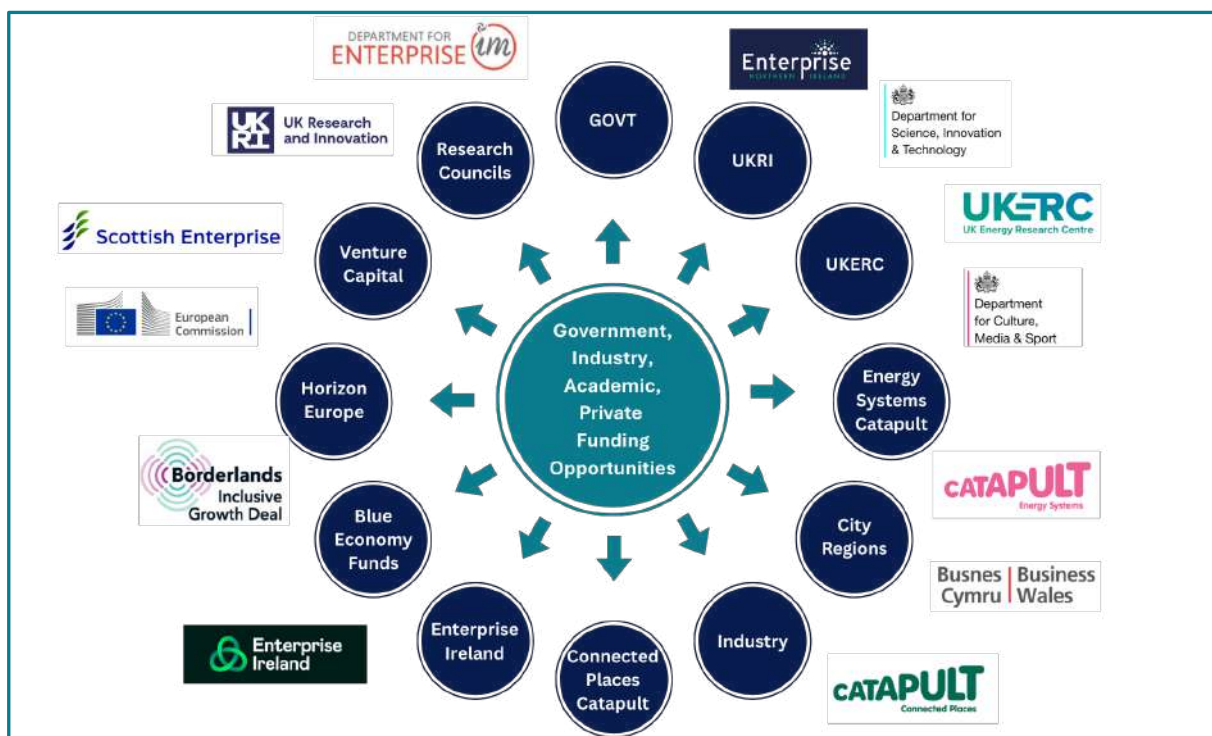


- RECURRENT INCOME:** This will primarily come from a membership model, delivered in part through the ISR50 Digital Membership Platform outlined in [Section 27](#). Within 3 years we anticipate that this membership model will fund the core staffing contingent and operating costs of the Irish Sea Rim, providing a long-term sustainable funding source. This will be supported through a specific Data Insights and Access Model and underpinned by the Irish Sea Mapping exercise outlined in [Section 26](#). The transition from the initial core investment to independent membership-based funding is outlined in [Figure 29.2](#).
- OPPORTUNITY-BASED INCOME:** This will come from two main sources: 1) private industry consulting and executive education, coaching, continuing professional development (CPD) and training and 2) public / private project-based funding. We have initiated conversations with Innovate UK regarding the role which the Irish Sea Rim could play in supporting the development and delivery of Local Innovation Partnership Fund earmarked strand projects in the key regions of Greater Manchester, Liverpool City Region, Glasgow City Region, Cardiff Capital Region and the Belfast/Derry-Londonderry corridor in Northern Ireland, and also in competitive strand projects in other regions around the Irish Sea.

We will work with funders and academic and business partners to develop additional needs-based collaborative projects and have already submitted a bid to the CyberFocus programme in partnership with the University of Cumbria. We will contribute to EU projects through partners in Ireland. Finally, we are keen to work with Catapults and Governments in each region to design and deliver commissioned projects related to place-based regional economic development. [Figures 29.4-29.8](#) illustrate a non-exhaustive range of potential direct and collaborative opportunity-based funding sources.

