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

Shared Island Fund - Bioeconomy Demonstration Initiative Scheme

Shared Island Initiative

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Shared Island – Bioeconomy Demonstration Initiative Scheme

Call details & proposal expectations

2024

Bioeconomy – Shared Island Fund

- €7 million from the Shared Island Fund.
- €1.5 million from DAFM.
- £0.5 from DAERA
- Agri-Bioeconomy (NI) & Blue Bioeconomy (IE)
- Funding for capital and operational expenditure

Shared Island Initiative

Bioeconomy Demonstration Initiatives

Develop opportunities

- The bioeconomy has major untapped potential to support both climate change mitigation and adaptation and an innovative circular economy with value added opportunities.
- This is due to current biobased industrial systems not realising/unlocking the full value of biomass to its fullest potential.
- There is very significant potential to sustainably cascade the use of biomass and valorise biological waste.

Address Challenges

- *scientific and financial risk and development of technical capacity;*
- *scaling-up practices, technologies, and engineering; and*
- *developing the basis for cooperative approaches.*

Purpose of the call

- Advancing a competitive bioeconomy for a sustainable future

- Develop shared-island exemplar(s) of sustainable and circular bioeconomy development

- Develop close collaboration between stakeholders along the entire bio-based value chain, including e.g.
  - *Local Authorities*
  - *SMEs*
  - *Research Performing Organisations,*
  - *Universities, Technological Universities*
  - *Clusters*
  - *Primary Producers, Bioprocessing industries*
  - *Consumer brands*

General & Specific Objectives

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Accelerate the **innovation** process and development of bio-based innovative solutions

1. Increase cross-disciplinary research and innovation (R&I) activities, reaping its benefits for the development and demonstration of sustainable and circular bio-based solutions.

1. Unlock bioeconomy potential.

1. Increase the development and demonstration of sustainable bio-based innovations, by ensuring that sustainability issues and environmental performance are integrated throughout the whole innovation chain.

Accelerate **market deployment** of existing mature and innovative bio-based solutions

2. Reinforce the integration of bio-based research and innovation in bio-based industries and increase the involvement of R&I actors, including feedstock providers, in bio-based value chains and business models

2. Reduce the risk for research and innovation investment in bio-based SMEs, companies and projects.

2. Enhance industrial competitiveness through introducing product or process innovation and/or introducing marketing or organisational innovation for bio-based value chains.

Ensure a high level of **environmental performance** of bio-based industrial systems

3. Ensure that circularity and environmental considerations, including contributions to climate neutrality, circularity and zero pollution objectives, are considered in the development and implementation of R&I bio-based projects and facilitate societal acceptance.

KEY INFORMATION: FUNDING

The Bioeconomy Demonstration Initiative Scheme has a budget of €9m allocated from the Shared Island Initiative, DAFM & DAERA

The Call has one funding instrument available

Innovation Action TRL 6-7-8

(Scale up and demonstration of technologies, first of its kind product facility)

Projects will support Operational & Capital Expenditure - upper funding limits should not be seen as targets - one of the evaluation criteria looks at value for money.

