# BlueRev

**Bio-based** revitalisation
of local communities

# BlueRev Conceptual framework's design and structure for mapping pilot regions' relevant indicators

**Deliverable 3.1**

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# Deliverable 3.1

# BlueRev Conceptual framework design and structure for mapping pilot regions' relevant indicators

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| 0.2 | 23/12/2022 | Daniel Bengtsson, Björn Persson, Petter Forsberg (RISE) | Comments from partners |
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# Table of Abbreviations and Acronyms

| Abbreviation | Meaning |
|---|---|
| CATWOE | Customers, Actors, Transformation, Worldview, Owners, and Environmental constraints |
| CCC | Context and Critical Context analysis |
| CSC | Case Study Coordinators |
| DFBG | District of Fisheries and Blue Growth, Sicily |
| KPIs | Key Performance Indicators |
| LCA | Life Cycle Analysis |
| NIBIO | The Norwegian Institute of Bioeconomy Research |
| R&D | Research and Development |
| RISE | Research Institutes of Sweden |
| UNIPA | University of Palermo |
| WP | Work Package |

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# 1 Executive Summary

The current document, titled BlueRev Conceptual framework design and structure for mapping pilot regions' relevant indicators, has been developed within the framework of the BlueRev project which is funded by the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement No 101060537.

Deliverable 3.1 is providing a conceptual framework for mapping and analysing existing governance structure and good practices in the selected pilot regions. The conceptual framework will also provide a common approach to analyse the socio-technical barriers and drivers for development and deployment of suitable solutions in the BlueRev partner countries/target regions.

This is a second version of the deliverable, modified to introduce the request by the PO.

# 2 Introduction

BlueRev has received funding from European Union's Horizon Europe Research and Innovation programme under GAP-101060537. The overall concept of the BlueRev project is based on the revitalisation of European local communities with innovative bio-based business, governance models and social innovations focused on the blue bio-based sector by demonstrating the benefits the wide deployment of the bio-based economy can offer. The project will study 3 pilot regions, i.e. Denmark, Italy and Estonia, giving a sound geographical balance to the project and covering almost all blue bio-based productive sectors including algae, fisheries and aquaculture. In this way the results can be replicated throughout Europe in other regions showing similar assets and conditions, under a fully transferable case-study approach. BlueRev will select a range of systems in the blue bio-based sector in the 3 different pilot regions, to tailor value chains, from valorisation of co-products as feedstock to processing/conversion to final products, in order to revitalise local communities, both in a territorial and social sense and contribute to positive environmental and social impacts.

While science is one important part of developing the bioeconomy, another part is to understand and guide the social change necessary for the implementation [1]. To ensure and maximize the benefits derived from the deployment of the bio-based sector in the three pilot regions, BlueRev focuses on the revitalization of European local communities through innovative bio-based business models, governance frameworks, and social innovations in the bio-based sector. This is to integrate scientific and practical knowledge, reconcile values and preferences, as well as create ownership for problems and solution options in order to achieve a successful bio-based sector. This is a complex challenge given the nature of stakeholder interests, available assets, and the research community's basic assumptions about the future of bio-based sector.

As such, this document (Deliverable 3.1) is based on the need for a conceptual framework that gives guidance on what to study and readily translates into an implementable plan of work within the BlueRev project. In particular, the conceptual framework will serve as a guide for mapping and analysing existing governance structure and good practices in the selected pilot regions. The conceptual framework will also provide a common approach to analyse the socio-technical barriers and drivers for development and deployment of suitable solutions in the BlueRev partner countries/target regions.

This document has been drafted based on review of the relevant literature on social innovation, business models and governance structures. As such, the current deliverable (as of December 2022) is still in the form of a theoretical framework, which will eventually be validated and developed further through focus group discussions with WP leaders and partners across the project and relevant stakeholders in the pilot regions. This is also to incorporate the specific technical, socio-economic, and regulatory conditions for the target regions, considering the past projects and European Commission dialogues.

This deliverable is an output of work package (WP) 3 in BlueRev. WP3 analyses and assesses current governance structure related to the selected pilot regions including the definition of key performance indicators (KPIs) and good practice principles for achieving objectives of the European Green Deal and the EU Bioeconomy Strategy. WP3 will also identify the diversity of co-creative policy activities and highlight good methodologies influencing on real integration and on implementation of policy objectives.

Note that the need for the conceptual framework, and all the tasks that contribute to it, meant that it was prioritised to produce a working document rather than a polished product. Additional inputs will be provided by partners also involved in the WP, and from policy and political updates that will occur during the project's life.

This document is organized as follows. Section 3 present key concepts, categories and definitions relevant to the study of social innovation, governance, business models and acceptance of solutions.

Section 4 establishes a conceptual framework for analysing governance in the BlueRev case studies.

Section 5 discusses operational considerations, i.e., how the conceptual framework should be applied when assessing the proposed solutions.

## 2.1   Governance and innovation

The main goal of task 3.1 is to undertake a review of the different governance models, structures business models and social innovations linked to the implemented pilot regions and draft a suitable framework to guide the data selection and collection for further analysis.  The framework and existing frameworks concepts of spatiality and explore how it is articulated in different institutional contexts. The concepts of spatiality vary widely in different contexts, with direct implications about how policies are developed and implemented.

In BlueRev the new business, governance models and models for social innovations will be demonstrated on 3 pilot regions (Table 1) and will be tailored to their value chains taking into account different conditions at regional level, their assets (aquatic feedstocks, infrastructure, human skills, etc.), and innovation actors (including community knowledge and marginalized groups).

_Table 1: BlueRev pilot regions_

| Partner | Region | Value chain | Stakeholders | Description |
|---|---|---|---|---|
| UNIPA DFBG | Sicily (Italy), South Europe | Marine bioactive compounds and ingredients from fish processing residuals and algae for industrial applications (e.g. cosmetics, nutraceuticals) | The UNIPA team works on marine and aquatic value chains and food products, specifically on setup and transfer innovative procedures to the processing enterprises, to increase its environmental/economic sustainability. In the Italian pilot, UNIPA will focus on circular economy pathways by valorisation of marine by-products from fish processing plants, thanks to its expertise on extraction of bioactive compounds with green technologies (SFEs etc..), suggesting industrial application. **DFBG** includes **134** enterprises and **46** institutions, associations, universities, Research and culture centres, among which companies producing | The main bottlenecks are represented by the lack of infrastructures and governance measures/business models for collection, stocking and selling of marine by-products. A gap in the connection between production and end-users (e.g. companies in the sector of cosmetics, nutraceuticals and pharmaceuticals). |

| | | | fish by- products (e.g. Blue ocean), RTOs (University of Palermo, Research centre CNR-IAS, University consortium province of Trapani) and local stakeholders (Department of Mediterranean fisheries of the Sicily region, Confindustria Trapani). | |
| --- | --- | --- | --- | --- |
|  | Denmark, Northern Europe |  Use of fish side- streams for nutraceutical, food and feed applications. | **300+ members,** including **Companies producing** high value-added products from improved utilisation of side streams (e.g. Royal Greenland, Jeka Fish). **Local authorities:** Lemvig Kommune (The municipal of Lemvig); Naalakkersuisut (Government of Greenland). | The uptake of blue bio-based economy value chains faces problems related to: - lack of skilled personnel - logistic infrastructures -being an outermost region (Greenland) |