- EVENT BASED-INCOME:** Over time, the Irish Sea Rim plans to establish recurring events, from hybrid Business Breakfasts, networking events, to an annual conference. To ensure accessibility for startups and SMEs, we will establish a graded costing model, supported by core funds (in the first instance) and industry sponsorship. As outlined in **Section 27**, the Irish Sea Rim Cycle Race will be accompanied by a touring Business Expo, which is expected to generate significant income in sponsorship, and will support the development of new partnerships and collaborative opportunity-based funding, alongside increasing recurrent membership income.

Figure 29.4 Irish Sea Rim Opportunity-Based Funding Sources



We also anticipate that the Irish Sea Rim will act as a funding repository and networking conduit, signposting connections, funding and investment opportunities, and providing introductions. Our goal is to align cross-border policy and investment and support the synchronisation of regional and national innovation programmes, to unlock resources and create a seamless environment for business, research and skills development across the Irish Sea Rim. The independence and agility of the Irish Sea Rim, and our relationships with all levels and regions around the Irish Sea mean that we will be well-placed to respond to new project-based and consultancy opportunities as they arise.

Figure 29.5: Potential Irish Sea Rim Funding Sources – UK-wide

REGION	FUNDING	KEY OBJECTIVES
UK-wide	Local Innovation Partnership Fund URKI	Competitive and earmarked investment in regional development and scaling of high potential innovation clusters
UK-wide	UK-SHORE fund UKRI / Innovate UK	Helps businesses and academia develop real-life technology to reduce shipping carbon emissions
UK-wide	Grants and loans UKRI / Innovate UK	Competitive grants across sectors for SMEs and R&D commercialisation
UK-wide	Research Council Grants UKRI	Grants to support research development, collaboration, commercialisation, and skills development
UK-wide	R&D / skills investment Nuclear Decommissioning Agency	Direct funding for research / fostering innovation and diverse skill set within the supply chain
UK-wide	Enterprise Investment Scheme UK Government	Tax relief to attract angel investment
UK-wide	Strategic Innovation Fund Ofgem	Funds projects to transform gas and electricity networks to speed up transition to net zero
UK-wide	Loans, debt/equity British Business Bank	Start up and scale up new businesses and SMEs seeking loans and growth capital
UK-wide	Angel investment UK Business Angels Association	Connects Angels grows and provides programmes and visibility for angel investing

Figure 29.6: Potential Irish Sea Rim Funding Sources – Ireland

REGION	FUNDING	KEY OBJECTIVES
Ireland	Research Ireland Irish Government	Competitive research and innovation grants for researchers and research-performing organisations
Ireland	Disruptive Technologies Innovation Fund Dept of Enterprise, Trade and Employment	Challenge-based research funding for ambitious, collaborative projects that apply disruptive technologies to solve national and global challenges
Ireland	Innovation Voucher / Partnerships Enterprise Ireland	£5k vouchers for problem solving with HEIs; Innovation Partnerships fund larger industry and academic R&D
Ireland	High Potential Startup Fund (equity) Enterprise Ireland	Supports Irish startups that have the potential to grow into globally competitive companies
Ireland	Loan Guarantees / Wholesale Funding Strategic Banking Corporation of Ireland	Works with banking partners to provide lower-cost, long-term, and accessible funding to Irish SMEs
Ireland	Patient Capital Ireland Strategic Investment Fund	Sovereign development fund investing commercially to support Irish economic activity
All-Ireland (Ireland and NI)	Angel Investment Halo Business Angel Network	Dedicated to the all-island promotion of business angel investment

Figure 29.7: Potential Irish Sea Rim Funding Sources – Isle of Man

REGION	FUNDING	KEY OBJECTIVES
Isle of Man	Enterprise support Schemes Department for Enterprise	A comprehensive suite of schemes providing financial assistance to businesses. Supports start-ups, business growth, capital investment, and relocation to the island.

