BlueGreen Governance

WP3

Task 3.3 - Milestone 7

Monitoring and evaluation of policy experiments

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The aim of task 3.3. is to monitor and evaluate the policy experiments and their impact on institutional change.
Midterm review: approach and results
Monitoring and evaluation of policy experiments
Task 3.3: Evaluation and monitoring (OUNL).

1. Introduction

This task monitors and evaluates the BlueGreen Governance (BGG) policy experimentation and their (potential) impacts on land-sea governance. The BGG project builds on policy dialogues and iterative learning processes that can contribute to adaptive land-sea governance and institutional change. Policy dialogues are structured, facilitated processes that bring together policymakers, researchers, practitioners, and other relevant stakeholders to interpret evidence collectively, reflect on experiences, and co-develop land-sea governance directions. These dialogues serve as deliberative and sense-making spaces that enable us to understand evidence in real-world contexts, negotiate trade-offs among values and interests, and explore land-sea governance options that are legitimate and actionable within institutional settings. Ideally, these policy dialogues support collective interpretation and integration of diverse knowledge, which can shape governance problem framing and policy orientation (Jentoft & Chuenpagdee, 2022; Leong & Howlett, 2022). Scholars of planning and governance further emphasise the importance of learning as a central mechanism in adaptive systems. Likewise, different structured interventions (i.e., pilots, trials, and dialogues) vary in their potential to generate meaningful governance learning depending on their design and institutional embedding (McFadgen & Huitema, 2017). Although BGG policy dialogues are not formalised policy experiments in the strict sense used in the policy sciences, where experiments typically involve deliberate interventions with controlled conditions, predefined variables, and systematic comparison to test causal effects, the BGG policy dialogues, their design, and emphasis on iterative learning reflect broader experimental sensibilities where stakeholders engage with complexity and uncertainty to coproduce actionable insights.

In BGG, these interactive processes consist of stakeholder workshops and discussions conducted throughout the project. Workshops are organised with targeted stakeholder groups based on thematic priorities within each case study in line with the BGG case study protocol, providing sustained platforms for co-learning, reflection, and policy-oriented knowledge generation. BGG cases differ in how closely dialogues are linked to formal policy processes. Comparing these differences may help us understand governance learning and institutional change across various land–sea settings.

To systematically monitor and compare land–sea governance processes across BGG case studies, Task 3.3 developed a set of key indicators. These indicators are based on insights

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from Work Package 1 (WP1) and input from case study teams. They are used to evaluate the project's progress and impact and are improved throughout different stages of evaluation during the project. Information on these indicators has been collected for each case study at multiple points: before the start of the policy dialogues (ex-ante) and at the midpoint of the dialogues (interim), with data to be collected again at the conclusion of the dialogues (ex-post). The indicators capture the key dimensions of the role of the policy dialogues related to land-sea governance in this project and beyond, with particular attention to five governance dimensions; 1) land-sea interactions, 2) the use of scientific advice, 3) stakeholder involvement, 4) the development of strategic foresight, and 5) the application of e-governance tools, as well as the way in which the BGG workshops influence processes of institutional change.

In the BGG project, pathways towards institutional change are conceptualised as incremental and multi-step. The indicators developed under Task 3.3 enable systematic monitoring of these pathways by tracking temporal shifts in practices, stakeholder interactions, and governance capacity. Key actors engaged in land–sea governance within the BGG case study areas have contributed directly to both the data collection process and its interpretation. Furthermore, Task 3.3 includes an assessment of the co-creation governance model and the BGG Dashboard developed in WP2. This assessment examines the clarity, functionality, and user-friendliness of these tools from the end-user perspective, as well as their effectiveness in supporting policy dialogues and informing governance processes. The findings will generate practical recommendations and insights that could be used in Work Package 3 and Work Package 4.

1.1. Monitoring and Evaluation Framework for BlueGreen Governance

The overall aim of the BGG project is to stimulate change in land–sea governance in order to address sustainability challenges. To achieve this, the project focuses on five key governance dimensions:

1. Integrated land–sea management and planning
2. The use of scientific knowledge
3. Participatory practices and stakeholder involvement
4. Strategic foresight
5. E-governance tools

Institutions are understood as the formal and informal norms, rules, and decision-making arrangements that structure and coordinate governance, while practices refer to the concrete ways in which actors interpret, apply, and enact institutions in day-to-day governance processes. Institutional change is understood as changes in these norms and rules; institutional change is treated as an emerging outcome of processes that involve learning, shifts in normative views, and formal steps to revise existing norms and rules. Such changes can be incremental or more substantial; these also include how actors attempt to influence rules and practices, what helps or hinders these efforts, and what can be learned from both

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successes and failures. Institutional change may ultimately also involve shifts in how the different key governance dimensions relate to one another. The results of the monitoring and evaluation will feed directly into the final policy recommendations of the BGG project.

1.2. A Reflexive and Learning-Oriented Approach

As mentioned beforehand, institutional change can be gradual, often becoming visible only over time, as it is mediated through lengthy political, administrative, and legal processes. Change can also continue after a policy is adopted, as actors interpret and implement policies, plans, and legal frameworks in different ways. Moreover, not all attempts to change institutions eventually succeed; informal rules and routines may be particularly resistant to change. It is important to take into account that a focus on institutional change may also unravel the stability of certain institutions that are resistant to change.

To address this complexity, BGG adopts a reflexive and learning-oriented evaluation approach. This means that stakeholders are actively involved in interpreting what is happening and what it means. Their perspectives are essential both for understanding change and for supporting learning among actors. These “first-order” insights are complemented by analytical reflections from researchers as “second-order” observations.