| | | | | |
|---|---|---|---|---|
|  | <br><br>Estonia, Eastern Europe | <br><br>Use of red algae biomass for food, nutraceuticals and cosmetic industry. | Stakeholders' network of 170+ stakeholders, including Companies and laboratories (e.g. Vetik Ltd, EstAgar) developing formulations for factories and manufacturers and a final mixture consisting of different substances (texturising agents, emulsifiers, etc.); research and development organisations (e.g. Estonian University of Life Sciences, Estonian Marine Institute); Local authorities (Saare municipality, local development organisations, LEADER groups). | A transition from traditional technologies for processing red algae to modern technologies in order to extract substances that could be valuable inputs for other industries and locally produced products.<br>To expand the scope of blue bioeconomy in the region based on others local aquatic resources (multiuse of wind electrycity and muessel farming and fishfarming, not only red algae (by taking advantage of the experiences gained in the other pilot regions).<br>The main bottlenecks include:<br>Lack of skilled R&D specialists in the company and region.<br>Complex legislation and high entrance barrier.<br>Gap in the connection between production and end-users in new |

| | | | | industries. |
|---|---|---|---|---|
| | | | | Mechanisms for including community members and vulnerable societal subgroups. |

# 3 Key concepts, categories and definitions

This chapter presents the key concepts, categories and definitions relevant to the study of social innovation, governance, business models and acceptance of possible solutions.

## 3.1 Social innovation

Social innovation is defined as the design and implementation of new solutions implicating conceptual, process, product, or organisational change with the overall goal of improving the welfare and wellbeing of individuals and communities [2, 3]. Initiatives dealing with socio-economic and environmental problems can be innovative while contributing to economic development but for this to happen an enabling policy framework is necessary to support public, non-profit and private actors to co-define, construct and implement socially innovative solutions to tackle socio-economic issues, strengthen territorial resilience and increase preparedness for future shocks.

In order to assess social innovation, different dimensions must be considered such as:

(i) *the social mechanisms of innovation*, which is often not accounted for but has an important role in understanding how innovations are originating.

(ii) *the social responsibility of innovation* as innovation purpose should not only be financial profitability but also sustainability and social responsibility; and

(iii) *the social objectives* of innovation as social inclusion and environmental sustainability.

## 3.2 Governance

Governance can be defined as the act or process of governing or overseeing the control and direction of something (such as a country or an organization) (Governance Definition & Meaning - Merriam-Webster). In the context of the BlueRev project, governance relates to the mechanisms, processes, relations, and interactions used to organise in relation to the value-chains in the pilot regions.
It includes elements such as:

*(i)* Policies and goals on different levels that relates to fundamental questions: *Where to go? How to get there? Who will do what? What to be done? (including conflict of interest)*

(ii) Relationships and divisions of rights and responsibilities between different actors (e.g., different parts of the region), citizen involvement and participation in decision-making.

(iii) Capabilities and leadership

Governance innovation in the context of this project concerns developing better ways to organise and govern, with the goal of upscaling and implementing new value chains and business models in the pilot regions.

## 3.3 Business Models

A business model defines the rationale to create, deliver, and capture value in economic, social, cultural, or other contexts. The process of building and changing the business model is also called business model innovation and is part of a larger business strategy.

In other words, a business model is an organizational and strategic plan that a business (company or individual) can use to identify the feasibility and viability of a product or service, to identify the target market and make a profit taking into account the expected expenses. The term business model is used to describe a wide array of business aspects of each company including: purpose, business process, target customers, offerings, strategies, infrastructure, organizational structures, sourcing, business practices and operating processes and policies, including corporate culture.

BlueRev will assess existing business models relevant to the pilot regions and identify opportunities to enhance or create new, sustainable business models. The goal is to ensure these models are both economically and environmentally sustainable, contributing to the revitalization of local communities.

## 3.4 Acceptance

In general, organizational change implies accounting for all changes affecting contexts, people, communication processes, behaviour, the organizational structure, the changes in job roles and organization, including transitioning towards a better situation [4] (Weiner, Amick & Lee, 2008). Is therefore important to consider the various actions and strategies that can be useful to companies for managing the change process and increase the probability of success especially in the implementation phase. Changes involve modifications both at individual and organizational level, and these two levels are interdependent.

Managing any kind of change isn't easy, especially when you consider what takes place within organizational contexts, made up of interactions between people who own different values and beliefs, which influence the way we perceive the change itself.

In a general sense, change always involves both structural and relational modifications for which many variables are involved with a high degree of dynamism. The organizational changes can be multiple (e.g. restructuring, mergers, corporate downsizing, introduction of new regulations and technologies) and they always lead to a modification of the status quo.

A particular type of organizational change is that linked to the introduction of technological innovation which is especially relevant in the context of BlueRev. The introduction of technology involves a change in the management methods of organizational processes and interpersonal dynamics. Particular attention should be paid to the how technological change is perceived by individuals, i.e. the degree of speed in

assimilating its transformation. It is paramount to assess whether the reaction to the innovation is proactive and include active participation, as this behaviour is expected to produce higher level of sustainability as instead a situation where innovation is simply accepted [5]. People, within the working systems, interact with technology, with the surrounding environment and with organizational factors [6] but their perception affects the adoptability of different types of innovation. Often this is caused by poor communication, training and lack of understanding [7]. The framework will take into consideration the main theoretical models [8-10] and build on those to assess the factors that are leading to accept one innovation.

# 4 The BlueRev framework to assess the case studies

The aim of this deliverable is to present the methodology used by BlueRev consortium for acquiring the data for the baseline assessment and to share the summary of the data acquired through the protocol application. The aim of the protocol was to provide a structured framework for collecting data in a systematic and consistent manner. The protocol outlines the specific procedures and methods used to collect and analyse data, as well as any potential risks or limitations that may impact the quality of the data.

The primary goal of data collection protocol is to ensure that the data collected is accurate, reliable, and valid. By defining clear procedures and methods, data collection protocols can help to minimize potential sources of bias or error in the data. This, in turn, can increase the confidence and trust in the results of the study or analysis.

Another important aim of this specific data collection protocol is to ensure that the data collected is relevant and useful for the intended purpose of addressing the specific issues of each case study of BlueRev. This requires careful consideration of the research questions or objectives, as well as the specific data that will be required to answer these questions or achieve these objectives.

This framework considers governance not as a standalone process but as an enabler of sustainable business practices and social innovations. Governance assessments will focus on policy support, regulatory facilitators, and collaborative structures that create favourable conditions for business model adoption and social innovations. These aspects will be evaluated against the specific needs of the blue bio-based sector to ensure that governance structures support both economic and social resilience.

We will establish clear and transparent procedures for collecting and analysing data in a way that is reliable, valid, and relevant and increase the quality and accuracy of BlueRev results, and ultimately contribute to the advancement of knowledge.