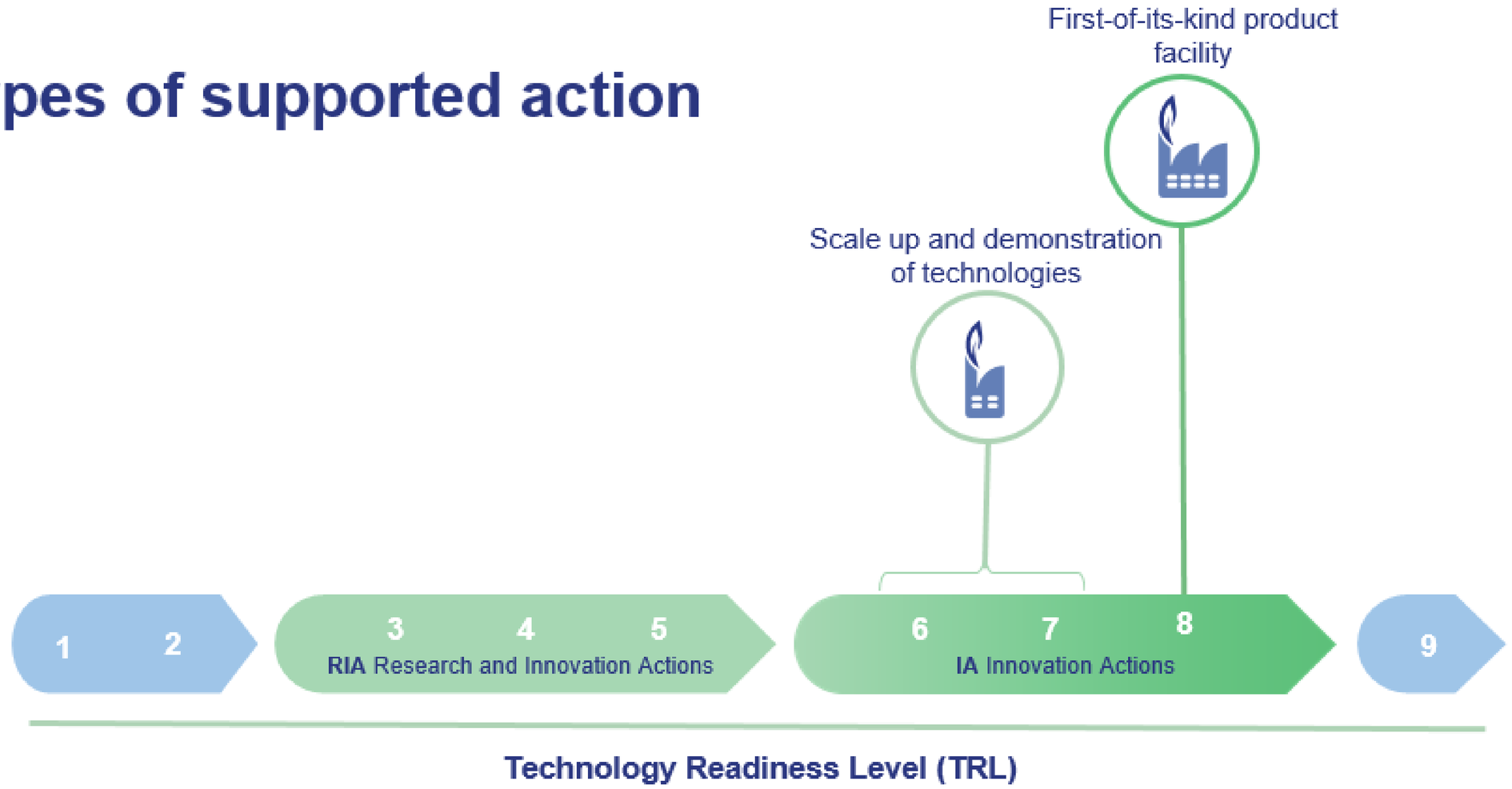
Projects should seek to attract a **public-private funding approach boosting uptake of innovation** and **market deployment**.

Funded projects should take no longer than 4 years for completion

Large % of funding to be spent, after initial planning has taken place and relevant permissions received and where appropriate, on capital investments.

This CAPEX related to the project should remain in situ post the project duration due to attracting partners involving the provision of strategic direction, cash, in-kind contributions, related investments, and undertaking of relevant additional activities by such partners.

Types of supported action



KEY INFORMATION: SCOPE

The Bioeconomy Demonstration Initiatives funded projects will be focused on ‘the production and application of bio-based materials including biobased chemicals, materials, food and feed ingredients and soil nutrients’.

Broadly

1. **Biorefineries** for sustainable processing of biomass into an array of **value-added products** (e.g., bioactive substances, chemicals, materials, food, feed) with the lead focus being on such biobased materials.
2. The **feedstock** for bio-based operations should respect local ecological limits and protect and enhance biodiversity and ecosystems services and should come from short supply chains as much as possible.
3. Activities that do not meet the agreed requirements of **climate and environmental performance** will not be supported and projects should demonstrate the potential of bio-based solutions in terms of climate and environmental performance, and circularity.
4. Accelerate the **innovation process, development and market deployment of innovative bio-based solutions** considering the utilisation of shared local and indigenous resources and leveraging benefits of scale, cooperation and/or industrial symbiosis
5. Capitalize on **scientific and technological developments**
6. Supported activities should **contribute to local, and territorial economies**

KEY INFORMATION: SCOPE

The Bioeconomy Demonstration Initiatives funded projects will be focused on ‘the production and application of bio-based materials including biobased chemicals, materials, food and feed ingredients and soil nutrients’.

