

Public Consultation on draft Bioeconomy Strategy 2026-2030

Submission by the Maritime Area Regulatory Authority (MARA) in response to consultation

Introduction

The Department of Climate, Energy and Environment, together with the Department of Agriculture, Food and the Marine, held a public consultation on the draft National Bioeconomy strategy 2026 - 2030.

The draft strategy sets out the framework for the continued development of Ireland's bioeconomy. It seeks to support a sustainable, circular, and competitive economy through the responsible use, conservation, and regeneration of biological resources, while contributing to climate action, resource efficiency, regional development, innovation and the protection of biodiversity and natural ecosystems.

Ireland's bioeconomy encompasses a broad range of sectors including agriculture, forestry, fisheries, and marine resources, as well as the research, innovation, and the technologies associated with their sustainable use. The maritime area therefore has important role to play in supporting the development of the bioeconomy, while ensuring that marine resources and ecosystems are managed and protected appropriately.

MARA provided a response to the consultation focusing on matters relevant to its statutory functions and to the sustainable use and regulation of Ireland's maritime area. MARA's observations considered the relationship between the development of the bioeconomy, marine activities, and the wider regulatory framework for the maritime area.

MARA's response to the consultation is available below.

Question 1 - What does a successful bioeconomy in Ireland look like to you by 2030 and 2035?

MARA is the State body responsible for the regulation of the maritime area, including the assessment and granting of Maritime Area Consents, the licensing of specified maritime usages, and compliance and enforcement functions under the Maritime Area Planning Act 2021. Our comments therefore focus on the blue bioeconomy.

By 2030, a successful bioeconomy would see the blue bioeconomy developing on a clearly understood regulatory footing. In practice this means that project promoters can establish at an early stage whether a proposed activity constitutes a maritime usage requiring authorisation; that the spatial, environmental and existing-use constraints relevant to marine biological resources are mapped and publicly accessible; and that interagency structures are in place so that promoters receive consistent information across the bodies involved. It also means that the Strategy is aligned with Ireland's marine planning framework, including the National Marine Planning Framework and Designated Maritime Area Plans, rather than operating alongside it.

By 2035, a successful bioeconomy would see marine biological resource activities operating at commercial scale within that framework, with cumulative effects, ecosystem capacity and interactions with other maritime usages actively managed as the sector grows. Coastal and regional communities would be sharing in the economic benefit, and the sector would be recognised internationally as having grown without compromising the condition of Ireland's marine environment.

Sustainable growth depends on developers being able to anticipate what will be required of them, and on regulatory processes retaining their integrity while being applied efficiently and coherently.

Question 2 - What actions should be prioritised (in terms of time to delivery) over the lifetime of the strategy? Please identify your top 5 actions from the draft strategy.

MARA's comments relate to the Blue Bioeconomy. Prioritising the targeted actions by time to delivery, we suggest the following sequencing.

Action C12 - establish a dedicated Blue Bioeconomy Team within a sectoral agency. This should be progressed early as an enabling action, particularly the interagency collaboration element. A clear coordination point can help ensure that regulatory, research, enterprise and regional considerations are identified from the outset.

Action C11 - expand the Bioeconomy Development Group (BDG) and Irish Bioeconomy Forum (IBF) to incorporate blue bioeconomy stakeholders. This is also deliverable early. Maritime regulatory bodies should be included so that regulatory considerations are built into implementation rather than addressed retrospectively.

Action C9 - map the availability of marine resources, including co-products and under-utilised resources, to establish regional valorisation opportunities. This should commence early because of the data and coordination required. The exercise would be strengthened by incorporating relevant spatial planning, environmental, existing-use and regulatory datasets.

Action C8 - research Ireland's aquatic habitats for carbon sequestration and nature-credit potential. The evidence base needed to support sustainable use and environmental decision making takes time to develop, so this work should begin early and inform later implementation.

Action C10 - use existing blue bioeconomy initiatives as prototypes for a best-practice guide on regional clusters and partnerships. This can support regional delivery once the governance, evidence and spatial context are sufficiently developed, and the guidance should reflect applicable marine planning and regulatory requirements.

Question 3 - Are there any actions or priorities within the draft bioeconomy strategy where you believe your organisation, sector or community could act as a lead or supporting partner.

MARA is a regulatory body and must maintain the independence of its statutory decision-making functions. It would not be appropriate for MARA to act as a lead partner on actions that involve promoting or developing projects or sectors. MARA can, however, act as a supporting partner on a number of actions.