1.3. What the Monitoring and Evaluation Focuses On

Based on these principles, the BGG monitoring and evaluation approach focuses on both processes and outcomes and includes:

- Assessing the current situation in each case study.
- Identifying what changes actors believe are needed.
- Mapping which changes are being proposed.
- Tracking institutional stability and change (what actors do to create, maintain, or change rules and practices).
- Assessing learning among actors.
- Reflecting on how workshop participants perceive the stability as well as the change process.

The approach also distinguishes between different types of institutional change (following Mahoney & Thelen, 2010), such as:

- Replacing old rules with new ones.
- Adding new rules alongside existing ones.
- Changing how existing rules work because contexts shift (i.e., political turnover, etc.).
- Reinterpreting and using existing rules in new ways.

It also considers different depths of change (following Peter Hall, 1993):

- Adjustments within existing policies.

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- Shifts to new policy instruments.
- Changes in underlying ideas and goals.

Finally, learning is monitored in two main forms:

- Cognitive learning: it concerns gaining new knowledge and new ways of understanding problems.
- Normative learning: it concerns changes in values, priorities, and views about what should be done.

1.4. Indicators and Data Collection

The indicators used to track stability and change are based on insights from WP1 (i.e., systematic literature review, interviews) and input from BGG case study teams. Because institutional change is difficult to capture with quantitative metrics alone, we use qualitative indicators, supported by simple rating scales (e.g., 1–5), to assess baselines and changes over time. For each key governance dimension, a short set of structured survey questions with indicators is combined with open questions used in interviews and workshops. This allows both comparison across cases and deeper reflection on how governance is evolving.

1.4.1. Step 1 – Identifying Barriers and Enablers

For each key governance dimension, WP1 systematically mapped the main barriers (factors that hinder effective land-sea governance in the European context) and enablers (factors that support it). As an example, barriers include fragmented responsibilities and misaligned scales in land–sea management, gaps in science–policy interaction, limited stakeholder engagement, weak foresight practices, and uneven digital capacity. Barriers and enablers were used as the starting point in establishing the monitoring and evaluation framework.

1.4.2. Step 2 – Translating Theory into Indicators

The barriers and enablers were then translated into evaluation indicators for each governance dimension. These indicators specify the key institutional features that matter for governance change, such as:

- Coordination across levels and sectors,
- Availability and use of scientific evidence,
- Inclusiveness and quality of participation,
- Anticipation of long-term challenges,
- Accessibility and usability of digital governance tools.

This ensured that the indicators are not arbitrary but directly linked to theoretically informed understandings of land-sea governance and institutional change (in Europe).

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1.4.3. Step 3 – Developing Questions from Indicators

Data collection for each of these indicators was achieved through a combination of:

- Structured survey questions (often using rating scales), and
- Open reflection questions for interviews, workshops, and case study discussions.

Three types of questions were used systematically:

1. Barrier-based questions (e.g., on fragmentation, lack of data, limited participation),
2. Enabler-based questions (e.g., on coordination mechanisms, shared knowledge, foresight structures),
3. Case-specific reflection questions, allowing stakeholders to interpret and contextualise their experiences.

This mixed format allows both comparability across cases and context-sensitive learning.

1.4.4. Step 4 – Linking indicators to institutional change and learning where possible

In addition to governance performance, indicators try to capture (wherever possible)

- Changes in rules, roles, and practices,
- Shifts in ideas, priorities, and perspectives,
- Different types and depths of change (e.g., incremental vs. transformative).

Special indicator sets (optional) were also developed to assess:

- The performance of the co-creation governance model,
- The usability and impact of the BGG Dashboard,
- And their contribution to the quality and outcomes of policy dialogues.

1.4.5. Step 5 – Applying the indicators over time

The indicators are applied at three moments:

- Ex-ante (before the start of the policy dialogues),
- Interim (midway through the dialogues),
- And ex-post (at the end of the dialogues).

2. Structure of the BGG Policy Dialogues: Three Workshops Across Seven European Case Studies

The BGG policy dialogues are implemented through a sequence of three workshops in each of the seven European case studies. Together, these workshops form an integrated strategic foresight and co-creation process that moves from a shared understanding of risks and trends in land-sea governance, through the construction of future scenarios, to the evaluation of strategic governance pathways. This design ensures that scientific evidence,

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stakeholder knowledge, and policy objectives are progressively aligned in support of transformative land–sea governance (Figure.1).

