

# Reinforcing Governance for the Blue Bioeconomy

The emergence of sustainable blue bioeconomy practices represents a critical pathway for addressing marine resource management challenges while fostering economic development in coastal regions. This study examines governance structures across three European pilot regions, analysing their effectiveness in promoting blue bio-based sector development through the lens of innovation systems theory.

## Existing Governance Models and Challenges

The analysis reveals distinct multilevel governance arrangements across the pilot regions, each characterised by unique institutional configurations and stakeholder interactions. In Trapani, Sicily, the governance structure reflects the region's autonomous status, featuring strong vertical integration from EU to local levels. The Fisheries Department of Sicily maintains overarching responsibility, complemented by a network of specialised organisations including cooperatives, producer organisations, and trade associations. However, the region faces significant challenges in knowledge development and dissemination, particularly regarding marine by-product valorisation.

The Danish cases (West Jutland and Greenland) present an instructive contrast in EU relationship dynamics. While West Jutland operates within the EU's Common Fisheries Policy framework, Greenland maintains association agreements balancing autonomy with market access. The Greenland Fisheries Council exemplifies an innovative approach to stakeholder governance, integrating industry representatives, resource users, and various stakeholders. However, both regions face challenges in resource mobilisation, particularly regarding infrastructure limitations and workforce availability.

Estonia's governance of the algae value chain in Saaremaa demonstrates the complexities of coordinating emerging blue bioeconomy sectors. Primary oversight is divided between multiple ministries, creating coordination challenges. While the region shows relative strength in market formation and entrepreneurial experimentation, persistent challenges in knowledge development and legitimacy creation suggest systemic barriers to innovation diffusion.

## New Governance Solutions Proposed

The analysis indicates several promising governance interventions for strengthening the valorisation of side-streams in fishing and aquaculture industries. Primary among these is the implementation of regulatory process simplification measures, particularly through the introduction of regulatory sandboxes and administrative one-stop shops, which streamline complex regulatory processes by providing businesses with a single point of contact for navigating multi-agency requirements.

Financial governance innovations represent another crucial domain for intervention. The introduction of blue bonds, modeled after successful green bond frameworks but tailored for ocean-related projects, offers a promising mechanism for attracting capital to sustainable marine initiatives. These financial instruments can be supplemented by targeted accelerator programs that combine mentorship, resources, and funding over fixed time periods, particularly beneficial for fostering innovation in smaller coastal communities.

The third key governance domain centers on enhancing collaborative frameworks through the establishment of structured interaction mechanisms. This includes the implementation of structured public-private partnerships offers a systematic approach to combining public resources with private sector innovation capabilities, particularly valuable for high-risk, high-reward areas such as marine biotechnology and sustainable seafood production.

## Key Performance Indicators for Governance

To effectively assess the implementation and impact of these governance innovations, a set of key performance measurements are essential. The following metrics represent core elements of this assessment, selected for their ability to provide meaningful insights into governance performance while being practically implementable.

**Time to Approve Permits and Licenses:** This measures how long it takes for businesses to get their permits and licenses approved for blue bioeconomy activities, tracking the time from when a business submits their application until they receive a final decision.

**Active Partnerships Between Government and Business:** This tracks how many successful partnerships exist between public organisations (like government agencies or research institutions) and private companies in the blue bioeconomy, looking at partnerships that have formal agreements and are actively working on projects together.

**Investment Success Rate:** This measures how effectively public funding encourages private investors to invest in blue bioeconomy projects. Comparing the amount of private money invested to the amount of public funding provided through programs like blue bonds or business accelerators.

The indicators capture both direct governance outputs (such as regulatory efficiency and institutional coordination) and broader systemic outcomes (including innovation performance and societal impact). This dual focus enables policy makers and stakeholders to track immediate progress while maintaining sight of longer-term strategic objectives in blue bioeconomy development.

## Consortium



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