MARA could support the following:

Mapping and spatial data actions, including action C9: MARA maintains a public register of Maritime Area Consents and licences and holds information on existing and proposed maritime usages. MARA would be willing to engage on how this information can inform the identification of opportunities and help avoid conflicts with existing uses at an early stage.

Governance and interagency coordination, including actions C11 and C12: MARA could participate in relevant structures and support the interagency coordination element of C12 so that maritime regulatory considerations are reflected in implementation. The lead role envisaged under C12 should remain with the appropriate sectoral agency.

Information and guidance for businesses and innovators: MARA could support the development of clear, accessible information on the regulatory pathways that may apply to proposed activities in the maritime area, so that promoters understand what is required before committing significant resources.

Engagement with project promoters: MARA can engage with promoters on applicable consenting requirements within the limits appropriate to its regulatory role.

MARA would welcome the opportunity to engage further with the Department of Climate, Energy and the Environment and the Department of Agriculture, Food and the Marine as the Strategy is finalised and implemented.

Question 4 - Does the draft strategy reflect the key opportunities and challenges for Ireland's bioeconomy? If not, what changes would you recommend?

MARA welcomes the recognition of the Blue Bioeconomy as a key sector and supports the ambition to develop Ireland's aquatic and marine biological resources sustainably. The draft reflects many of the relevant opportunities and challenges.

The principal gap MARA identifies is the limited treatment of the marine planning, environmental assessment and consenting framework within which blue bioeconomy activity in the maritime area will take place. Certain activities associated with the blue bioeconomy may constitute maritime usages requiring a Maritime Area Consent or a licence from MARA and, where relevant, development permission from the competent planning authority.

MARA recommends the following changes:

Explicitly recognise the role of marine spatial planning, the National Marine Planning Framework and Designated Maritime Area Plans in enabling sustainable development of the blue bioeconomy.

Recognise marine planning, environmental assessment and consenting requirements within actions addressing project development and enabling conditions and provide for early engagement between promoters and the relevant regulatory and consenting authorities.

Recognise the need to consider cumulative effects, ecosystem capacity and interactions with existing maritime activities as blue bioeconomy activities scale.

Recognise MARA as a relevant stakeholder in implementation and governance arrangements, including in the proposed expansion of the Bioeconomy Development Group and the Irish Bioeconomy Forum.

Regulatory coordination should provide clarity and facilitate efficient project development while maintaining the integrity of relevant statutory authorisation and environmental assessment processes. Any guidance developed under the Strategy should recognise that different aspects of an individual project may fall within the remit of different statutory bodies.

Question 5 - How should progress under the Bioeconomy Strategy be measured, and what outcomes or indicators should be used to assess whether the strategy is delivering on its objectives?

MARA suggests that indicators should measure outcomes rather than activity alone. Counting actions completed or groups established does not demonstrate that the sector is growing sustainably.

For the blue bioeconomy, MARA suggests indicators across three categories.

Sector development: the number and scale of blue bioeconomy activities authorised and operating in the maritime area; the value and employment generated, disaggregated regionally so that the objective of supporting coastal communities can be assessed; and the proportion of activity that has progressed beyond demonstration to commercial scale.

Regulatory enablement: the availability of published guidance on regulatory pathways applying to maritime activities; the extent of relevant spatial, environmental, existing-use and regulatory datasets made publicly accessible; the level of appropriate pre-application engagement between promoters and regulatory authorities; the completeness and quality of applications when submitted; and the timeliness of relevant regulatory processes, using measures that distinguish periods within regulatory bodies' control from applicant-led or preparatory stages.

Environmental sustainability: indicators addressing cumulative effects and ecosystem capacity, the condition of relevant designated sites and marine habitats, and compliance with conditions attached to consents and licences. Growth in the sector should not be reported as success without a parallel assessment of environmental outcomes.

MARA maintains a public register of Maritime Area Consents and licences, which could provide a data source for a number of these indicators.

Baselines should be established at the outset for each indicator, with reporting at fixed intervals over the Strategy period so that progress can be assessed rather than simply described.

Question 6 - How can the strategy encourage greater public awareness and understanding of the bioeconomy? What information, education or engagement activities would be most effective?

MARA's observations relate to awareness among two distinct audiences.

Businesses and innovators. A practical barrier in the maritime area is that promoters may be unaware that a proposed activity constitutes a maritime usage requiring authorisation or may be unclear which body is responsible for which element. Clear, plain-English information setting out the regulatory pathways that may apply, and signposting between the relevant bodies, would be among the most effective awareness measures the Strategy could deliver. This is particularly important for smaller enterprises and research-stage promoters, who may have limited prior experience of the maritime consenting system and less capacity to absorb the cost of requirements identified late.