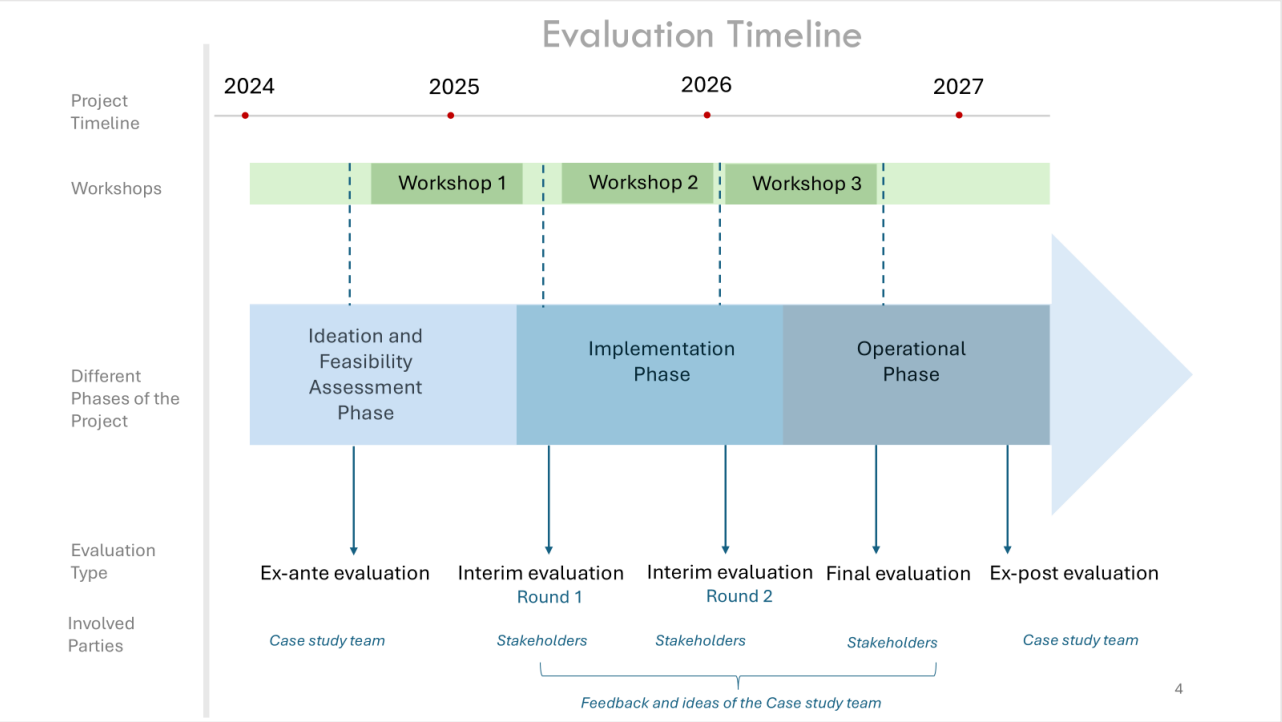

Figure 1. Alignment of the BGG evaluation framework with the overall project timeline (2024–2027), indicating the timing of the three policy-dialogue workshops, the phases of evaluation (ex-ante, interim, and ex-post), and the roles of researchers, case study leaders, and stakeholders.

The first workshop (WS1), held between January and March 2025, established a common analytical baseline for the project. During this workshop, the BGG team presented the initial ideas of the megatrend analysis and horizon scanning, including the preliminary indicators feeding into the Cumulative Impact Assessment (CIA) and the BGG Dashboard. WS1 was designed primarily as an introductory workshop, aimed at familiarising stakeholders with the BGG project and its unique analytical approaches, rather than overwhelming them with technical detail.

Within each case study, the presented inputs were discussed in order to validate how trends, pressures, and vulnerabilities were understood at the local level. The purpose was not only to communicate scientific projections, but also to explore how these projections were interpreted, contested, and contextualised by stakeholders. As a result, WS1 produced an understanding of the land–sea climate and anthropogenic challenges, which provided a shared reference point for the scenario development work. In particular, it helped define the

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required megatrend indicators, the model products to be used, and the key nature assets that are especially vulnerable or relevant in the case study areas.
Building on this shared baseline, the second workshop (WS2) (September 2025–February 2026) focuses on the co-construction of future scenarios. This workshop introduces two complementary types of scenarios: science-based scenarios derived from the CIA, and policy-driven scenarios derived from EU Green Deal objectives and existing policy frameworks. The CIA and the BGG Dashboard play a central role by quantifying and spatially mapping the cumulative effects of multiple pressures on key nature assets across the land–sea interface in each case study. The approach builds on Halpern's cumulative impact framework but extends it by allowing interactive effects between pressures and nature assets. Effect sizes are derived from geospatial data, scientific literature, and stakeholder-relevant indicators, thereby moving beyond the traditional expert judgement that is often used in CIA assessments. The CIA section of the dashboard also integrates climate change megatrend indicators, enabling the contribution of climate change to be assessed alongside other pressures. In this way, the CIA provides a robust evidence base for exploring alternative futures. The third workshop (WS3), planned for September 2026, will move the process from scenario construction to strategic evaluation and backcasting. In this phase, stakeholders and case study teams will work with scenario narratives, CIA results, and outputs from the ePLANETe section of the BGG Dashboard to assess the feasibility, desirability, and governance implications of alternative futures. If needed, the CIA can be revised to provide data-driven evidence that supports and refines the governance discussions. Depending on the maturity of each case study, WS3 will either support the development of new scenarios or the refinement of existing ones. A key instrument in this phase will be the KerBabel Deliberation Matrix which will enable a structured multi-actor and multi-criteria comparison of scenarios by combining scientific indicators with stakeholder ideas on acceptability, risks, and implementation challenges.

Across all three workshops, the BGG Dashboard functions as a shared interface between science, policy, and stakeholder perspectives. It enables climate trends, cumulative impacts, and scenarios to be visualised, explored, and discussed transparently, and supports collective learning by making trade-offs and uncertainties. Through this iterative process, the policy dialogues not only generate scenarios, but also produce insights into how institutional arrangements, policy priorities, and stakeholder relations shape the possibilities for integrated and sustainable land–sea governance.

3. Ex-ante evaluation

An ex-ante evaluation is usually designed to inform strategic choices. By comparing alternative courses of action before implementation, it supports the identification of the most appropriate conceptual and operational pathways of the proposed action (Samset & Christensen, 2017; Liu et al., 2015). In the BGG project, however, ex-ante evaluation faces a major challenge: the case studies span highly heterogeneous socio-cultural, ecological, and

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economic contexts, which makes the application of a fully standardised assessment framework neither feasible nor desirable.

To address this challenge, we adopted a pragmatic harmonisation strategy based on a rubric-guided approach. This was based on a structured survey, which was co-developed with the case study teams. This approach was designed to ensure analytical comparability across cases while remaining sensitive to contextual specificities. At the time of the ex-ante assessment, case study teams were in the early stages of stakeholder engagement, with contacts only beginning to be established for forthcoming workshops. Although the teams possessed deep contextual and institutional knowledge of their respective cases, systematic stakeholder involvement was not yet feasible in most sites. Therefore, the ex-ante evaluation was conducted primarily by case study team members, with the optional inclusion of stakeholders where pre-existing relationships allowed.

The development of the ex-ante indicators followed an iterative, evidence-based process initiated in early 2024.