- ***Specifically:***

1. The Demonstration Initiative(s) must provide policymakers, public and private investors and local communities with **concrete and demonstrated examples** of biobased innovation and solutions.
2. The Demonstration Initiative(s) should develop **cooperation approaches** to align natural capital, primary production and circular bioeconomy value chains based on the consideration of these foundational steps.
3. The Demonstration Initiative(s) should develop **cooperative business models** for the sustainable mobilisation and valorisation of primary and secondary bioresources resulting in the creation of new biobased products and economic and employment opportunities, while also **protecting and enhancing the environment and climate**

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Specific requirements

Pillars	Scientific and technical priorities
Feedstock	Ensure the availability and quality of sustainable biobased feedstock
	Protect and enhance biodiversity and ecosystem services in biobased feedstock supply systems
	Demonstrate the sustainable supply of biobased feedstock
Processing	Develop innovative production systems in the biobased industry
	Improve the environmental performance of biobased processes
	Deploy innovative production technologies
Products	Develop innovative biobased products
	Scale-up production and market uptake of innovative biobased products
Communication	• Stimulate innovation actions on a Shared Island basis to build capacity for biobased systems • Increase the awareness and capacity with all relevant stakeholders for industrial biobased systems • Facilitate the development of expertise in biobased systems by improving higher education and skills development in the private sector
Finance	Improve the risk profile of biobased products through use of investment tools and approaches that mitigate the investment risk in biobased products
Sustainability	Incorporate environmental and climate sustainability and circularity assessment for biobased systems

Key info: Who can apply?

Proposals for collaborative actions can be co-led by

- Research Performing Organisations, Technological Universities and Universities
- SMEs
- Local Authorities

Proposals for collaborative actions can also involve the following on a funded basis:

- Proposals can be supported by the active funded involvement of local actors developing a competitive bio-based innovation and skills ecosystem including technological infrastructures (e.g., pilot lines, testing facilities, innovation hubs, open innovation testbeds, Key Enabling Technologies Centres, demonstration sites or living labs) and non-profit legal entities such as clusters, NGOs, local and regional authorities, Education and Training Boards, community, and local action groups.

- Proposals can be supported by the active funded involvement and involve cooperation with bio-based industries including primary producers, and bioprocessing and biomanufacturing industries, biobased material/product off-takers and consumer brands.

- Large industry partner(s) participation in projects is also welcomed on a self-financing basis. Their contribution can be through strategic participation or through the provision of cash, in-kind contributions, or additional activities including investments

- Participation by all applicants is subject to respecting compliance with the National IP Protocol.

Please refer to the Call Specification Document when published

BIOECONOMY DEMONSTRATION INITIATIVES TOPICS

Call for Proposals

- Agri-Bioeconomy Demonstration Initiative - Biorefining in rural areas
- Blue Bioeconomy Demonstration Initiative - Valorisation of aquatic biomass, waste and residues from aquaculture and fisheries processing

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Type of Action: **Innovation Action**	*Topic Budget:* **4.5 M€**
end TRL: **6-7-8**	

Agri-Bioeconomy Demonstration Initiative - Biorefining in rural areas

Challenge

- ***Based on scientific and technological developments and in response to the need to achieve climate neutrality and environmental, economic, and social sustainability for the land-agri-food sector, a new era of biobased industries including circular biobased business ecosystems are now emerging, focusing on unlocking the full potential of biomass, by cascading and serial optimised valorization of all the biomass components***
- ***There are however significant challenges to be addressed to develop viable biobased technological infrastructure due to the need to address the following:***
  - ***Addressing scientific and financial risk and developing technical capacity***
  - ***Scaling-up feedstock supply chains, technologies, markets, and engineering***
  - ***Developing the basis for cooperative approaches linked to farming and forestry.***

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Type of Action: **Innovation Action**	*Topic Budget:* **4.5 M€**
end TRL: **6-7-8**	