The public and coastal communities. Public understanding of the bioeconomy in a marine context is closely tied to confidence in how the marine environment is managed.

Engagement is most effective where it is specific: explaining what activities are proposed, where, under what authorisation, and subject to what environmental assessment and monitoring. Transparency mechanisms such as public registers of consents and licences, and accessible information on the marine planning framework, support this directly.

Coastal communities have a particular interest in activities proposed in their local marine area and should be engaged as a distinct audience rather than as part of a public information effort.

Education and outreach at second and third level would benefit from including the marine dimension of the bioeconomy, which is less visible than the terrestrial and agri-food dimensions but represents a substantial part of Ireland's resource base.

Question 7 - How should Ireland ensure sustainable, efficient and circular use of biomass from land, sea and organic waste streams?

MARA's comments relate to marine biomass.

Harvesting or cultivation of marine biological resources may constitute a maritime usage requiring authorisation under the maritime area planning framework and may be subject to Environmental Impact Assessment and Appropriate Assessment requirements. Ensuring sustainable use begins with recognising that this framework applies and building it into how the Strategy is implemented, rather than treating regulatory requirements as a downstream consideration.

Sustainable harvest levels should be set on an evidence-based footing. This requires baseline data on the distribution, abundance and regeneration rates of the resources concerned, and on the ecological function they perform. Where that evidence is incomplete, a precautionary approach to the scale and intensity of extraction is appropriate.

Cumulative effects require particular attention. The effect of a single operation may be acceptable while the combined effect of several operations in the same area, or of marine biomass extraction alongside other maritime activities, may not be. Assessment should therefore consider ecosystem capacity at an appropriate spatial scale and account for interactions with existing and proposed maritime usages, including designated conservation sites.

Marine spatial planning, through the National Marine Planning Framework and Designated Maritime Area Plans, provides the mechanism for considering these questions strategically rather than only at individual project level, and the Strategy should draw on it.

On circularity, there is scope to prioritise the valorisation of by-products from existing fisheries and aquaculture processing, which uses material already extracted and avoids additional pressure on wild resources.

Monitoring conditions attached to consents and licences provide a means of verifying that use remains within sustainable limits over time.

Question 8 - Are the proposed five key sectors the right areas of focus for Ireland's bioeconomy to 2030?

MARA considers the five proposed sectors - A. Agri-Bioeconomy and Circular Nutrients; B. Biobased Construction using Forest and Crop Biomass; C. Blue Bioeconomy; D. Biomanufacturing and Biobased Materials for Industry; and E. Circular Bioeconomy: Food and Other Organic Wastes - to provide an appropriate overall framework. MARA's statutory remit relates to the regulation of the maritime area, and our detailed comments therefore focus on the Blue Bioeconomy.

MARA supports the inclusion of the Blue Bioeconomy as a key sector. Ireland's maritime area is substantial relative to its land area, and the marine biological resource base represents a significant opportunity that is currently underdeveloped.

MARA would suggest, however, that the treatment of the sector could usefully distinguish between the activities it contains, because they raise materially different regulatory and environmental considerations.

MARA's substantive point is that the enabling conditions for the Blue Bioeconomy differ from those for land-based sectors, principally because activity in the maritime area operates within a distinct planning and consenting framework. Sectoral actions should reflect this rather than assuming a common set of barriers and enablers across all five sectors.

Question 9 - Are there any key sector actions that should be added, removed, combined or revised?

MARA considers that the existing targeted actions provide a strong basis for developing the Blue Bioeconomy. MARA supports action C11, which proposes expanding the Bioeconomy Development Group and Irish Bioeconomy Forum to incorporate blue bioeconomy stakeholders, and the interagency collaboration element of action C12, which proposes establishing a dedicated Blue Bioeconomy Team within a sectoral agency. MARA does not propose the removal of any action.

MARA suggests the following revisions and additions.

Addition, or amendment to an existing action, to provide for appropriate alignment of Blue Bioeconomy development with Ireland's maritime planning and regulatory

framework, supported by early engagement and coordination between project promoters and the relevant regulatory and consenting authorities.

Revision of action C9: the action could be expanded beyond mapping the availability of marine resources so that it also draws on relevant spatial planning, environmental, existing-use and regulatory datasets. This would support evidence-based identification of opportunities and help avoid conflicts with existing and proposed maritime usages at an early stage. Mapping resource availability without regard to whether an area is spatially or environmentally suitable, or already in use, risks identifying opportunities that cannot be realised.

Revision of action C11: expansion of the BDG and IBF should expressly include maritime regulatory bodies. MARA considers that it should be recognised as a relevant stakeholder in the implementation and governance arrangements for the Strategy, given its statutory role in regulating the maritime area.