1. **Excel-based baseline analysis (April–May 2024):** A comparative assessment of all case studies across five key dimensions.
2. **Integration of WP1 findings and interviews:** Key insights from Work Package 1 were used to enrich and contextualise the initial analysis.
3. **Interviews with case study teams (July 2024)**
4. **Consultation with case study teams (October–November 2024):** Feedback from case study members was used to refine the structure, terminology, and relevance of the evaluation criteria.
5. **Indicator development and pilot testing (December 2024–January 2025):** A draft rubric was tested for clarity, usability, and analytical robustness across selected cases.
6. **First-round application (January–February 2025):** The indicators were applied across all case studies to generate initial ex-ante results, which informed further refinement of both the rubric and the evaluation process.

3.1. Integrated land-sea management and planning

The six indicators related to integrated land-sea management and planning capture how actors, institutions, discourses, and coordination mechanisms co-evolve in shaping land–sea governance. (We indicate Slovenia and Italy as separate cases in the North Adriatic region, but these cases will be combined as one case in the WS2. A five-point Likert scale was used to assess the degree to which integrated land–sea management and planning is institutionalised across case studies (Fig.2). The participants in the questionnaire consisted of the case study teams representing university research groups or research institutions, each composed of specialists and researchers actively engaged in the relevant topics and affiliated with the BGG project. For clarity and consistency throughout this report, the terms respondents, stakeholders, and actors are used interchangeably to refer to the participating individuals.

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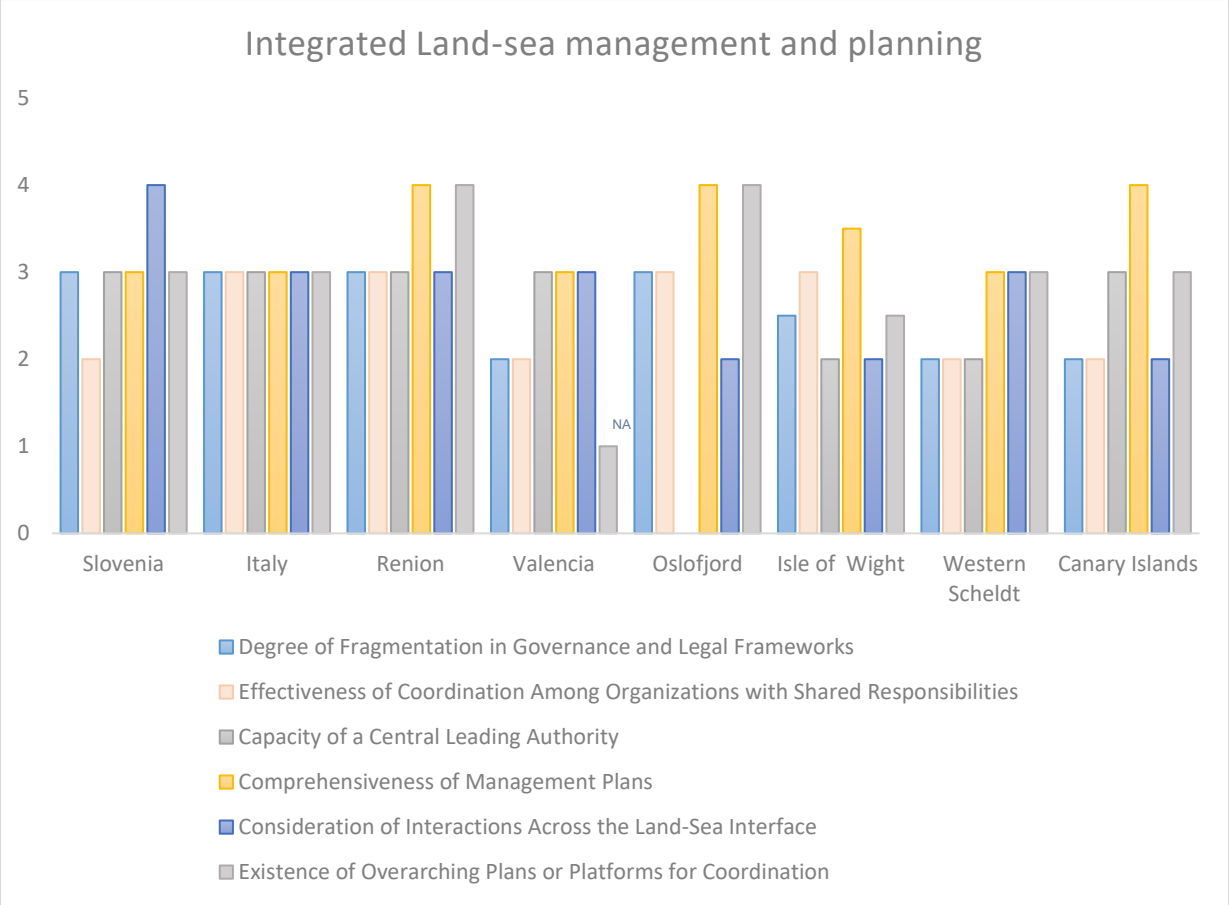

Figure 2. Six indicators related to integrated land-sea management and planning across eight case studies. NA: Not Available. A five-point Likert scale was used to assess the indicators.

Overall, respondents assessed the performance of integrated land–sea management and planning as moderate but uneven, with most scores clustering between 2 and 3. These scores may suggest that, while formal arrangements and planning instruments are largely in place, stakeholders perceive the capacity to deliver integrated governance in practice as limited. This pattern is reflected in BGG case studies, which highlight persistent challenges in linking land and sea governance across multiple contexts (Beunen & Ferraro, 2025). The degree of fragmentation in governance and legal frameworks is also consistently assessed as moderate, indicating that responsibilities for land, sea, environmental protection, and economic development remain dispersed across authorities and legal regimes. In the Oslofjord, for example, respondents noted*: "It's not at the whole level of the Oslofjord that there's like an overview of how things are going and how things are having an effect. Every agency is still doing a bit of assessments on its own"*. Similarly, research on the Scheldt Estuary shows that overlapping responsibilities across levels of government and sectors hinder the development of coherent flood risk governance strategies (Vitale et al.,

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2025), while Valencian case studies illustrate how variable institutional capacities affect wetland governance and integration (Luján Climent et al., 2025).