Figure 29.8: Potential Irish Sea Rim Funding Sources – devolved nations / regional

REGION	FUNDING	KEY OBJECTIVES
UK-Scotland Border	Projects/programmes Borderlands Inclusive Growth Deal	Support enabling infrastructure, improving places, business, innovation and skills, green growth in the borders region
Scotland	SMART and R&D grants Scottish Enterprise	Supports feasibility studies and development of new products, processes or services.
Scotland	Patient capital Scottish National Investment Bank	Patient, flexible debt/equity capital impact investor for net zero, innovation, and place.
Wales	Development bank of Wales	Range of investment options from micro-loans to large equity deals to help businesses start, grow, or relocate
Wales and Ireland	Agile Cymru Welsh Government	Foster collaborations across the Irish Sea in research, innovation, trade and culture.
Northern Ireland	Invest Northern Ireland	Wide range of grant, equity, and loan support for business growth, innovation, R&D, and export.
NI and Ireland	PEACEPLUS grant Special EU programmes body (SEUPB)	Promotes cross border peace and prosperity. Economic regeneration, sustainable development, building positive relations.
Northwest England	Northern Powerhouse Investment Fund II British Business Bank	Investment in SMEs – supporting innovation and high skilled job creation to drive sustainable economic growth
Lancashire	Fhunded initiative Lancashire County Council	Curates and manages fhunded Angel network, connecting VC and Angel investors with founders and SMEs
Liverpool City Region	Gateway Angels and LCR Seed Fund	Pre-seed funding, typically £50k - £1m
Liverpool City Region	LCR Seed Fund	£10m seed equity fund launched by LCR Combined Authority to accelerate early-stage growth.

C. STAFFING MODEL

To ensure that the Irish Sea Rim is adaptable, collaborative, efficient, fit-for-purpose, and cost-effective, we plan to keep the organisation as lean as possible. Beyond a small initial core staff, we will work with partners and recruit Consultancy Associates in each of the countries that make up the Irish Sea Rim as needed to deliver on specific projects. This will allow the Irish Sea Rim to grow organically and evolve as necessary to meet the needs of the region and its stakeholders. Individual budget and staffing plans will be created for each project, as well as for the Irish Sea Rim as a whole.



Image credit: Irish Sea Rim

SECTION 30: IRISH SEA RIM GOVERNANCE

Clear governance and accountability to all six member countries is critical to maintaining the neutrality and parity of engagement and support across the Irish Sea Rim. The governance structures outlined below are informed by the OECD's recommended Pillars of Regional Development Policy Recommendation¹¹² and Toolkit¹¹³ (Figure 29.1).



Figure 30.1: OECD Recommendation – 10 Pillars of Regional Development Policy

A. IRISH SEA RIM GOVERNANCE STRUCTURE

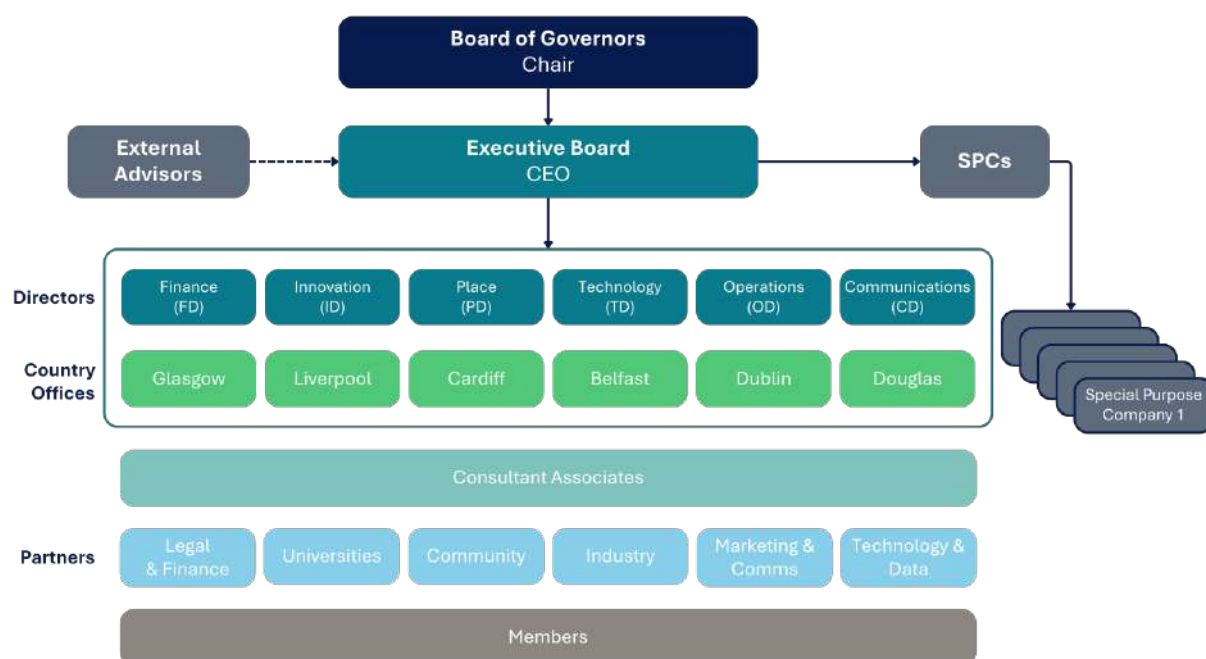
Figure 30.2 outlines the overall governance and management structure for the Irish Sea Rim. Oversight is provided Board of Governors, with members drawn from each of the countries that make up the Irish Sea Rim (Figure 30.3). In addition, Board members may be drawn from outside the UK and Ireland to provide a global perspective. Chairship of the Board rotates between each of the six member countries, with Board membership based on a two-year rolling basis. Replacement of members staggered to ensure continuity and stability. The draft Terms of Reference for the Irish Sea Rim Governance Board are given in Appendix X.