# 5 The WHAT

The goal is to reflect on the case study and the issues the stakeholders want to address, on what makes them relevant to address the specific issues. They should try to draw the case study possibly as a group of elements that are related to each other. Starting from the current situation and the goals they want to achieve in each case draw all the elements.

When we talk about elements, we should think on activities, processes and resources, and also in social and personal aspects related to people and institutions that have some role in the situation. In other words, we should have in mind the four capitals described above (natural, produced, human and social).

Natural capital: Natural resources (soil, water, biodiversity…) that are somehow involved in the situation, by being used in it or impacted by it.

Produced capital: Infrastructure, buildings and machinery used or needed in the situation. Role of research in the situation analysed. How is used and how is impacted? Finance at institutional and individual level: How this condition other elements in the situation? And how is also impacted by the situation?

Human capital: People/ institutions that influence and/or have an impact on the situation. People/institutions that are influenced and/or impacted by the situation. People's Skills and knowledge in the situation. Role in the situation? Interests, motivations and aspirations that people express. Issues and conflicts that people express.

Social capital: Laws and regulations that affect and could be affected by the situation. Conditions that enable or difficult the situation: In public or private institutions. Social cooperation: Role of groups, organizations and cooperatives in the situation, and how the situation affects them.

It is important to describe all the aspects that can help us to understand the situation under analysis, as the participants see it.

The data collection will be done in three stages (Figure 1) and this deliverable will be further updated to include all the results:

1- State of the art- the case study coordinators will use the guiding questions in annex 1 to clarify the state of the art for the three pillars (social innovation, governance and business models) through interviews (online or in presence)

2- Workshops focus group discussions and in-depth interviews will be used to gather in depth information on the case studies

3- Workshops focus group discussions and in-depth interviews will be used to validate the solutions co-created in BlueRev

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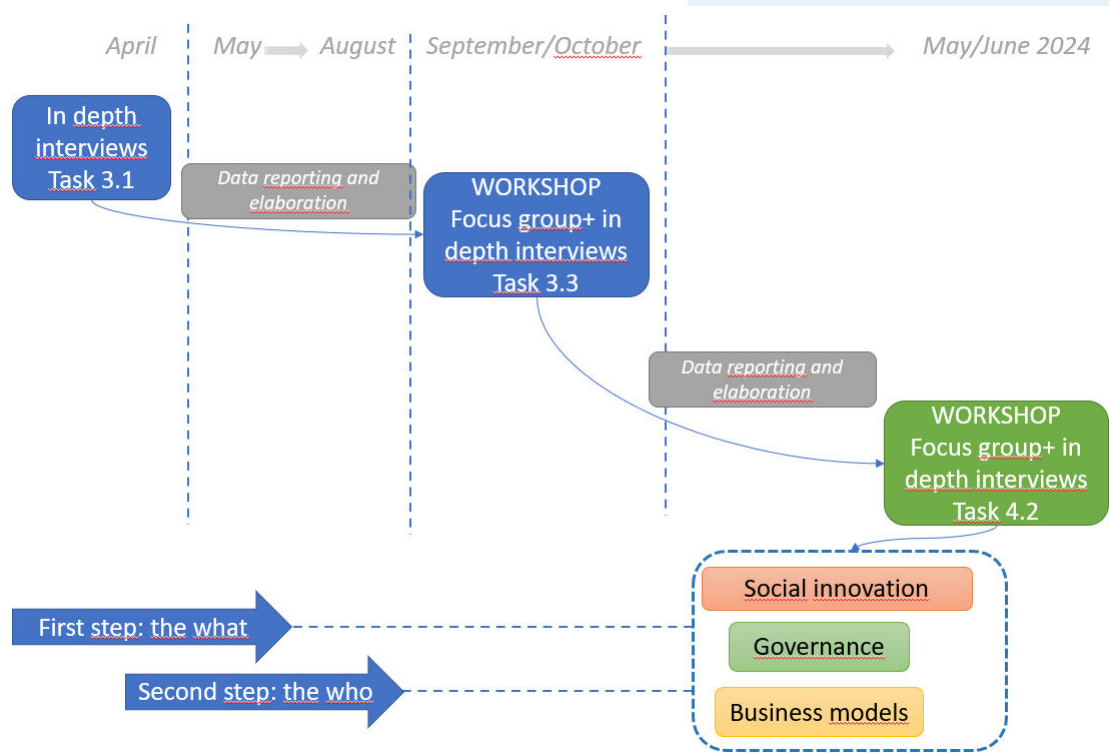
*Figure 1: the process stages of data collection*

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# 6  The WHO

The second step consists of identifying the people or institutions that have some role in the whole value chain of the target by-product, in other words, the stakeholders. Stakeholders are people or institutions with a significant impact or that are significantly impacted by the situation.

Each stakeholder, besides having a role in the situation, has some interest or expectations that moves their behaviour and determine their understanding of the situation. Knowing this, we can have an idea of the different interests in the situation that will lead us to key framings.

Considering that all the participants have in mind the results from the first activity, we will make a quick list of stakeholders and answer to the following questions:

- What they influence and/or have an impact on?

- By what are they influenced and/or impacted?

## 6.1  Key interests' analysis:

Is what the stakeholders have in game in the situation (gain/ loss) or the reason why they are part of the situation/value chain.

This analysis can help to inform decision-making and identify potential areas of conflict or agreement between stakeholders.

The key interests' analysis can provide a comprehensive understanding of the perspectives and priorities of different stakeholders and identify potential strategies for building consensus and resolving conflicts. This analysis can be particularly useful in complex and contentious issues, where stakeholders may have competing interests and priorities. It can also help to identify opportunities for collaboration and partnership between stakeholders who share common interests. Overall, key interests' analysis can help to ensure that decisions are informed by a broad range of perspectives and priorities, and that the interests of all stakeholders are taken into account.

To unpack the complexity of the issues to address and the involvement of multiple stakeholders together with the key interest analysis the framing tool can be used.

While key interests' analysis focuses on identifying the interests and concerns of different stakeholders, framing involves shaping the way an issue is perceived and understood by stakeholders. Key interests' analysis can help to identify the underlying interests and priorities of different stakeholders and provide a basis for understanding the potential areas of conflict or agreement between them. By identifying these interests, stakeholders can work to build consensus and find solutions that address the needs of all parties involved.

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Framing, on the other hand, involves shaping the way an issue is presented and understood by stakeholders. The way an issue is framed can influence how stakeholders perceive the issue and the potential solutions that are proposed. Framing can be used to highlight certain aspects of an issue and downplay others and can also be used to appeal to the values and priorities of different stakeholders.

## 6.2   Transformation And Agents (Catwoe) Analysis

CATWOE is a useful tool for analysing complex problems and identifying potential solutions. It stands for Customers, Actors, Transformation, Worldview, Owners, and Environmental constraints. Here's an example of how to use CATWOE to analyse a workforce availability and logistics challenge:

- Customers: Who are the customers affected by the workforce availability and logistics challenge? Are there any specific customer requirements or expectations that must be met?
- Actors: Who are the actors involved in the workforce availability and logistics challenge? This may include employees, suppliers, customers, and other stakeholders.
- Transformation: What is the transformation required to address the workforce availability and logistics challenge? This may involve hiring additional employees, implementing new technologies, or optimizing supply chain logistics.
- Worldview: What is the worldview or perspective of the organization regarding the workforce availability and logistics challenge? Is the organization open to new ideas and approaches, or is it resistant to change?
- Owners: Who are the owners or decision-makers responsible for addressing the workforce availability and logistics challenge? What are their priorities and goals?
- Environmental constraints: What are the environmental constraints or external factors that may impact the workforce availability and logistics challenge? This may include economic conditions, regulatory requirements, or industry trends.