Respondents frequently point to a persistent gap between planning and implementation, particularly in cases such as the Oslofjord and the UK. This may indicate that responsibilities for land, sea, environmental protection, and economic development are perceived to remain dispersed across multiple authorities and legal regimes. Even in cases where respondents assessed frameworks as relatively more harmonised, such as Slovenia, Italy, and Réunion, fragmentation is still noted, largely due to overlapping sectoral mandates and complex multi-level governance arrangements. Interviewees in the Valencian case describe this fragmentation as *"there's the national government, there's the regional government, there are some in between institutions, there's the local government involved… a lot of people that need to agree on certain policies,"* noting that despite the existence of multiple plans and assessments, integration across governance levels remains difficult. Similarly, the assessed effectiveness of coordination among organisations with shared responsibilities scores 2 or 3. This may suggest that, in the view of respondents, coordination mechanisms exist but tend to function in a procedural rather than strategic or directive manner. While assessments in cases such as the Oslofjord and the Isle of Wight reach somewhat higher values, indicating relatively stable coordination practices, respondents also note that these arrangements generally lack the mandate or power to address competing land- and sea-based interests in a decisive way.

The perceived capacity of a central leading authority is rated as moderate (score 3) in most cases, reflecting the presence of formally designated lead institutions, often associated with marine spatial planning or regional development. The perceived capacity of a central leading authority is rated as moderate in most cases, reflecting the presence of designated lead institutions associated with marine spatial planning or regional development. However, these roles are considered as facilitative rather than directive, with limited power to enforce integrated actions across sectors (Goličnik Marušić & Guli, 2025; Vitale et al., 2025).
By contrast, the comprehensiveness of management plans is the highest-scoring indicator, with several cases receiving scores of 4. Respondents recognise the widespread adoption of marine spatial plans, coastal strategies, and environmental management frameworks. Studies show that such frameworks are often developed in response to EU directives and national reforms (Goličnik Marušić & Guli, 2025; Luján Climent et al., 2025; González et al., 2025). However, respondents also state that these higher scores do not translate into equally strong performance on other indicators. Instead, respondents repeatedly refer to a planning–implementation gap, whereby comprehensive plans exist but lack effective mechanisms for integration and enforcement. As one respondent cautions, despite the presence of an overarching action plan: *"It's still not working the way it should… It's hard to say if the plan is successful or not. If you look at the ecological state, no, it's not successful."*
The assessed consideration of interactions across the land–sea interface is generally weaker, with most cases scoring between 2 and 3. With the exception of Slovenia, where respondents perceive more explicit land–sea integration, respondents in other cases

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commonly describe land and sea planning as proceeding largely in parallel. Respondents from Valencia and the Canary Islands, for example, highlight limited institutional mechanisms to address cross-boundary impacts related to urban development, tourism, and pollution. One respondent states, *"We face a contradiction in land-sea governance: on one hand, there's a preference for majoritarian, executive decision-making, inherited from the French system. On the other hand, we operate within a multi-layered system that requires consensus, like the German model. This in-between situation in Spain, for example, frustrates people who want clear and quick decisions, because complex, multilayered land-sea governance takes a long time to reach agreements."* These observations align with respondents' assessments that coordination across the land–sea divide remains partial and may be insufficiently institutionalised. As with other indicators, variation across cases should be understood as reflecting differences in stakeholder perspectives and experiences rather than strictly objective differences in governance performance.

Finally, the assessed existence of overarching plans or coordination platforms varies widely across cases, with scores ranging from 1 to 4. Where respondents identify strong cross-sectoral platforms, such as in Réunion and the Oslofjord, these are recognised as providing an important integrative function beyond formal planning instruments. However, respondents also express caution regarding their effectiveness. In the Oslofjord case, for instance, while the Oslofjord Council and Action Plan are acknowledged as overarching frameworks, stakeholders involved often tend to question their capacity to deliver tangible outcomes, particularly in terms of ecological recovery. In contrast, lower scores in cases such as Valencia reflect perceptions that coordination relies primarily on fragmented sectoral processes, which respondents view as limiting effective land–sea integration.

3.2. The Use of Scientific Knowledge

Overall, the results show moderate but uneven scores, with several cases demonstrating strong scientific capacity but weaker institutionalisation of knowledge exchange and integration into decision-making (Figure 3).