Day to day strategic planning and operations are managed through the Executive Board, comprising full and part-time Directors for the key functions of the Irish Sea Rim and reporting into the Chief Executive Officer and Board of Governors (Figure 30.2). The Executive Board also works with advisors from across the Irish Sea Rim and beyond. Directors have responsibility for their operational areas, working in partnership with stakeholders from across the quadruple helix of government, business, academia, and community, and working with Consultant Associates to deliver projects and outputs.

¹¹² OECD (2025). Recommendation of the Council on Regional Development Policy. OECD Legal Instruments Series <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0492>

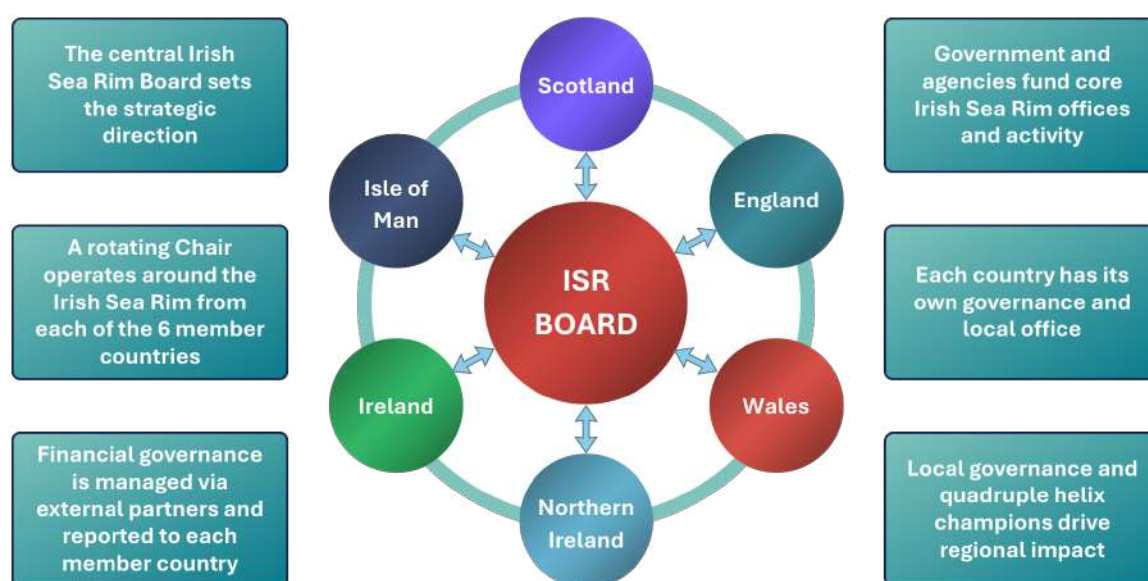
¹¹³ OECD (2025). Implementing the OECD Recommendation on Regional Development Policy. OECD Publishing, Paris https://www.oecd.org/content/dam/oecd/en/about/projects/cfe/implementing-the-oecd-recommendation-on-regional-development-policy-toolkit/toolkit-implementing-recommendation-on-regional-development-policy.pdf/_jcr_content/renditions/original/toolkit-implementing-recommendation-on-regional-development-policy.pdf

Figure 30.2: Irish Sea Rim management and operational structure



Each of the six countries comprising the Irish Sea Rim has a regional office, working closely with the Executive Boards, quadruple helix stakeholders and their country Board of Governance members. Representatives are local people with relevant professional and lived experience of the region.