Using the CATWOE analysis, potential solutions could include hiring additional employees (transformation), implementing new technologies to optimize supply chain logistics (transformation), or partnering with other organizations to address supply chain disruptions (actors and environmental constraints). However, the solution chosen would need to take into account the worldview and priorities of the owners and be feasible given any environmental constraints or external factors. The questions for the CATWOE analysis are reported in Annex 1.

The final task is to form a statement of the situation according to each framing, including the components that come out from the questions.

# 7 The HOW

Through the analysis of the selected value chains BlueRev will propose three pillars of new governance and business models to enable sufficient impacts and performances of the specific value chains and to allow replication across Europe. The guiding questions for the evaluation process are reported in Annex 2

## 7.1 Assessing social innovation

Assessing social innovation involves evaluating the effectiveness of innovative solutions to address social problems or challenges.

The social innovation assessment will focus on metrics that indicate the level of community engagement, inclusivity, and societal impact. Semi-structured interviews will be used. Key indicators include the extent of local community participation, the role of marginalized groups in innovation processes, and the alignment of innovations with community needs. This assessment will complement governance and business model analysis by highlighting how social innovation drives sustainable economic and social resilience in each pilot region.

The assessment will be done with semi-structured interviews (Annex 1) where a set of specific questions have been drafted to guide the Case Study Coordinators (CSC )in the data gathering. The questions will identify pressing social issues faced by the local stakeholders and then will support the identification of successful initiatives that have been contributing to the solution of these issues.

By answering these questions, together with the stakeholders the effectiveness of social innovation and identify areas for improvement can be assessed.

This can help to ensure that social innovations are effective, equitable, and sustainable, and that they benefit all members of the community.

## 7.2 Assessment of governance framework

Interviews will be used to assess the governance frameworks and processes in the pilot regions. The analysis is part of the level 2 assessment, BlueRev Conceptual framework design and structure for mapping pilot regions' relevant indicators. The output from sections described above in this document as input into the assessment to understand the specific value chains/by-products/solutions of interest for the pilot regions – that will subsequently be analysed using the methodological approach described below.

The interviews are based on an Innovation System and Context and Critical Conditions (CCC) framework analysis to understand the governance processes surrounding the value chains/by-products/solutions in the pilot regions. The analysis looks at three aspects: the past, present, and future contexts and critical conditions for the value chains/by-products/solutions related to the governance processes.

The workshops are based on foresight methodology and looks at the desired future state for the region and the relevant value chain(s).

Interviews and workshops will provide input into further work as part of subtasks 3.3.3 and 4.1.2, including recommendations on governance structures.

## 7.3 Assessing sustainability through LCA

Data collected for the sustainability assessment (using Life Cycle Assessment -LCA) of the different pilot regions will be of predominately technical nature and include quantitative data detailing the production processes at the different localities. Furthermore, some background information regarding the sourcing of raw materials used in the processing and information on the estimated monetary value of different co- and by-products is needed. Below a preliminary estimation of the data needs is outlined for the different processing steps:

Raw material sourcing (e.g. fish):

- Geographical origin (Region/country/FAO fishing zone)

- Fishing method

- Fuel use intensity

- Transport to processing

    o Distance

    o Transport mode

Processing:

- Energy use (Electricity, heat, cooling)

- Material inputs

- Yields (between co-products and input to output)

- Economic value of main and by-product

- Eventual waste treatment

**Future use scenarios:**

- Estimated energy use (Electricity, heat, cooling)

- Material inputs

- Estimated yields (between co-products and input to output)

- Estimated economic value of main and by-product

- Eventual waste treatment

- Eventual estimated changes in raw material sourcing

The general overview of the LCA process to be shared with the relevant stakeholders is in Annex 3. This is not applicable to all stakeholders but only to those relevant and interested in participation in the LCA (Italy: Tuna processers, Estonia: Algae processer, Denmark: Seafood processer).

## 7.4 **Assessing Business Models**.

The assessment of business models within BlueRev aims to evaluate the economic viability, adaptability, and sustainability of various models used across the pilot regions' blue bio-based value chains. This assessment will determine the effectiveness of existing business models in creating, delivering, and capturing value while aligning with regional goals of community revitalization and environmental sustainability.

**Objectives of Business Model Assessment**

The main objective for assessing business models in BlueRev is to identify scalable and adaptable business models that can drive sustainable economic development within the blue bio-based sector.

The project will also evaluate the integration of governance and social innovation within each business model to ensure a cohesive and supportive framework and assess the potential for replication of successful business models across different European regions with similar resources and challenges.

**Key Components of Business Model Analysis**

The business model assessment framework will include several key components, focusing on factors that influence the long-term viability and transferability of each model. These are:

*1. Value Proposition*

The value proposition defines how the business model meets the needs of its stakeholders, including producers, end-users, and the wider community. In BlueRev, the value proposition of each business model will be evaluated based on primarily the specific benefits it provides to local communities, including job creation, skill development, and economic growth.

Additional components that we will take into consideration are those related to the environmental sustainability of its practices, such as resource efficiency, waste reduction, and contribution to biodiversity and the relevance of the products or services provided within the blue bio-based economy, such as bioproducts from algae, fish by-products, and aquaculture waste.

2. *Revenue Streams and Cost Structure*

A thorough analysis of revenue generation methods and associated costs will provide insights into the economic sustainability of each business model. We will assess the primary revenue sources (e.g., direct sales, service contracts, or licensing) together with the potential for cost-sharing through public-private partnerships or community-supported models. Financial risks, dependencies, and scalability potential will also be assessed within each model.

3. *Market Demand and Competitive Landscape*

Each business model's success is influenced by market conditions and competitive factors. The framework will therefore evaluate market demand for blue bio-based products within and beyond the pilot regions, considering potential consumer acceptance and market growth. Additionally, we will also analyse competitive positioning, identifying opportunities to differentiate products and services within niche markets e.g. nutraceuticals, cosmetics, and sustainable packaging.

4. *Social and Environmental Impact*

Business models will be assessed not only for economic performance but also for their social and environmental contributions. Key factors will include their contribution to social cohesion and community wellbeing for example by fostering local entrepreneurship and inclusive economic participation but also environmental benefits, such as improved resource utilization and reduction of ecological footprint through circular economy practices.

5. *Innovation and Adaptability*

Innovation is crucial for the growth and resilience of bio-based businesses. Assessments will focus on the identified model's adaptability to changing economic, social, and environmental conditions, including the integration of new technologies or practices. An important aspect that we aim at assessing is also the level of stakeholder engagement in the innovation process, especially community-driven or co-created solutions.