More generally, any guidance or coordination mechanisms developed under these actions should recognise that various aspects of an individual project may fall within the remit of different statutory bodies, and that effective coordination can assist in identifying these requirements early.

Question 10 - What opportunities exist for the key sectors that the draft strategy does not include?

MARA identifies the following opportunities relating to the marine sector that receive limited attention in the draft.

Multi-use of marine space. *There is scope for Blue Bioeconomy activities to be co-located with other maritime usages, including offshore renewable energy infrastructure and aquaculture, where appropriate. Multi-use can reduce competition for marine space and may improve the viability of activities that would not support the cost of a standalone site. Designated Maritime Area Plans provide a mechanism through which such opportunities could be considered strategically.*

The regulatory framework as a potential competitive advantage. *A clear, well-understood and predictable regulatory pathway can be a material advantage for investment. Ireland's established maritime planning and consenting framework provides a basis for this. The Strategy should therefore consider not only regulatory*

requirements as a challenge to be managed, but also the value of regulatory clarity and certainty as an enabling condition for sustainable investment.

Valorisation of existing marine by-product streams. *Material arising from fisheries and aquaculture processing represents an opportunity that does not require additional extraction from wild resources and can be developed relatively quickly.*

Existing marine data infrastructure. *Ireland holds substantial marine spatial and environmental data across a range of bodies. Bringing this together to support Blue Bioeconomy development is an opportunity to derive further value from investment already made, rather than commissioning new data collection from a standing start.*

Security of tenure over marine area. *Appropriate longer-term certainty regarding occupation of marine space can be an important enabler of the capital investment required to move beyond demonstration scale.*

Question 11 - What barriers are preventing these key sectors from moving from research and demonstration to wider deployment and commercial scale?

MARA's comments relate to the marine sector.

Awareness of regulatory requirements. Promoters may not appreciate at the outset that a proposed activity constitutes a maritime usage requiring a Maritime Area Consent or licence and may also require development permission from the competent planning authority.

Requirements identified late in project development are considerably more costly to address than those anticipated from the beginning.

Fragmentation of remits. Different aspects of an individual project may fall within the remit of different statutory bodies. Where promoters are unclear who is responsible for what, this can produce delay and duplicated effort. This is primarily a coordination and information challenge rather than a defect in the underlying framework.

Environmental data requirements. Assessment obligations, including Environmental Impact Assessment and Appropriate Assessment where applicable, may require site-specific environmental data. Where baseline data is limited, the cost and time required to generate it can be significant at the point of scaling from demonstration and may not have been built into project planning or funding.

Competition for marine space. As activity in the maritime area increases, Blue Bioeconomy proposals must be considered alongside existing and proposed uses. Without strategic spatial consideration, promoters may invest in developing proposals for locations that prove unsuitable.

Security of tenure. Scaling to commercial operation requires capital investment, which in turn requires sufficient certainty over continued occupation of the marine area concerned.

Policy coordination and capacity. Continued policy development capacity and coordination across the relevant Government Departments, particularly in relation to the marine, will be important to providing clear policy direction and supporting coherent implementation by regulatory bodies.

Question 12 - What further measures would most help scale sustainable development in these sectors?

MARA suggests the following measures, addressed to the barriers identified above.

Early engagement. Mechanisms supporting engagement between project promoters and the relevant regulatory and consenting authorities at the earliest practicable stage would have significant value. Identifying applicable requirements before significant resources are committed reduces abortive work and can improve the quality of applications when they are made.

Published regulatory guidance. Clear, accessible information on the regulatory pathways that may apply to proposed activities in the maritime area, including signposting between the bodies involved, would address the awareness barrier directly.

Interagency coordination. Effective coordination between bodies with a role in maritime projects can help identify requirements and sequence processes appropriately, while maintaining the integrity and independence of relevant statutory authorisation and environmental assessment processes. Coordination should not be understood as dilution of those processes.

Improved spatial and environmental datasets. Expanding available data to include spatial planning, environmental, existing-use and regulatory information would allow promoters to identify potentially suitable locations earlier and may reduce the need for avoidable or duplicative data collection.

Strategic spatial consideration. Using the marine planning framework, including Designated Maritime Area Plans, to consider where Blue Bioeconomy activity may be appropriate would give promoters greater certainty and allow cumulative effects and interactions with other maritime usages to be considered at an appropriate scale.

Policy coordination and capacity. Continued policy development capacity and coordination across the relevant Government Departments, particularly in relation to the marine, will be important to sustaining implementation over the lifetime of the Strategy.