Scope

- ***Demonstrate the suitability and economic viability of the biorefinery concepts.***
- ***Develop, demonstrate, and validate technology options with a view to adding value to the primary or secondary feedstock (underutilised biomass, by-products, residues, and wastes) at the point of origin or locally. Alignment with renewable energy infrastructure and sources should be considered.***
- ***Build on existing food, feed, or energy value chains to further strengthen their economic and environmental sustainability through synergistic interlinkages and in line with the food first, cascading, sustainability and precautionary principles of biomass use. Bioenergy value chains(including biofuels) are to be only considered as part of a cascading value chain with a key focus on higher added-value biobased materials (including food/feed ingredients and/or chemicals, with relating existing value chains to be considered)***
- ***Evaluate the environmental (including elimination / reduction of pollution from the production and processing operations) and socio-economic performance of the demonstrated value chains.***
- ***Ensure an active involvement and develop a profit-sharing model with primary producers in the value system by developing viable value chains and business models***
- ***Cooperate, if applicable, with hubs for pre-treatment or further processing steps***
- ***Proposals should be fit for replicability in rural and regional areas and in particular proposals must include the related primary sector(s) as strategic partner(s) in the value chain. Proposals could consider supporting Living Lab approaches to integrate traditional knowledge alongside capitalising on new bioeconomy research and innovation and based on public-private partnerships that place local communities at their centre.***

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Type of Action: **Innovation Action**	*Topic Budget:* **4.5 M€**
end TRL: **6-7-8**	

Expected outcomes

- ***Deployment of sustainable, inclusive, and reliable biobased value chains and business models in rural areas with a focus on fair economic returns at local (farm) level.***
- ***Development and validation of biorefinery technology options to unlock the full value of biomass and better valorise underutilised biomass, residues and waste streams from agriculture and forestry.***
- ***Develop skilful jobs in rural areas, improved innovation capacities and biobased product portfolio extension in primary production sectors and rural and regional SME's complementing food, feed, and fibre production.***
- ***Development of new high-value biobased products including materials, chemicals with considerably lower overall environmental impacts (including the demonstration of a climate positive production phase).***
- ***Significant reduction of transportation and logistics costs, efficient recycling of nutrients (e.g., residual organic matter on the field) and other climate and environmental benefits.***
- ***A synergistic shared-island initiative connecting stakeholders along the value chain and creating new partnerships with potential for sustained growth, economic development and climate resilience contributing to 2030, 2040 and 2050 targets collaboratively.***

Type of Action: **Innovation Action**	*Topic Budget:* **4.5 M€**
end TRL: **6-7-8**	

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Blue Bioeconomy Demonstration Initiative - Valorisation of aquatic biomass, waste and residues from aquaculture and fisheries processing

Challenge

- ***The aquatic and marine worlds, fisheries and aquaculture industries are key players and nascent innovation hotspots, with increasing recognition for their potential to contribution to a strong, resource efficient and competitive bio-based innovation ecosystem. Investing to accelerate blue bioeconomy industry innovation and scaling has the potential to contribute significantly to food and nutritional security, mitigation of climate change and the UN SDGS and reduction in dependencies on fossil materials and mineral resources.***
- ***Actors in the aquatic and marine worlds are confident that by combining forces they can start converting the many aquatic and marine species and fisheries/aquaculture-industries side streams into multiple value stream applications at commercial level. An All-Island approach can enable Ireland and the Northern Ireland to lead in this direction by enabling such a first-of-its-kind state of the art circular and sustainable biobased manufacturing facility.***
- ***The specific challenge consists in demonstrating and deploying the efficient operation of a full value chain based on macro-algae and/or residuals and side streams from aquaculture, fisheries, and aquatic processing for valorisation into new bio-based products (food and feed ingredients, bio-based chemicals and materials), increasing the value of extracted fractions, while retaining and adding functionality and increasing the range of end applications including the development of an All-Island dimension.***

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Type of Action: **Innovation Action**	*Topic Budget:* **4.5 M€**
end TRL: **6-7-8**	

Scope

- ***Address the selection, extraction, or production of specific compounds from macroalgae or the residual and waste streams into products for further applications in the food, feed, chemical industry, cosmetics and human or animal nutrition. Proposals should identify and specify the potential of the different types of these residual streams to obtain sufficient compounds for next steps towards value-added applications. Proposals may address more than one feedstock and biobased production chain.***
- ***Proposals for these types of complementary production would be especially welcome if they contribute to the economic viability of the value chain and feature 'no waste' production. Consider the end-of-life phase of the complementary products, so that they are either fully recyclable, or else degradable or compostable under specified conditions.***
- ***Address harvest and collection, pre-processing, preservation, storage, and transport of the biomass, aiming at an effective sourcing and delivery system with no or minimal losses due to biodegradation. Proposals for harvesting from ecosystems must include an estimate of the available feedstock and plans to ensure the continued availability of this feedstock over the long term.***
- ***Include processing operations tailored to local circumstances. These operations will need to cope with availabilities, distances, qualities of the residuals and side streams, possible variations in these qualities, etc.***
- ***The scope includes: (i) bioreactor design where needed for scaled production; and (ii)integrating energy efficient smart industrial-unit prototype design and engineering with considerations on carbon footprint, circularity, sustainability, and non-hazardous bioprocessing.▪***
- ***Proposals must also include considerations of consumer safety and consumer perception of the planned new food ingredients. Any potential hazards associated with the developed processes and products should be analysed to check that the products will comply with relevant EU legislation on chemicals risk management, toxicity, and safety.***
- ***Address the hurdles and bottlenecks regarding the logistics, transport modes and associated infrastructure in the targeted biomass feedstock supply systems. These could include pre-treatment aspects if they are necessary to transport and /or collection systems, intermediate storage, and safety aspects***