6. *Policy and Governance Alignment*

The alignment of business models with local and regional governance frameworks and policy objectives is essential to unpack the complexity of compatibility with regional policy objectives (e.g., EU Green Deal, EU Bioeconomy Strategy) and the ability to leverage public support or incentives, such as grants, subsidies, or favourable regulatory frameworks.

**Methodology**

The assessment of business models will employ both qualitative and quantitative methods, including interviews and focus group discussions. Engaging stakeholders, such as business owners, local authorities, and community representatives, will provide the possibility to gain insights into the model's strengths, challenges, and areas for improvement. Additionally, the project will document successful case studies within each pilot region to capture lessons learned and identify best practices for replication. Financial indicators (e.g., profitability, cost efficiency) alongside social and environmental impact metrics will also be evaluated.

**Expected Outcomes**

The business model assessment will result in:

- A clear understanding of effective, sustainable business models in the blue bio-based sector that can be scaled or adapted to other regions.
- Recommendations for optimizing business models to improve financial performance, community involvement, and environmental outcomes.
- An actionable roadmap for stakeholders to implement or adapt successful models, fostering a resilient and inclusive bio-based economy across Europe.

# 8 Framework implementation

The proposed BlueRev governance, business models and social innovation framework will undergo a structured validation process to ensure its applicability across the three pilot regions. The implementation will take place in three phases, allowing for adjustments based on stakeholder input and observed regional differences.

*Initial Interviews and Feedback Collection:*

A series of semi-structured interviews will be conducted with key stakeholders in each pilot region. These interviews aim to gather insights into the governance structures, existing social innovation practices, and business model adaptability. Each interview will be documented, and responses will be analysed to refine the framework.

Interviews will also collect feedback on the proposed indicators and methodologies outlined in this deliverable, allowing stakeholders to voice any concerns or suggest adjustments to make the framework more region-specific.

*Focus Groups and Workshops:*

Following the interviews, regional workshops will be organized to engage a broader range of stakeholders, including local authorities, community leaders, and representatives from the bio-based sector. These workshops will focus on discussing framework components, gathering multi-stakeholder input on governance models, and identifying region-specific challenges. A key output from these workshops will be a set of region-specific insights on governance and social innovation practices, informing the final framework adjustments.

*Data Integration and Framework Adjustment:*

Data collected through interviews and workshops will be synthesized to identify common trends, challenges, and potential barriers to the implementation of bio-based governance models. This data will guide the development of refined governance models and assessment criteria. Adjustments to the framework will be based on stakeholder feedback and empirical data, ensuring that it is adaptable and responsive to the needs of diverse regions within the bio-based sector.

*Final Validation and Feedback Report:*

The refined framework will undergo a final review by the BlueRev consortium, incorporating any necessary adjustments. A final feedback report will be prepared, summarizing the validation process, stakeholder input, and resulting framework modifications.

This report will also provide recommendations for ongoing monitoring and assessment to track framework effectiveness throughout the BlueRev project duration.

# 9 Annexes

## 9.1 Annex 1: Questions for the what and the who

Here are reported the guiding questions for the first step of the analysis for the Case study Coordinators who independently conducted the interviews for data collection

Guiding questions for the WHAT

**Analyse the current situation**: Gather data on the current workforce availability and logistics situation. This may include assessing the number of employees, their skill sets, and availability, as well as analysing the transportation and supply chain logistics.

| | GUIDING QUESTIONS |
|---|---|
| 1 | How many people/employees are currently available for work? |
| 2 | What are their skill sets, and how do they match the requirements of the case study? |
| 3 | Are there any shortages in particular skill sets required for the case study's operations? |
| 4 | Are there existing policies and/or regulations currently in place that can work as incentives or restrictions for workforce availability or recruitment? |
| 5 | How many people/employees are currently on leave or unavailable for work due to illness, caregiving responsibilities, or other reasons? |
| 6 | Are there any challenges in finding suitable candidates? |
| 7 | What is the employee turnover rate, and how does it compare to previous years? |
| 8 | What is the current supply chain situation? |
| 9 | Are there any logistical challenges such as transportation or supply chain disruptions? |

**Identify potential solutions**: Based on your analysis, brainstorm potential solutions to address the workforce availability and logistics challenges. This may include hiring additional employees, training existing employees, optimizing transportation routes, or improving supply chain management.

| | GUIDING QUESTIONS |
|---|---|
| 1 | Can additional employees be hired to address any skill or capacity gaps? |
| 2 | Can training or development programs be offered to upskill current employees to meet needs/requirements? |
| 3 | Can temporary staffing solutions, such as contracting or outsourcing, be explored to address immediate workforce needs? |
| 4 | Can flexible work arrangements be implemented, such as remote work or flexible scheduling, to accommodate workforce availability and caregiving responsibilities? |

| 5 | Can transportation routes be optimized to reduce transportation costs and improve delivery times? |
|---|---|
| 6 | Can alternative modes of transportation, such as rail or water transportation be explored, to reduce transportation costs and improve supply chain logistics? |
| 7 | Can technology solutions, such as inventory management systems or transportation optimization software be implemented, to improve supply chain management and reduce logistics costs? |
| 8 | Can partnerships with other organizations or suppliers be explored to improve supply chain resilience and reduce risk? |
| 9 | Can procurement policies be reviewed and updated to ensure that it is sourcing from reliable suppliers and diversifying its supplier base to reduce supply chain risks? |
| 10 | Can contingency plans to address supply chain disruptions and future workforce availability challenges be implemented? |

**Identify the by-product**: Determine the characteristics and properties of the by-product. This will help to understand how it can be reused (i.e., a by-product is being used again in its original form, without any modification or processing. For example, using a plastic bottle to store water or refilling a glass jar with homemade jam), repurposed (i.e., an item is being used for a new purpose that is different from its original intended use. For example, using old pallets to make a do-it-yourself coffee table or using an old tire as a planter.) or recycled (i.e., an item which is being processed to make a new product. This typically involves breaking down the item into its raw materials, which are then used to create new products. For example, recycling paper to make new paper products or recycling plastic bottles to make polyester clothing).

| | GUIDING QUESTIONS | |
|---|---|---|
| 1 | What is the manufacturing process for the product that generates the by-product? | |
| 2 | What is the quantity of the by-product generated during the manufacturing process, and how does this vary over time? | |
| 3 | Can the by-product be easily identified and separated from other waste streams generated during the manufacturing process? | |
| 4 | What are the current disposal practices for the by-product, and are there any associated costs or environmental impacts? | |
| 5 | Are there any regulations or guidelines that govern the disposal or handling of the by-product? | |
| 6 | Are there any potential uses for the by-product in its current form, such as using it as packaging | |
| 7 | What are the major resource constraints that are likely to limit or hinder use of the by-product? (spatial/physical resources, financial resources, human capital and knowledge) | |