Figure 30.3: Irish Sea Rim Governance structure and management



As outlined in [Section 28](#), the Irish Sea Rim works with Consultant Associates drawn in from relevant sectors and professions to support day to day delivery of projects and initiatives. This ensures that the Irish Sea Rim can adapt and flex to changing needs with maximum efficiency.

At the heart of the Irish Sea Rim operating framework sits the membership model and digital platform. Members are fully engaged in the strategic and operational running of the Irish Sea Rim with regular consultations, and an annual conference which will be launched in the Autumn of 2026.

B. IRISH SEA RIM REPORTING AND ACCOUNTABILITY

Given the cross-border and complex nature of the Irish Sea Rim, external oversight and reporting are key functions. To ensure gold-standard integrity and accountability, the Irish Sea Rim works with external partners for advice, and audit of its financial management, with regular reports provided to the Board of Governors.



M-SPARC, Anglesey, N Wales, Image credit@ M-SPARC/Debbie Jones

PART EIGHT

MOVING FORWARDS



Clifton Suspension Bridge, Bristol. Image credit: Irish Sea Rim

MOVING FORWARDS

Section 31: **Next steps and timelines**

Section 32: **How to get involved**

SECTION 31: NEXT STEPS AND TIMELINES

Since March 2025, the author has worked intensively to engage senior stakeholders across the Irish Sea Region to communicate and inform the design of the Irish Sea Rim strategy and collaborative approach. Following submission of this report, and contingent upon initial core staff and operational funding, key Irish Sea Rim personnel will further intensify engagement, with a ‘roadshow’ series of launch events in key cities. Immediate priorities will also be to work with partners across the Irish Sea Rim Investment, Innovation, and Enterprise Zone to identify and support development of initiatives related to the Local Innovation Partnership Fund (Figure 31.1)

Figure 31.1: Irish Sea Rim Immediate and Key Priorities

September 2025 onwards	Work with Connected Places Catapult and key stakeholders to establish the Irish Sea Rim investment and funding model
September 2025 onwards	Work with UKRI and key regions to identify and support development of Local Innovation Partnership Fund initiatives
Autumn 2025	Irish Sea Rim report launch event in Liverpool
Autumn / Winter 2025	Irish Sea Rim launch ‘Roadshow’ and stakeholder engagement events in key cities and regions
Autumn / Winter 2025	In consultation with key partners and stakeholders, create the medium and long-term strategic and operational plans for the Irish Sea Rim
Winter 2025	Work with governmental, regional, and industry partners to identify key Irish Sea Rim contributions to the UK Industrial Strategy
October 2025 – September 2026	Map key ecosystems, assets, sectors and partners across the Irish Sea
October 2025 – September 2026	CyberWaves project (dependent on fundings)
Spring 2026	Start Irish Sea Rim Digital Platform development
Spring 2026	Initiate conversations with academic centres, regional ecosystems, funders, and industry partners to establish an Irish Sea Rim Doctoral Training Centre in Maritime and Marine
Autumn 2026	Launch the first annual Irish Sea Rim conference in Liverpool

This timetable is dynamic and subject to adaptation and change, depending on core funding, strategic priorities, and opportunities. The first phase will focus on establishing the core management and operational teams and as well as governance and reporting. This period will also include the immediate next steps outlined above. Following the launch event in Autumn 2025, key partnerships in and across all six countries which make up the Irish Sea Rim will be developed further, and funding opportunities and avenues identified throughout the next 12 months to establish the sustainable funding model for the Irish Sea Rim outlined in [Section 28](#).