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Type of Action: **Innovation Action**	*Topic Budget:* **4.5 M€**
end TRL: **6-7-8**	

- ***Demonstration of the suitability of biorefinery concepts unlocking and extracting optimum value from (all components of) the sustainably source biobased feedstock to produce a variety of materials/products in the scope of the blue bioeconomy.***
- ***A synergistic shared-island initiative connecting stakeholders along the value chain and creating new partnerships with potential for sustained growth, economic development and climate resilience contributing to 2030 and 2050 targets collaboratively.***
- ***Industrial competitiveness, strategic autonomy, and resource independence of blue bio-based value chains.***
- ***Improved circularity and resource efficiency via practical application of the circular (bio)economy concept.***
- ***Market uptake and growth of bio-based solutions for high value applications including in relation to climate-smart agriculture.***
- ***Reduction of residues routed to low value uses such as animal feed as compared with the relevant benchmark.***
- ***Income and business opportunities diversification for stakeholders and actors (including primary producers) in the bio-based sectors.***
- ***New job opportunities in the bio-based sector, particularly the in the rural and coastal areas***
- ***Public awareness, social engagement, and acceptance of bio-based solutions▪ As applicable, alignment of funding with sources of investment, venture capital, state, and commercial financing***

KEY INFO: THE CALL PROCESS

1. Shared Island Fund launch - June 2023
2. Information event hosted by DAFM for all prospective applicants – September 14th 2023
3. Bioeconomy Demonstration Initiative Call 2023 official launch for submissions from eligible applicants – March 6th 2024
4. Deadlines: Technical queries deadline – Friday May 24th 12pm (noon)
5. Call deadline: Friday June 7th 12pm (noon)
6. Assessment of proposals (see below) – Q3 2024
7. Notification of outcome of selection process. Projects selected for funding move to contract negotiations – Q4 2024

Criteria for the Assessment of Proposals' will be provide in the Call *Guidelines for Applicants*

KEY INFO: MAKING AN APPLICATION

Closing date for submissions
June 7th 12pm (noon)

- Applications must be submitted using **DAFM's Online Research Application Form** on Flexi-Grant®: https://dafm.flexigrant.com/
- Grant applications will only be accepted from eligible applicants. Incomplete or late applications cannot be submitted.
- Applicants can update and save the proposal as many times as required before the submission deadline, but not after the deadline has expired. **Save your application regularly.**
- All submitted application forms **must be signed-off** online by the:
  - Project Coordinator (and Principal Investigator (PI) if separate).
  - For RPOs - Vice President of Research/Head of Research and the Transfer Technology Office (TTO) or equivalent within the lead RPO.
  - For other eligible applicants – Equivalent persons as above within their organisation.
- RPO Finance Offices are encouraged to join as collaborators. If doing so, they must log onto the application to review the finances before submission.

Please refer to relevant sections in the *Call Specification d*ocument, as well as the *Guidelines for Applicants* document.

State Aid

- **General Block Exemption Regulation**

- Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty

- Article 26: Aid for research and development and innovation;
  - Fundamental research
  - Industrial research
  - Experimental research

Fundamental Research small, medium & large companies 100% funding

Industrial Research small, medium & large companies 50-80% funding
- in assisted c areas
- effective collaboration
- with open invitation

Experimental Research small, medium & large companies 25/35/45-80% funding
- in assisted c areas
- effective collaboration
- with open invitation

KEY INFO: TIMELINE

- **Key dates** for prospective applicants are as follows:

Dates (2023-2024)	Activity
Q3 2023	Networking Platform (Meeting Mojo)
March 6th 2024	Call open for submissions
March / April	Information webinars – March 22nd and April 19th
May 24th 12pm (noon)	Deadline for technical queries
June 7th 12pm (noon)	Submission deadline
Q4 2024*	Results of Call
Q1 2025*	Commencement of projects

*Times are indicative and may be subject to change

Questions and Answers

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Department of Agriculture,
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Thank you for your attention

2024

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Shared Island Bioeconomy Demonstration Initiative

2024

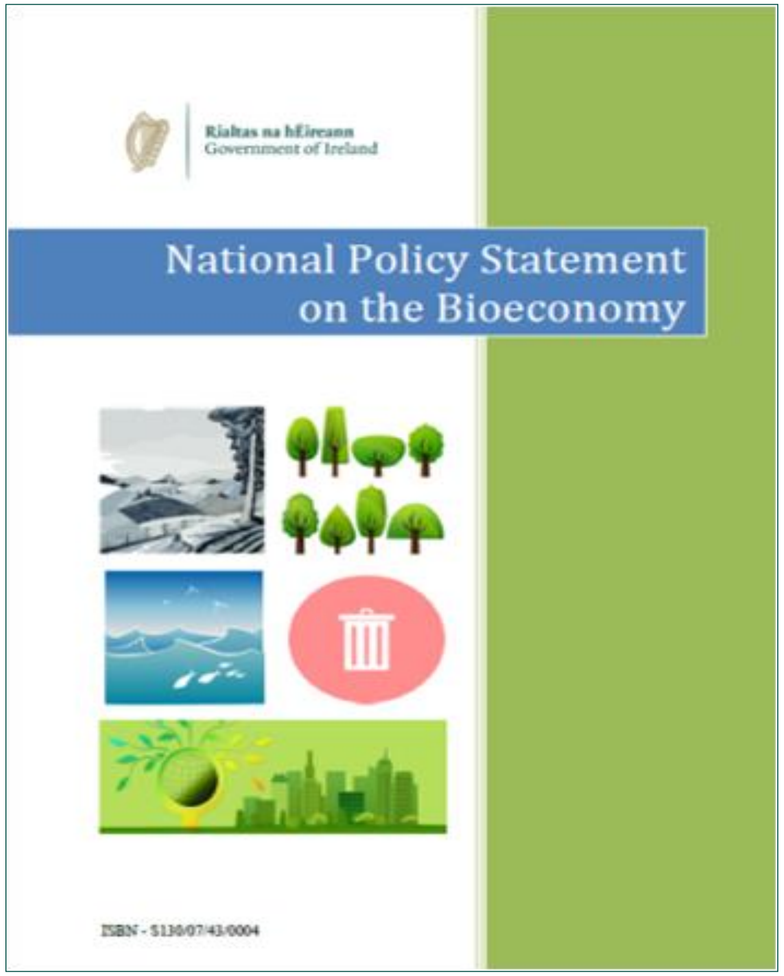
What is the Bioeconomy?

1. Involves Agriculture, Forestry, Fisheries, Aquaculture, that produce biological resources but **require transformation**
2. Involves opportunities to develop (e.g. carbon farming, insects, micro-algae) **novel green sources of income**
3. Involves biobased Industries that process biological resources and **need modernisation including decarbonisation**
4. Involves Cities, Regions & Communities where bioresources are accumulated and **which need to address biowaste challenges**
5. Involves Systems & Sectors that need to defossilize (energy, construction, chemicals) and need sustainable sources of renewable carbon and to **green their supply lines using biobased products, innovations and solutions**

Enabled by systemic thinking

- Principled approach
- Knowledge, Research, Innovation, & Skills,
- Cross-Sectoral development
- Local bottom-up approaches, integrated local development including multi-sectoral strategies, partnerships, networking, innovation & cooperation)

Ireland's Bioeconomy Policy



Coordination

- Cross Government Bioeconomy Policy Implementation led by DAFM and DECC – stable policy development over time

Consultation

- Bioeconomy Stakeholders Forum – building collective knowledge and leadership

National Development Plan & National Planning Framework

- Bioeconomy development is part of long-term planning and investment horizons with long term commitment

National Bioeconomy Policy Statement - Policy Implementation Framework

- Reinforced policy co-ordination and stakeholder engagement
- Research, innovation, and skills
- Development of markets and competitiveness