D3.1 v2

**Analyse the market demand for the by-prod**uct. Look for potential buyers who may be interested in using the by-product in their production processes

| | | GUIDING QUESTIONS |
|---|---|---|
| 1 | | What are the potential markets for the by-product, and what are their requirements and specifications? |
| 2 | | Are there existing policies and/or regulations currently in place that can work as incentives or restrictions for the by-products market demand? |
| 3 | | Who are the potential buyers of the by-product, and what is their level of demand for it? |
| 4 | | Are there any existing partnerships or collaborations with potential buyers of the by-product, e.g. contract buying? |
| 5 | | What is the estimated price of the by-product, and how does it compare to the cost of other raw materials or inputs? |
| 6 | | What is the availability of the by-product, and can it be produced in sufficient quantities to meet market demand? |
| 7 | | Are there any quality requirements or certifications needed for the by-product to be accepted by potential buyers? |
| 8 | | What is the potential competition for the by-product, and how does it compare to other products or materials in the market? |
| 9 | | What is the geographic scope of the market demand for the by-product, and what are the potential shipping or transportation costs? |
| 10 | | Is there potential for growth or expansion of the market demand for the by-product, and what are the factors that could influence this? |
| 11 | | What are the potential risks or challenges associated with entering the market for the by-product, such as regulatory barriers or changing market conditions? |
| 12 | | Are there any financial resources organizations can apply for in order to develop their business around the by-product and take it to market? |

**Evaluate the environmental impact**: Determine the environmental impact of the by-product. Consider the amount of waste generated during the production process and the carbon footprint associated with transporting the by-product to potential buyers.

| | | GUIDING QUESTIONS |
|---|---|---|
| 1 | | How much waste is generated during the production process of the by-product? |
| 2 | | What types of waste are produced during the production process and how are they disposed of? |
| 3 | | Are there any additional by-products of the production process that could be repurposed or recycled? |
| 4 | | How far do the buyers typically need to transport the by-product, and what modes of transportation are used? |
| 5 | | Are there any alternative transportation methods that could reduce the carbon footprint of transporting the by-product? |
| 6 | | What is the type and material of packaging used to transport the by-product? |
| 7 | | What regulations or guidelines are in place to ensure the environmental impact of the by-product is minimized? |

D3.1 v2

**Determine the feasibility of reuse**: Determine whether the by-product can be reused in the same production process or if it can be used in other industries.

| | GUIDING QUESTIONS |
|---|---|
| 1 | What are the properties of the by-product, and can it be reused in the same production process? |
| 2 | Are there any quality requirements for the by-product to be reused, and does it meet these requirements? |
| 3 | What is the cost of reusing the by-product, and how does it compare to the cost of using new materials? |
| 4 | Can the by-product be used in other industries, and are there any potential markets for it? |
| 5 | Are there any regulations or guidelines that prohibit the use of the by-product in certain applications? |
| 6 | What is the environmental impact of reusing the by-product, compared to using new materials? |
| 7 | What are the potential benefits of reusing the by-product, such as cost savings, reduced waste, or increased efficiency? |
| 8 | Are there any technical challenges associated with reusing the by-product, such as compatibility with other materials or processing constraints? |
| 9 | What is the availability of the by-product, and is there a consistent supply for potential reuse applications? |
| 10 | What is the expected lifespan of the by-product, and how will it be managed at the end of its useful life? |

**Explore repurposing options**: Consider alternative uses for the by-product, such as using it as a raw material for a different product or as a feedstock for bioenergy production.

| | GUIDING QUESTIONS |
|---|---|
| 1 | What are the physical and chemical properties of the by-product, and are there any potential alternative uses for it? |
| 2 | Can the by-product be used as a raw material for a different product, and are there any markets for this application? |
| 3 | What is the potential economic value of repurposing the by-product, and how does it compare to the cost of disposal or other disposal options? |
| 4 | Can the by-product be used as a feedstock for bioenergy production, and what are the technical requirements for this application? |
| 5 | Are there any environmental benefits to repurposing the by-product, such as reduced greenhouse gas emissions or reduced waste? |
| 6 | What is the availability of the by-product, and is there a consistent supply for potential repurposing applications? |
| 7 | Are there any regulations or guidelines that prohibit the repurposing of the by-product in certain applications? |

D3.1 v2

| 8 | What are the potential challenges associated with repurposing the by-product, such as compatibility with other materials or processing constraints? |
|---|---|
| 9 | What is the expected lifespan of the by-product, and how will it be managed at the end of its useful life in its repurposed form? |
| 10 | Are there any potential risks associated with repurposing the by-product, such as health and safety concerns or negative impacts on the environment or other industries? |

**Investigate recycling options**: Investigate recycling options for the by-product. Look for companies that specialize in recycling materials and determine if they can process the by-product.

| | GUIDING QUESTIONS |
|---|---|
| 1 | What are the potential recycling options for the by-product, and what are the benefits and drawbacks of each option? |
| 2 | Are there any companies that specialize in recycling the type of material that the by-product is made of? |
| 3 | What is the process for recycling the by-product, and what are the technical requirements for this process? |
| 4 | What are the potential end uses for the recycled material, and what are the markets for these products? |
| 5 | What is the economic value of the recycled material, and how does it compare to the cost of disposal or other disposal options? |
| 6 | What is the environmental impact of recycling the by-product, and how does this compare to other disposal options? |
| 7 | What is the availability of recycling facilities that can process the by-product, and are there any transportation or logistics challenges associated with recycling it? |
| 8 | Are there any regulations or guidelines that govern the recycling or disposal of the by-product, and how do they impact the feasibility of recycling it? |
| 9 | What are the potential challenges associated with recycling the by-product, such as compatibility with other materials or processing constraints? |
| 10 | What is the potential for innovation or improvement in the recycling process for the by-product, and are there any emerging technologies or approaches that could be explored? |

### 9.1.1   Guiding questions for assessing the WHO

To conduct the key interests analysis, the following guiding questions can be used:

| | GUIDING QUESTIONS |
|---|---|
| 1 | Who are the stakeholders involved in the issue or project? |
| 2 | What are their primary interests and concerns related to the issue or project? |
| 3 | How do these interests and concerns differ between stakeholders? |
| 4 | What are the potential areas of conflict or agreement between stakeholders? |

| 5 | Are there any stakeholders whose interests are not currently being represented in the discussion? |
|---|---|
| 6 | What are the potential consequences for each stakeholder group based on the different outcomes of the issue or project? |
| 7 | How can the interests of different stakeholders be balanced and addressed in a way that is fair and equitable? |
| 8 | How, if at all, do stakeholders engage with each other and exchange knowledge currently? |
| 9 | Are there areas that will require any new actors or collaboration between actors that do not usually collaborate? |
| 10 | What is the collaboration landscape like in the region? Is there a long tradition/experience/notable examples of collaborating across organisational boundaries? |

### 9.1.2   Guiding question for the how

**Integrated workshop suggestion**

Aim of workshop: Gain understanding of the value-chains and specific by-products relevant to each pilot region, the context and governance surrounding it, relevant stakeholders, and visions for the future of the value-chain/region.

In the planned workshops (one per pilot region) we would like to gather 8-12 relevant participants for 1-2 days to discuss the current context surrounding the value-chain and region, as well as ideas of what a desirable future could look like.

The workshop would be divided into parts where different workshop exercises will be aimed at gaining a deeper, and shared, understanding among the workshop participants and work package representatives.