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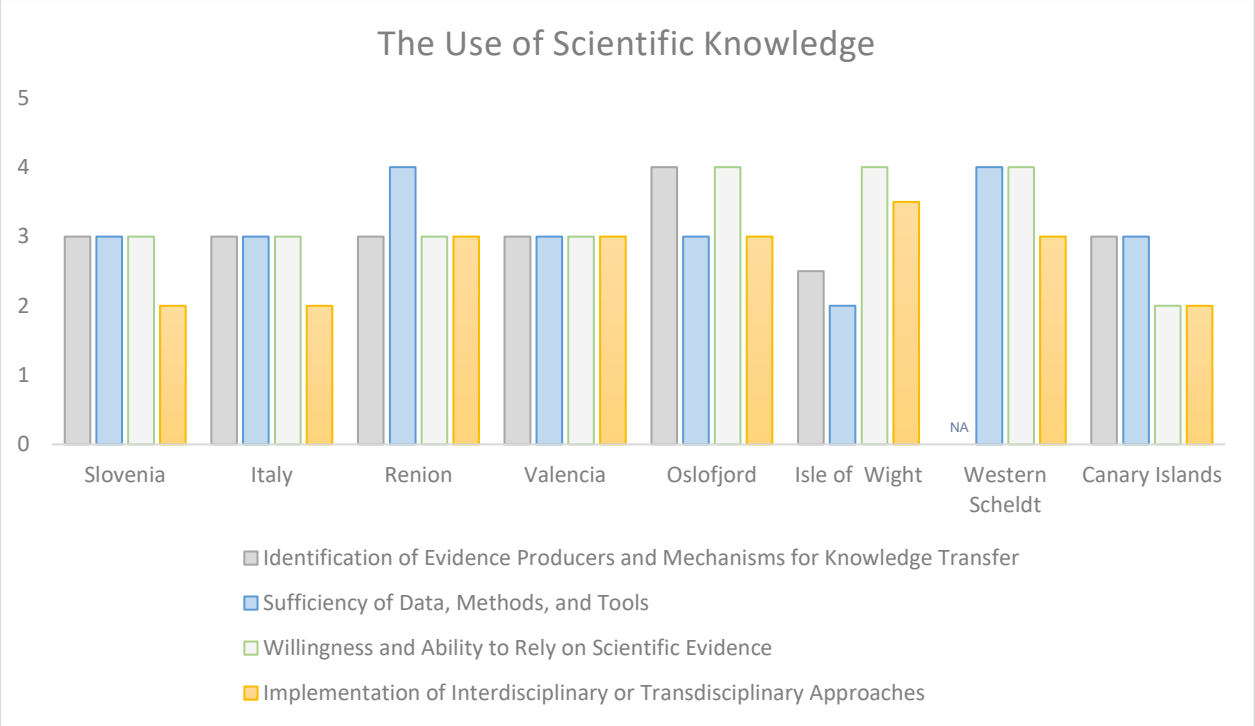

Figure 3. Four indicators related to the use of Scientific Knowledge across eight case studies. NA: Not Available. A five-point Likert scale was used to assess the indicators.

Overall, respondents assessed the capacity to use scientific knowledge as moderate to strong but unevenly institutionalised, with most scores clustering between 2 and 4. These results may suggest that while scientific expertise and monitoring infrastructures are largely present, the integration of knowledge into decision-making and adaptive governance remains partial. Respondents rated the identification of scientific evidence producers and knowledge-transfer mechanisms mostly around 3. Oslofjord stands out with a higher score of 4, reflecting well-established science–policy interfaces and structured knowledge-transfer mechanisms. In Oslofjord, respondents describe a dense landscape of scientific assessments, monitoring under the Water Framework Directive, and ministry-commissioned reports. One respondent explained: *"There was a report by the Environment Agency… involving all the relevant research institutes… that was like the baseline status report about the Oslofjord,"* supporting the relatively high score for identification of evidence producers for scientific knowledge.

Scheldt Estuary respondents rated a 4 for robust monitoring, modelling, and scenario-planning capacities, and the willingness to rely on scientific evidence. In both the Dutch and Flemish sides of the Scheldt Estuary, long-term governance of flood risk and estuary management has been shaped by extensive long-term monitoring and scientific assessment; this has also fed into joint -cross-border system analyses and long-term planning frameworks. These expert-driven- analyses, carried out through the process of designing the Long-Term Vision (Slinger, 2023) as well as the institutional arrangements such as the Flemish-Dutch Scheldt Commission, highlight a willingness to incorporate scientific evidence, modelled scenarios, and systematic knowledge into decision-making processes regarding flood safety and ecological objectives (Vitale et al., 2025).

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Réunion respondents provided a 4 for data sufficiency and the use of scientific evidence in governance. In Réunion Island, two decades of science-policy initiatives have produced a substantial body of scientific research and environmental monitoring, which are explicitly used to diagnose ecological challenges and inform governance debates. Lossen et al., analyse a comprehensive dataset of 281 scientific research articles (2000–2024), multiple participatory projects, and expert insights to identify governance challenges and opportunities, highlighting the central role of scientific knowledge generation, environmental data collection, and analytical tools in supporting coastal and land–sea governance processes in the Réunion Island (Lossen- et al., 2025). By contrast, the Isle of Wight scores 2, reflecting limited capacity to integrate scientific data into management processes, a respondent from this case explains as *"There is local knowledge on certain issues…but there is no clear research on what's actually there and where it is and the species presence and what condition it is. And that knowledge is still missing,"* while the Canary Islands also score 2, with respondents noting political and economic constraints that inhibit the effective use of knowledge. Across cases, interdisciplinary and transdisciplinary approaches vary between 2 and 3.5, with the Isle of Wight at 3.5 for active collaboration among scientists, policymakers, and stakeholders, whereas Slovenia, Italy, and the Canary Islands score lower (2), reflecting more traditional, expert-driven governance approaches.

The use of scientific knowledge across cases demonstrates a clear pattern; availability does not automatically translate into integrated or adaptive land-sea governance. At the same time, stakeholders emphasised that scientific knowledge is predominantly used to document the implementation of measures rather than evaluate their outcomes, aligning with moderate scores (3) for knowledge integration: as one respondent noted, "*They've only been reporting on the measures (Monitoring focuses on what has been implemented). They haven't been reporting on the(actual) effects."*

In the case of the Scheldt Estuary, respondents emphasised the strength of the advanced modelling, monitoring, and scenario tools, which is consistent with their high assessments (4) for scientific capacity and data sufficiency. In the Scheldt, expertise in flood risk management and climate change scenarios is central. An arrangement to cooperate cross-border on the long-term monitoring and research of the Scheldt ecosystem is carried out by MONEOS (Monitoring Network of the Scheldt Estuary) and is overseen by the Flemish-Dutch Scheldt Commission (VNSC) (Vitale et al., 2025). Despite this strong scientific infrastructure, the interaction between stakeholders and scientific knowledge remains constrained by governance fragmentation, reflected in moderate scores (2–3) for transdisciplinary integration. While data availability is extensive, stakeholders noted that tools such as the ScheldeMonitor mirror this fragmentation when assessing the usability of data for cross-border analysis. Rather than functioning as integrative decision-support systems, the datasets tend to function as an inventory for highly specialized indicators that are primarily used for scenario planning or regulatory compliance rather than guiding cross-sectoral decisions, reflecting partial translation of knowledge into actionable governance.

