

# Mainstreaming Sustainable Aquaculture to Increase Blue Biomass

This study, carried out by the ShapingBio project, examines sustainable aquaculture within the bioeconomy, focusing on governance challenges and policy recommendations to promote environmentally friendly and economically viable aquaculture practices in Germany, Denmark, and Ireland. It will be verified with policy makers and stakeholder groups.

### About SHAPINGBIO

ShapingBio is an EU-funded project with the overall aim to support and accelerate bioeconomy innovation and the deployment of new knowledge in the EU and its member states.

ShapingBio aims to provide evidence-based and concrete information and recommendations for better policy alignment and stakeholder actions to realise the cross-sectoral potential of the bioeconomy and to reduce the fragmentation across biobased sectors and the food system, as well as in policies across regions, domains and governance levels.

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 ShapingBio

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### Germany

#### Governance structure

Highly decentralised with responsibilities shared between federal states.



### Denmark

#### Governance structure

Semi-centralised, with central authorities establishing the regulatory framework, municipalities handling land-based permits and environmental agencies overseeing marine aquaculture.



### Ireland

#### Governance structure

Centralised, with the Department of Agriculture, Food and the Marine responsible for licensing and regulatory oversight.

### Cross-Country Analysis

Germany has no standardised application guidelines. However, some federal states offer specific permit guidelines for aquaculture activities and with the exception of Schleswig-Holstein no centralised contact point exists. This fragmentation can lead to inconsistencies and confusion among applicants.

In Denmark, applicants can find designated contact points at local municipalities. This decentralised approach allows for localised support but also results in varying service levels and expertise across different regions.

Ireland provides best practice guidance and comprehensive information for aquaculture licensing through the Department of Agriculture, Food, and Marine. This department has a dedicated division specifically for aquacultural licensing, offering clear pathways for applicants.

### Challenges

- **Administrative complexity:** All three countries face bureaucratic hurdles and delays in licensing, especially for new technologies like Recirculating Aquaculture Systems (RAS).
- **Skill shortages:** Public authorities often lack specialised knowledge, requiring operators to hire external consultants to navigate regulatory processes.
- **Limited coordination:** Ineffective communication between regulatory bodies leads to inefficiencies and delays, particularly in Germany.
- **Limited digitalisation:** Efforts to digitalise and streamline permitting processes are ongoing, particularly in Denmark and Ireland, but Germany lags in this aspect.

### Good Practice Examples

- **KNAQ** - Competence Network Aquaculture (Schleswig-Holstein): Supports new aquaculture businesses by connecting them with stakeholders and guiding administrative processes.
- **BIM** - Bord Iascaigh Mhara (Ireland): Assists with licensing, planning, environmental guidance, and market prospects for aquaculture operators.
- **RAS License Fee Exemptions** (Norway): Provides financial incentives for sustainable RAS technology by waiving license fees.

### Recommendations

#### To improve sustainable aquaculture governance

- **Training and Capacity Building:** Invest in skilled personnel and training to equip public authorities with the latest aquaculture knowledge and technologies.
- **Designate Contact Persons:** Assign dedicated contacts to public authorities to streamline application processes and reduce bureaucracy.
- **Collaborate with Universities:** Formalise partnerships with universities to leverage expertise on industry needs and innovations.
- **Centralised Digital Platform:** Create a digital platform for permitting and funding to simplify communication and improve decision-making.

#### To improve sustainable aquaculture policy

- **Tailor Regulations:** Customise regulatory requirements based on aquaculture types to enhance sustainability and operational efficiency.
- **Standardise Licensing Guidelines:** Streamline and clarify the licensing process with comprehensive, standardised guidelines to reduce bureaucratic delays.
- **Integrate with Marine Spatial Planning:** Include aquaculture in marine spatial planning to harmonise it with conservation and other marine activities.
- **Provide Incentives:** Reduce or eliminate licensing fees for sustainable aquaculture to encourage environmentally friendly practices.