### 9.1.3   Part 1. State of the art: Defining the value-chain and its potential

Input from NIBIOs questionnaire, here the interviews with the stakeholders will provide the first description which will be refined with further exchanges.

### 9.1.4   Part 2. Governance: Understanding the current context of the value-chain

Knowledge development and dissemination

The process through which necessary knowledge is created, advanced and disseminated across relevant actor groups

•       What is the current knowledge situation around the by-product?

•       What are current knowledge-gaps in relation to the by-product?

•       What initiatives currently exists in the region that aim to create and disseminate knowledge across relevant actor groups in the region?

**Direction of search**

Establishment of a shared vision and broad strategies to define the role of innovation in systems and society

• What arenas or forums for dialogue and collaboration currently exist in the region?

• Are there shared perspectives among actors in the region over how the value-chain and by-product can and should be developed/scaled?

• How can solutions be scaled and optimized over time to ensure success?

**Legitimacy creation**

Creation of broad societal acceptance and ensuring compliance with the existing institutions

• Are there existing policies and/or regulations currently in place that can work as incentives or restrictions for the by-products market demand?

• Are there any potential risks associated with repurposing the by-product, such as health and safety concerns or negative impacts on the environment or other industries?

• Is there currently acceptance for the use of the by-product from environmental, economic and social perspectives in the region? Any barriers?

**Resource mobilization**

Attracting the necessary financial, physical and human resources to enable systems change

• What is the quantity of the by-product generated during the manufacturing process, and how does this vary over time?

• Are there any shortages in particular skill sets required for the case study's operations?

• Are there sufficient financial resources for the use and up-scaling of the by-product?

**Market formation**

Creation of price-setting and market developing mechanisms, including public procurement, guaranties, subsidies

• What are the potential market for, and buyers of, the by-product, and what are their requirements, specifications, and levels of demand?

• What is the potential for growth or expansion of the market demand for the by-product, and what are the factors that could influence this?

• What current policies (e.g. related to public procurement, guaranties, subsidies) are in place that are drivers or barriers for the market development?

**Entrepreneurial experimentation**

Attempting to find new commercial applications through entrepreneurship practices

• Can partnerships with other organizations or suppliers be explored to develop the value chain around the by-product?

• Can the by-product be used in other industries, and are there any potential markets for it?

• What are the potential risks or challenges associated with entering the market for the by-product, such as regulatory barriers or changing market conditions?

### 9.1.5 Part 3. Stakeholders: What are the relevant actors for the value-chain in the region?

**Input from key interest analysis**

1. Who are the stakeholders involved in the issue or project?

2. What are their primary interests and concerns related to the issue or project?

3. How do these interests and concerns differ between stakeholders?

4. What are the potential areas of conflict or agreement between stakeholders?

5. Are there any stakeholders whose interests are not currently being represented in the discussion?

6. What are the potential consequences for each stakeholder group based on the different outcomes of the issue or project?

7. How can the interests of different stakeholders be balanced and addressed in a way that is fair and equitable?

### 9.1.6 Part 4. Visioning: What does a desirable future for the region/value-chain look like?

• What long-term goals and visions can the stakeholders in the pilot regions find and collaborate around?

o E.g. how does the region work with the blue economy by 2040?

o What does the value-chain and use of the by-product look like in 2040?

o What has changed over time to allow for the desirable future to emerge?

D3.1 v2

### 9.1.7 Here are reported guiding questions for step 2

**Present**

1.      (Changes to the super-system) – will implementing the [project/measure/value chain/solution] require or imply

a.      Changes to policy to accommodate the [project/measure/value chain/solution] and/or its uses?

b.      Likely impacts on to other, linked systems?

c.      Likely changes to behaviour of the residents?

d.      Impacts on markets for goods or services?

2.      (Changes to sub-system)

a.      To what extent are the [project/measure/value chain/solution] customised to regional needs, versus standardised and comparable to existing, known deployments?

b.      To what extent will deployment of these [project/measure/value chain/solution] require the development of new capabilities within the pilot region going forward?


**Future**

3.      What does XXX demand for [by-product/solution/competence] look like in [2035]?

a.      What (if any) grand shifts in the blue economy has happened?

b.      What (if any) grand shifts in the regional value chain has happened?

c.      Why did it turn out this way?

4.      How widespread is the [project/measure/value chain/solution] in 2035?

a.      How 'big' is 'upscaled'?

5.      What are the other [project/measure/value chain/solution] that will contribute to XXX revitalization in 2035?

a.      Is the [project/measure/value chain/solution]  complementary or competing with the alternatives?

6.      What are the key conditions that allowed the [project/measure/value chain/solution]  to scale up, in terms of enabling technology, and infrastructure?

a.      Any particular drivers?

b.      Any particular barriers?

D3.1 v2

7.      What are the key conditions that allowed the [project/measure/value chain/solution]  to scale up, in terms of policy, society and the economy?

a.      At local level?

b.      At regional level

c.      At national level?

d.      At European level?


## Workshops questions

The overall aim of the workshops is to get stakeholders to take long-term perspectives on their region's development in relation to the value-chains/solutions identified in previous tasks. The workshops will centre around the following questions:

•       What trends and changes in the external environment (e.g. changes in society, technology, the economy, ecology, or politics) that might affect the pilot region/value-chain/solution going forward

•       What long term developments, and alternative futures, that could come into being, and how could the pilot regions/value-chains/solutions develop in the various futures?

•       What long-term goals and visions can the stakeholders in the pilot regions find and collaborate around?

o       E.g. how does your region work with the blue economy by 2035?

•       What steps are needed to meet challenges posed by the external environment and to reach the vision?

•       What arenas or forums for dialogue and collaboration are needed to reach the vision and to meet challenges posed by the external environment?

•       Which actors need to collaborate to a greater extent to reach the vision, and to scale up solutions in the pilot regions?


## CATWOE Analysis

To each framing, we will formulate a statement of the situation, focused on a desirable transformation that answers the interests and values behind.

This is the first step in the modelling process.

Questions to be addressed are the following:

D3.1 v2

1. Given the situation, what would be the desirable transformation in this situation? (T)

2. Why is this transformation desirable? What is the rationale behind it? (W)

3. Who are impacted positively and who negatively with the transformation? In other words, who are the beneficiaries and who the victims? (C=B+V)

4. Who enables the transformation to take place? (A)

5. Who is the responsible for the existence of the situation of interest? To who this situation answers? (O)

6. What factors can be considered as "given" by the environment? Understanding that these factors cannot be influenced by the situation. (E)

Assessing Social innovation

The following guiding questions can be used to assess social innovation:

1. What is the social problem or challenge that the innovation is addressing?

2. What is the intended impact of the innovation, and how is success being measured?

3. Who are the stakeholders involved in the innovation, and how are they being engaged in the process?

4. What is the level of collaboration and partnership among stakeholders, and how is it being facilitated?

5. How sustainable is the innovation, and what is the plan for long-term impact and success?

6. What is the level of scalability and replicability of the innovation, and how can it be scaled up or adapted to other contexts?