The Isle of Wight illustrates a contrasting dynamic. Here, stakeholders report openness to scientific advice, but limited institutional and technical capacity to integrate data into decision-making processes, as one respondent noted: *"There is a group of stakeholders who are kind of pushing that they need a longer-term plan… but it is that main group in power*

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that have the funding and kind of have the say on what projects go ahead that delay kind of having a long-term strategy," supporting its lower assessment (2). Governance relies heavily on expert reports without a cohesive, integrated coastal data infrastructure, and coordination between scientific producers and policymakers is largely ad hoc. Similarly, in the Canary Islands, knowledge use is constrained by political and economic pressures. As one respondent noted, *"the main obstacle… is the competencies between the different administrations but also the various low and tedious administrative processes,"* which limits the practical application of available scientific evidence. Stakeholders described situations where data exists but is applied selectively, often depending on ease of implementation or administrative capacity, reinforcing low reliance on scientific guidance in governance processes (2).

Across the cases, this unevenness is further reflected in interdisciplinary and transdisciplinary collaboration. The Isle of Wight, with a score of 3.5, shows active coordination between scientists, policymakers, and stakeholders in some local initiatives, whereas Slovenia, Italy, and the Canary Islands exhibit more traditional approaches (score 2), where decision-making remains dominated by expert authorities with limited stakeholder co-production of knowledge. Réunion, in contrast, demonstrates relatively stronger institutional capacity (score 4) for engaging with scientific knowledge, underpinned by over two decades of science–policy initiatives and stakeholder engagement. However, this sustained effort has not fully translated into adaptive governance, as scientific knowledge remains predominantly used for diagnosing environmental problems rather than informing actionable solutions or decision-making processes (Losen et al., 2025).

Taken together, these patterns reveal persistent gaps between knowledge production and its integration into governance action, even in cases with strong data availability. While scores for the identification of evidence producers and data sufficiency are often moderate to high, assessments of knowledge application, integration, and transdisciplinary collaboration remain lower, reflecting challenges in institutionalising science–policy interfaces. In the Scheldt Estuary, transdisciplinary collaboration between the water management and nature conservation sectors remains, in principle, structurally fragmented, both within each of the countries (Belgium and the Netherlands) and across the border. Although both domains rely on a shared scientific knowledge base and engage in parallel monitoring and modelling efforts, their institutional mandates, policy objectives, and regulatory frameworks are largely organised along sectoral lines. Coordination mechanisms exist, particularly in the context of long-term system analyses and cross-border cooperation, but integration tends to occur at the level of information exchange rather than through genuinely joint problem framing or co-designed interventions.

The Isle of Wight and Canary Islands further illustrate that political and structural constraints can impede knowledge mobilisation even when expertise exists, emphasising that local governance contexts strongly shape the effectiveness of scientific inputs (González et al., 2025; Nijamdeen et al., 2025; Beunen & Ferraro, 2025).

Overall, respondents' assessments across case studies underscore that scientific knowledge is broadly available and valued, but institutional mechanisms to translate it into adaptive, integrative governance remain inconsistent. High scores for data sufficiency and identification of evidence producers do not necessarily correspond to effective knowledge integration or policy impact. Differences across cases reflect a combination of governance

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capacity, institutional arrangements, political context, and stakeholder engagement, highlighting the need for stronger transdisciplinary approaches and formalised science–policy pathways to enhance land–sea governance outcomes.