NW Off-Shore Energy Alliance, Image credit: M-SPARC/NW Offshore Energy Alliance

SECTION 32: HOW TO GET INVOLVED / LEARN MORE



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Website

www.irishsearim.org



LinkedIn

<https://www.linkedin.com/company/irish-sea-rim>



Publications

Download this report, the executive summary, and all our other publications

APPENDICES



River Clyde, Glasgow, Image Credit: Scottish Marine Technology Park (SMTP)

CONTENTS: APPENDICES

- Appendix 1: Irish Sea Rim principles and values
- Appendix 2: BEC working model of principles and values
- Appendix 3: List of papers, reports and presentations on the Irish Sea Rim from 2013 – 2025
- Appendix 4: List of meetings and stakeholder engagements with Northern Ireland

APPENDIX 1: IRISH SEA RIM PRINCIPLES AND VALUES

The Irish Sea Rim is founded on a bold vision: Developing economic growth through collectively engaged and enriched communities. This vision is built upon purpose-led principles and values which feed into our strategies and operating models. By embedding these principles into every facet of our internally- and externally-facing work – from strategic partnership development, stakeholder engagement, and project co-design and delivery – we will drive sustainable socio-economic growth and environmental benefit and build a legacy for the entire Irish Sea Region.

A. OPERATING PRINCIPLES: OUR COMMITMENT TO EXCELLENCE AND SUSTAINABILITY

The Irish Sea Rim is built on five key principles, adopted from Nigel Catterson's Utopia Foundation Principles Model, and adapted to create a set of professional behaviours which will underpin delivery of our vision and mission.

- **VISION-LED LEADERSHIP:** We will shape a more prosperous and sustainable future by investing in ambitious, future-facing strategies and projects to create a model of inclusive economic growth, societal benefit, and environmental sustainability.
- **PARTNERSHIP:** We are dedicated to creating and working in partnership with countries, organisations, communities, and individuals, to achieve our mission of **creating cross border collaborations that transcend political boundaries and agendas.**
- **CONSIDERATION:** We will create evidence-based strategies which give full consideration to the lessons of the past. Our planning and decision-making will be informed by rigorous analysis and open dialogue.
- **VALUES:** **Self-worth** is at the heart of all our values and interactions. We treat every individual and organisation with **dignity, respect,** and **kindness,** working with stakeholders to build partnerships and **support** transformational change based on mutual trust, **integrity,** and shared success.
- **GOVERNANCE:** We hold ourselves accountable to embedding our foundational principles and values into everything we do, with a spirit of **learning** and **evolution.** Through a true **partnership** approach, we hold ourselves and stakeholders accountable for delivering on commitments. Through robust impact reporting and transparent communication, every stakeholder can take ownership of delivering and celebrating results.
- **ATMOSPHERE:** We will create and operate within a **holistic** atmosphere of **consciousness, transparency, inclusivity, acceptance, balance, transition, and excellence.**

B. VALUES IN PRACTICE

The Irish Sea Rim will incorporate our values into all our activities. These values are not merely aspirational – they are the strategic tools which will guide our interactions, decision-making, and partnerships, ensuring co-production and integrity across the initiative.

- **SELF-WORTH:** We foster self-worth within our teams, communities, and partners, operating on the conviction that every stakeholder possesses inherent value and the capacity to make a significant contribution. We empower our partners and project teams with ownership and autonomy, creating an environment where individual leadership can drive regionally and nationally significant outcomes and impact.
- **SUPPORT:** We are dedicated to building a connected, resilient ecosystem across the Irish Sea Region, moving beyond transactional relationships to build partnerships founded on mutual trust and shared success, supporting partners and communities to achieve long-term benefit and growth.
- **KINDNESS:** We believe that demonstrating thoughtfulness and consideration is fundamental to building a positive and united innovation ecosystem, ensuring that all stakeholders feel valued and respected. Through transparent and inclusive communication we ensure that every individual and organisation has the opportunity to contribute and be acknowledged, fostering trust, collaboration, and community.
- **MUTUAL RESPECT:** We are committed to a deep appreciation for the diverse lives, experiences, and viewpoints of all project teams, stakeholders, and partners, and to treating others as *they* would like to be treated.
- **INTEGRITY:** We operate with integrity in everything we do, creating trust and reassurance among partners, stakeholders, and investors. We select and review suppliers based on value alignment, sustainability, and fair practice, alongside cost.