Investment in Research, Innovation, and Skills

- 60 million + investment
- Increase in expertise, capacity, capability, equipment, facilities, engagement with industry
- Enhanced role of Research Centres, State Agencies, Local Authorities
- Emerging role of Clustering
- Establishing and maintaining long-term collaborative partnerships and networks

Publication

Bioeconomy Ireland Week 2022 Launch and Bioeconomy Research Symposium

From Department of Agriculture, Food and the Marine
Published on 24 November 2022
Last updated on 24 November 2022

On Monday the 17th of October 2022, 118 delegates from across Ireland's bioeconomy; Departments, agencies, higher education institutions, industry, and civil society, gathered at the Department of Agriculture, Food, and the Marine's (DAFM) Backweston Campus in Celbridge, Co. Kildare for the launch of Bioeconomy Ireland Week 2022. The launch was followed by a Bioeconomy Research Symposium that highlighted the investment of 25 million euro by the Department research aiding the development of Irelands bioeconomy.

biorbic

moorepark technology
new frontiers in food innovation

CIRCULAR BIOECONOMY CLUSTER SOUTH-WEST

BioConnect

Example - Investment in Research, Innovation, and Skills platforms supporting transformative agri-food development

- **U-Protein – Re-engineering Ireland's agro-ecological system**
- Examining the role of Crop & Marine resources as alternative sources of protein, fibres & starches.
- Impact of Alternative Plant Protein Resources on Land Use and Sustainability Indicators
- Protein Processing
- Biorefinery/Biotransformation
- Protein Profiling
- Incorporation of alternative proteins into new and existing foodstuffs

Reinforced policy coordination and stakeholder engagement

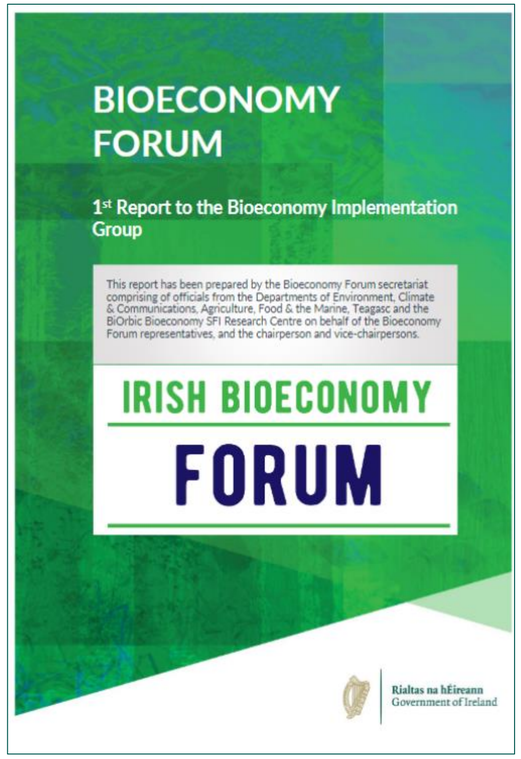
Press release

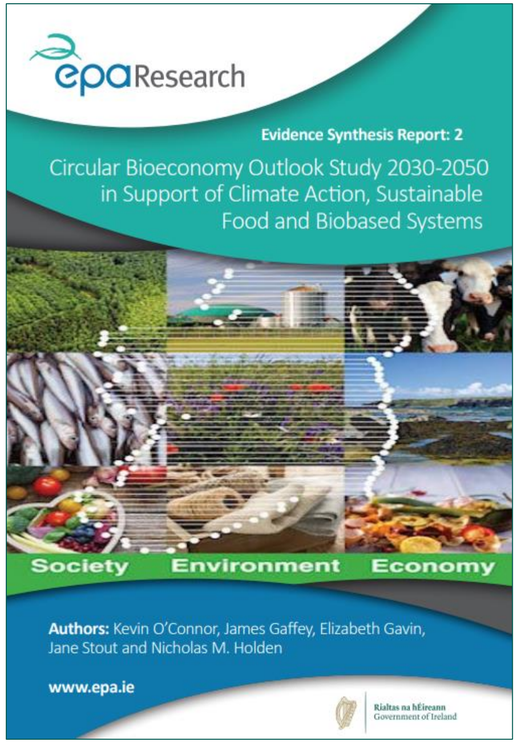
Ministers publish series of bioeconomy reports

From Department of Agriculture, Food and the Marine
Published on 22 May 2023
Last updated on 22 May 2023

The Ministers for Agriculture Food and the Marine today published two important reports relating to Irelands bioeconomy, namely the second progress report on the implementation of the National Policy Statement on the Bioeconomy, and the first report of the Bioeconomy Stakeholder Forum. Both reports were recently brought to Government.