7. How does the innovation address issues of equity and inclusion, and what measures are in place to ensure that it benefits all members of the community?

8. What are the potential unintended consequences or risks associated with the innovation, and how are they being mitigated?

9. What is the level of community engagement and participation in the innovation, and how are community members being empowered to shape the solution?

The BlueRev methodology is adapted from the methodology developed by Mahon [11] or the Transboundary Water Assessment Programme [12], which has been given a multilevel character to accommodate the project specificities and to incorporate and address the issues of scale, complexity and interaction inherent in most of our cases. The methodology will involve different processes from knowledge development and dissemination to entrepreneurial experimentation.

To establish the governance context assessment, a set of innovation system function parameters have been chosen to reflect various governance issues relevant for the pilot regions. These parameters have been used in previous EU projects such as RUGGEDISED and Move21 and are derived from the Technological Innovation Systems (TIS) framework. Governance schemes in each pilot region will be benchmarked against these indicators (Table 2),

*Table 2: Indicators to be used in the governance assessment*

| Process | Explanation |
|---------|-------------|
| Knowledge development and dissemination | The process through which necessary knowledge is created, advanced and disseminated across relevant actor groups |
| Resource mobilization | Attracting the necessary financial, physical and human resources to enable systems change |
| Direction of search | Establishment of a shared vision and broad strategies to define the role of innovation in systems and society |
| Market formation | Creation of price-setting and market developing mechanisms, including public procurement, guaranties, subsidies |
| Legitimacy creation | Creation of broad societal acceptance and ensuring compliance with the existing institutions |
| Entrepreneurial experimentation | Attempting to find new commercial applications through entrepreneurship practices |

The methodology is also based on the following indicators:
- Governance architecture
- Process indicators
- Ecosystem sustainability indicators
- Environmental status indicators
- Stakeholder engagement indicators
- Social justice indicators
- Human well-being indicators
- Policy indicators
- Innovation capacity indicators

D3.1 v2

The governance assessment methodology includes two levels. Level 1 focuses on governance architecture and Level 2 on governance process, stakeholder engagement and social justice (Figure1).

**Level 1 assessment**

The steps for the **level 1** assessment will be implemented as much as possible within the BlueRev consortium and will consist of:

(i) Identify system to be governed: There must be a clear definition of the system to be governed. In the case of the project, these systems are the three pilot regions in the Northern, Southern and Central-Eastern Europe that cover almost all blue bio-based productive sectors including algae, fisheries and aquaculture. BlueRev has already identified the value chains at regional level.

(ii) Identify issues to be governed: Some issues such as economic barriers have been already identified for the value chains in focus in the project. Nevertheless, the project will perform a more in-depth analysis as the blue-based sector are likely to involve a variety of governance issues.

(iii) Identify arrangements for each issue: The idea here is to evaluate the extent to which an identifiable arrangement that is specific to the identified issue in each pilot regions comprises a complete policy cycle with the potential to function in three modes (Kooiman 2003): the meta-mode, which relates to the identification of principles, visions, and goals; the institutional mode, which pertains to the agreed ways of doing things reflected in plans and organizations; and the operational mode, which covers day-to-day implementation of activities. It is important here to identify institutions or organizations responsible for each stage of the policy cycle for the identified issue(s).

(iv) Identify integration of arrangements within institutions: After the identification of arrangements for each issue, it is important to examine how these arrangements are integrated with each other for operational purposes and/or share common institutions/organizations at different levels.
(v) Identify linkages: Different stakeholders must be linked more closely with multi-lateral policy processes and intergovernmental discussions. Hence, it is a necessary condition to bring different sectors in the government itself to work together. The EU Bioeconomy strategy from 2012 specifies the need for a cross-sectoral and cross-policy approach across the EU and beyond.

The outcome of this process is an index of completeness for the governance complex in place to address the suite of issues identified. The process also leads to identification of the points at which the policy processes are missing stages or where these stages are weak. This in turn leads to recommendations for establishing or strengthening governance arrangements.

D3.1 v2

**Level 2 Assessment**

The **Level 2** assessment will be done together with the stakeholders and will be implemented through a series of questions relating to principles that are considered to be important for governance processes, stakeholder engagement and social justice: accountability, adaptability, appropriateness, capability, effectiveness, efficiency, equity, inclusiveness, integration, legitimacy, representativeness, responsiveness, and transparency.

The outcome of this assessment is an indication of where these principles may be inadequately reflected in processes, and thence to a discussion of and recommendations for how to better incorporate and strengthen them.
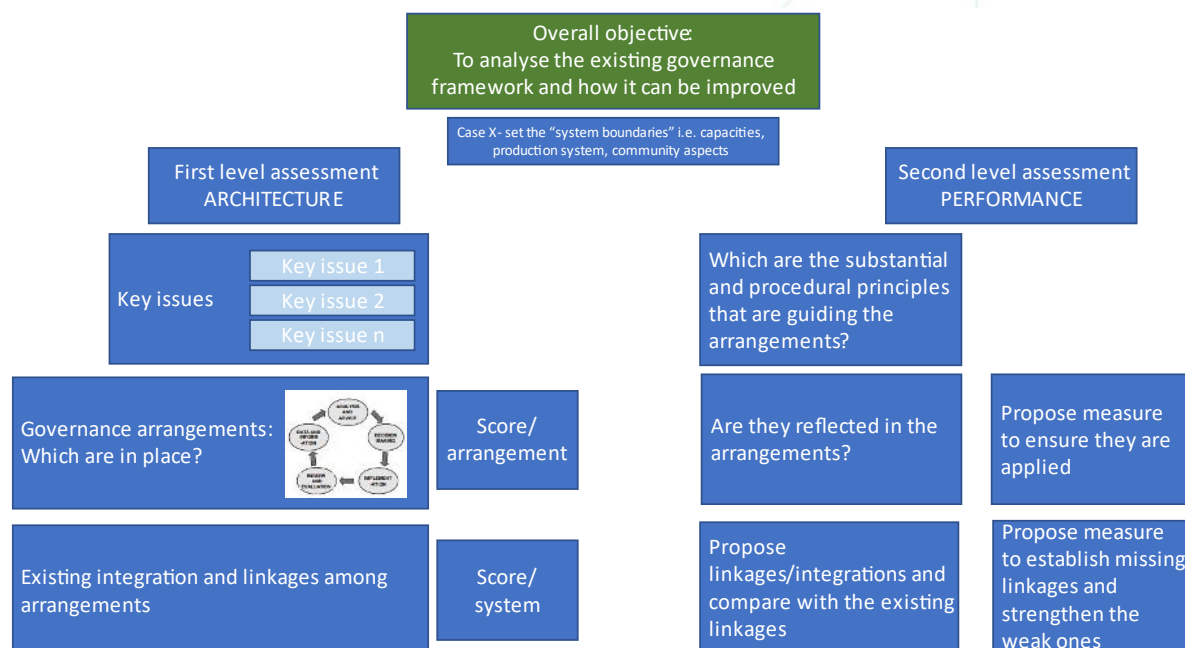


*Figure 2: Level 1 and 2 process for governance assessment*

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# BlueRev

**Bio-based** revitalisation
of local communities

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