C. CATALYSING REGIONAL POTENTIAL

The Irish Sea Rim's purpose is to **create collectively engaged and enriched communities based on cultural understanding and acceptance** by:

- **ENLIGHTENING AND EDUCATING:** Fostering shared learning, cultural understanding, and acceptance as the basis for innovative and prosperous communities.
- **ENERGISING AND ENABLING:** Acting as a catalyst for innovation and investment, empowering individuals, organisations, and communities to become self-sufficient and realise their full potential through innovation.
- **ENTERTAINING AND ENRICHING:** Promoting the unique cultural heritage of the countries, regions, and communities within the Irish Sea Rim to strengthen community identity and create a vibrant region.

APPENDIX 2: HOW ENERGY COAST WEST CUMBRIA LTD (BEC) USES VALUES AND BEHAVIOURS TO DRIVE BUSINESS

BEC (Energy Coast West Cumbria Ltd) is a values-led, profit-for-purpose organisation that reinvests its profits into projects that benefit the local community.

BEC's core values (*adopted from the utopia foundation principles*) - **Self-Worth, Support, Kindness, Respect, and Integrity** - are not only cultural pillars but strategic tools embedded across all aspects of the business, from procurement and partnerships to decision-making and leadership – they drive business and maximise impact.

PURPOSE-DRIVEN CULTURE

BEC's purpose is to build extraordinary communities by creating value and unlocking potential through sustainable actions. By partnering with aligned organisations, BEC addresses local challenges and maximises community impact. BEC's purpose shapes its values, behaviours, and long-term strategy.

VALUES IN ACTION

Guiding BEC's interactions to drive business.

Self-Worth – knowing you have value and can contribute to make a difference

BEC empowers its team through ownership and autonomy. For example, individual staff members led the achievement of the *Menopause Friendly Employer* accreditation and the *Armed Forces Covenant Gold Award*, driving national recognition while boosting internal pride and staff retention.

Support – helping others become self-sufficient

BEC builds a connected ecosystem by fostering meaningful collaborations in a supportive environment, offering true and honest support to their partners and collaborators.

Kindness – demonstrating thoughtfulness and consideration By prioritising thoughtfulness and consideration, BEC ensures that the team feels valued and supported, fostering a positive and united environment. Through regular team briefings and an open-door policy, every individual is provided with the opportunity to express their views and be acknowledged.

Respect – giving to others what you would like to receive yourself

Respect is about fully appreciating the life, experience and viewpoints of others, without trying impose our own interpretation. BEC ensures developments are rooted in respect for the community. Extensive engagement for projects like *The Bus Station* and *LEVELS* has ensured local support and uptake - minimising resistance, streamlining planning, and strengthening local reputation.

Integrity – being truthful and honest in all that you say and do

Being honest and truthful, standing up for those things that matter to us as human beings is what integrity means to BEC. It is not something that is only applied when it suits, BEC encourage its team to hold themselves and each other accountable. Ultimately creating trust and reassurance in others.

BEHAVIOURS IN ACTION

Directing BEC's interactions to support business operations.

Leadership – Courage to Shape a Better Future. BEC takes bold, future-facing decisions - investing in underutilised assets, driving regeneration, and pushing forward ambitious place-based strategies that others may avoid due to risk or complexity.

Responsible for Actions. BEC holds itself accountable for outcomes, even when it's difficult. Regular team briefings, impact reporting, and open dialogue ensure every team member understands their role in delivering on commitments - and taking ownership and pride in results.

Driven to Make a Difference. BEC is passionate and committed to seizing opportunities. When they believe in a project, they seek support relentlessly to achieve its goals. BEC persists without giving up.

Partnering People and Change. BEC treats everyone with dignity and respect, working collaboratively with stakeholders to deliver change and build partnerships based on shared successes and mutual trust. Whether supporting tenants' growth or partnering with local authorities, BEC proactively shapes positive interactions.

Being Commercially Astute. BEC balances purpose and profitability, achieving value for money. Developments are scoped for commercial viability and longevity, allowing reinvestment in community initiatives without compromising financial stability.

Working with Integrity. BEC selects suppliers based on value alignment, sustainability, and fair practices, alongside cost. This approach aims to enhance project delivery and build enduring partnerships. Suppliers and partners are subject to regular review to ensure continued adherence to BEC values and behaviours.

Environmentally Responsible: BEC is dedicated to promoting environmental awareness, understanding, and best practices. BEC is committed to continuously improving its management of environmental impacts. BEC integrates sustainability into project design and delivery, striving for low-carbon impact and environmental regeneration through developments such as *REVIVE* and *LEVELS*. This approach positions BEC as a leader in responsible property development within the community.