The bioeconomy is the production, utilisation, and regeneration of biobased materials. It offers opportunities to reduce greenhouse gas emissions in the agri-food system by replacing fossil-based resources and processes with biological ones, from biofertilisers and biopesticides, to new food sources, bio-based plastics and textiles, and biological waste management, to name just a few.



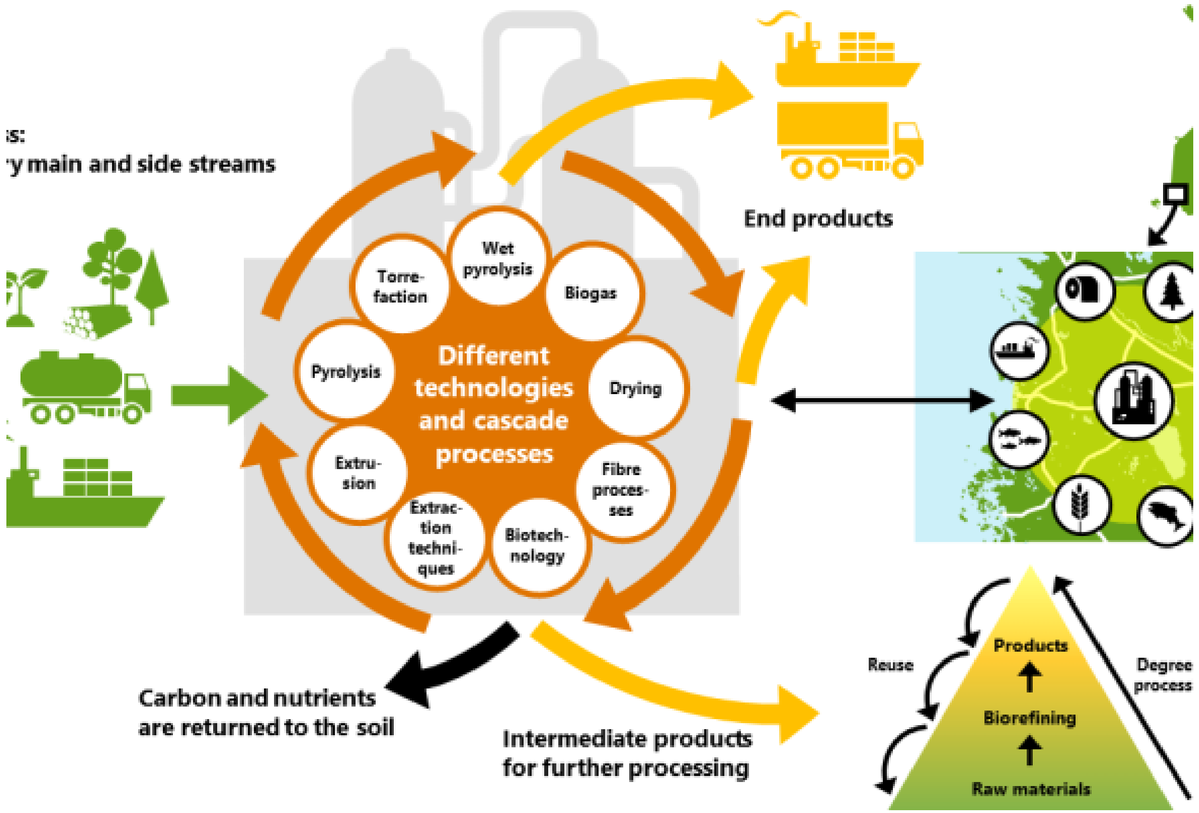


Considering stakeholder & expert views

Reporting to Government

Development of markets and competitiveness

- Investment in innovation (piloting & demonstration) infrastructure
- Development of new supports for CAPEX & OPEX
- Examining regulatory considerations aligned to innovation / technological development
- Development of routes to market for biobased products (case by case basis)



Bioeconomy Action Plan 2023-2025

Strategic Approach – Bioeconomy Pillars – Enhanced Policy Coordination

1. Governance & Awareness
2. Research Development & Innovation
3. Nature, Climate, Energy and Circular Economy
4. Agriculture, Food, Forestry, and the Marine
5. Communities, Regions and Cities
6. Industry and Enterprise
7. Knowledge and Skills

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