CONCLUSION

For BEC, values and behaviours are more than statements - they are consistently demonstrated through action. They shape business decisions, define the organisation's impact, and strengthen BEC's legacy as a values led business and a trusted force for sustainable regeneration in West Cumbria.

APPENDIX 3: LIST OF PAPERS, REPORTS, AND PRESENTATIONS ON THE IRISH SEA RIM 2013 - 2025

- **Leigh, P. A.** (Spring 2014) House of Commons Review on Business – University Opportunities (invited contribution based on work of the Irish Sea Rim).
- **Leigh, P. A.** (2014) Developing business and university collaboration around the Irish Sea Rim Institute of Small Business & Entrepreneurs (ISBE) Conference (Paper peer reviewed and accepted July 2014).
- **Leigh, P. A.** (Spring 2014) Invited to submit Irish Sea Rim proposal document to First Minister's Office in Scottish Government, Holyrood, Edinburgh, Scotland.
- **Leigh, P. A.** (July 2014) Invited paper on Irish Sea Rim to conference proceedings at Irish Sea Maritime Forum Conference: International Festival of Business, Liverpool.
- **Leigh, P. A.** (2015) Irish Sea Rim – Economic Research and Innovation Zone Innovation into Success The Quarterly Journal of UKSPA. Issue No. 38, P48-49.
- **Leigh, P. A.** (April 2014) Poster: Irish Sea Rim – Economic, Research & Innovation Zone All Energy Conference, Aberdeen, Scotland.
- **Leigh, P. A.** (April 2014) Poster: Irish Sea Rim – Economic, Research & Innovation Zone Shale Gas Energy Conf., Blackpool (Keynote: Michael Fallon – Energy Minister).
- **Leigh, P. A.** (July 2014) Poster: Irish Sea Rim – Economic, Research & Innovation Zone Irish Sea Maritime Conference: International Festival of Business, Liverpool.
- **Leigh, P. A.** (November 2014) Presentation: Irish Sea Rim – Economic, Research & Innovation Zone Institute of Small Business and Entrepreneurs (ISBE) Conference, Manchester.
- **Leigh, P. A.** (July 2014) **Invited speaker** (1 of 4) on the Irish Sea Rim – Economic, Research & Innovation Zone: Irish Sea Maritime Forum Annual Conference at International Festival of Business, Liverpool. (Also **conference co-organiser**).
- **Leigh, P. A.** (June 2014) **Invited speaker** at the first Annual Conference of the National Gas Vehicles Day, Energy & Utilities Skills, Birmingham.
- **Leigh, P. A.** (October 2014) **Invited speaker** Irish Sea Rim – Economic, Research & Innovation Zone at the first Maren Interreg Project, (Atlantic Arc), Brest, Brittany.
- **Leigh, P. A.** (October 2014) **Invited speaker** Irish Sea Rim – Economic, Research & Innovation Zone at the first Maren Interreg Project, (Atlantic Arc), Brest, Brittany.
- **Leigh, P. A.** (July 2015) **Invited speaker** Irish Sea Rim – Economic, Research & Innovation Zone UKSPA Conference, Dublin, Ireland. Published in: Innovation into Success – Quarterly Journal of UKSPA, Summer 2015.
- **Leigh, P. A.** (May 2024) **Invited speaker** Irish Sea Rim – Economic, Research & Innovation Zone with Connected Places Catapult UKREiF (UK Real Estate Investment & Infrastructure Forum) Leeds, UK.
- **Leigh, P. A.** (May 2025) **Invited speaker** Irish Sea Rim – Economic, Research & Innovation Zone with Connected Places Catapult UKREiF (UK Real Estate Investment & Infrastructure Forum) Leeds, UK.
- **Leigh, P., Creswell, J., Rapaccini, M., and Slee, S.M.** (2025) Irish Sea Rim: A Transnational Investment, Innovation, and Enterprise Zone – Connected Places Catapult.

“The Irish Sea can and perhaps should be viewed in the same way we regard the Mediterranean and Baltic: as a maritime link that provides communication, economic wealth, cultural exchange and a strong sense of community and shared experience.”

Professor Philip Leigh, Executive Director



Dublin Skyline. Photo Credit: NIR HIMI on Unsplash



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