3.3. The Development of Strategic Foresight

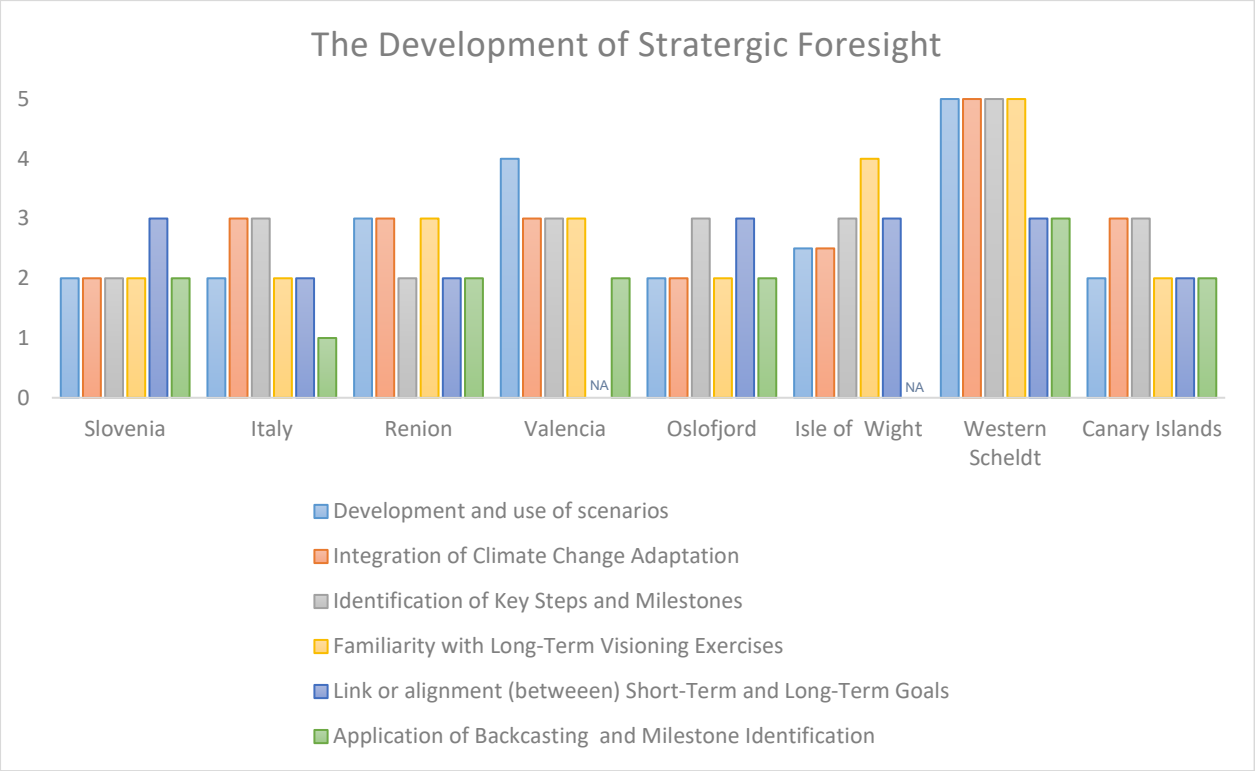

Figure 4. Four indicators related to the development of Strategic Foresight across eight case studies. NA: Not Available. A five-point Likert scale was used to assess the indicators.

Respondents consistently rated futures-oriented governance as generally weak, with most scores clustering between 2 and 3 (Figure 4). This suggests that forward-looking approaches, including scenario planning, long-term visioning, and structured pathway development, are present in principle but are not yet routinely embedded in governance practice. Scenario exercises are particularly limited in most cases, reflecting an underdeveloped capacity to anticipate and shape long-term transitions.

Case-specific patterns highlight persistent variation in the institutionalisation of foresight. Slovenia, Italy, Oslofjord, and the Canary Islands were consistently assessed at 2, indicating sporadic or absent scenario work. For example, in Oslofjord, stakeholders noted: *"…at times they (responsible authorities) can say something on it's not going fast enough (the focus remains on reporting the current status of the Oslofjord)… but it's mainly to have a new*

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status report about what is the Oslofjord now,(rather than exploring future developments or pathways for change)" reflecting the dominance of reactive, status-focused governance rather than structured futures thinking. These low scores align with the fragmented governance and reactive planning documented in Oslofjord (Trubbach et al., 2025). Similarly, Slovenia and Italy show limited integration of foresight into maritime spatial planning (Goličnik Marušić & Gulič, 2025), while political and multilevel complexity constrain adaptation planning in the Canary Islands (González et al., 2025).

In relation to the indicator on the development of strategic foresight across the eight case studies, the Scheldt Estuary stands out with consistently high scores (4–5) across most foresight-related dimensions. These ratings reflect a mature approach to scenario-based planning, long-term visioning, and the identification of concrete milestones and adaptive pathways. Respondents emphasised the existence of structured adaptation strategies and well-established foresight instruments, highlighting that scenario analyses are not merely exploratory but actively embedded in strategic and policy decision-making processes. The findings are consistent with recent studies on case study evidence on the Scheldt estuary (Vitale et al., 2025).

Valencian respondents scored relatively high (4) for scenario use but lower (2–3) for linking short- and long-term objectives, highlighting a disconnect between strategic foresight exercises and everyday decision-making. As the one respondent from the Valencia case study notes, *"data are indeed being used for a cumulative impact assessment… and hydraulic models for flood risk prevention,"* yet studies show that these tools remain tied to specific foresight initiatives rather than embedded in routine governance practices (Luján Climent et al., 2025). Studies further show that, although visions and scenario exercises exist, their translation into concrete short-term actions remains limited, reflecting the experimental nature of participatory visioning and structured foresight(Grassi et al., 2025; Luján Climent et al., 2025).

Réunion and the Isle of Wight received intermediate scores (3), indicative of experimental or project-based scenario use. Stakeholders in the Isle of Wight reported that long-term goals are not consistently aligned with short-term policy cycles, limiting the operational impact of foresight. In Réunion, structured foresight exists sporadically, often tied to pilot projects rather than embedded governance processes (Losen et al., 2025).

Climate adaptation integration follows a similar pattern, with the Scheldt Estuary receiving the highest rating (5), indicating institutionalised climate-robust planning. Governance arrangements have progressively moved beyond a narrow focus on conventional flood defense. Although hard infrastructure (such as dykes) remains the dominant and often preferred strategy in the Scheldt estuary, additional approaches have been introduced to reconcile flood safety with ecological objectives. Measures such as transitional polders and dike setbacks exemplify this shift, as they are explicitly designed to combine flood risk management with nature restoration. Together, these interventions reflect a more systemic integration of climate resilience into long-term planning and decision-making processes

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(Vitale et al., 2025). Implementation of these integrated measures, however, still face setbakcs in practice.

Stakeholders also assessed the identification of key steps and milestones identified in strategic foresight, which was generally weak across cases (scores 2–3), highlighting limited clarity in defining coherent transition pathways. Scheldt Estuary respondents again provided a score of 5, demonstrating relatively strong specification of long-term objectives. Structured backcasting and milestone identification were the weakest elements overall.
Taken together, respondents' assessments suggest that futures-oriented land-sea governance remains underdeveloped in most cases, with scenario planning, long-term visioning, and climate adaptation rarely integrated into coherent transition pathways. Respondents from the Scheldt Estuary consistently assigned higher scores than those from other cases, while respondents from other cases mostly described land-sea governance as remaining largely focused on short-term and sectoral decision-making. These differences appear to reflect variations in institutional capacity and stakeholder perceptions of land-sea governance practice in different case study contexts, rather than absolute measures of "performance" alone.

3.4. Participatory Practices and Stakeholder Involvement

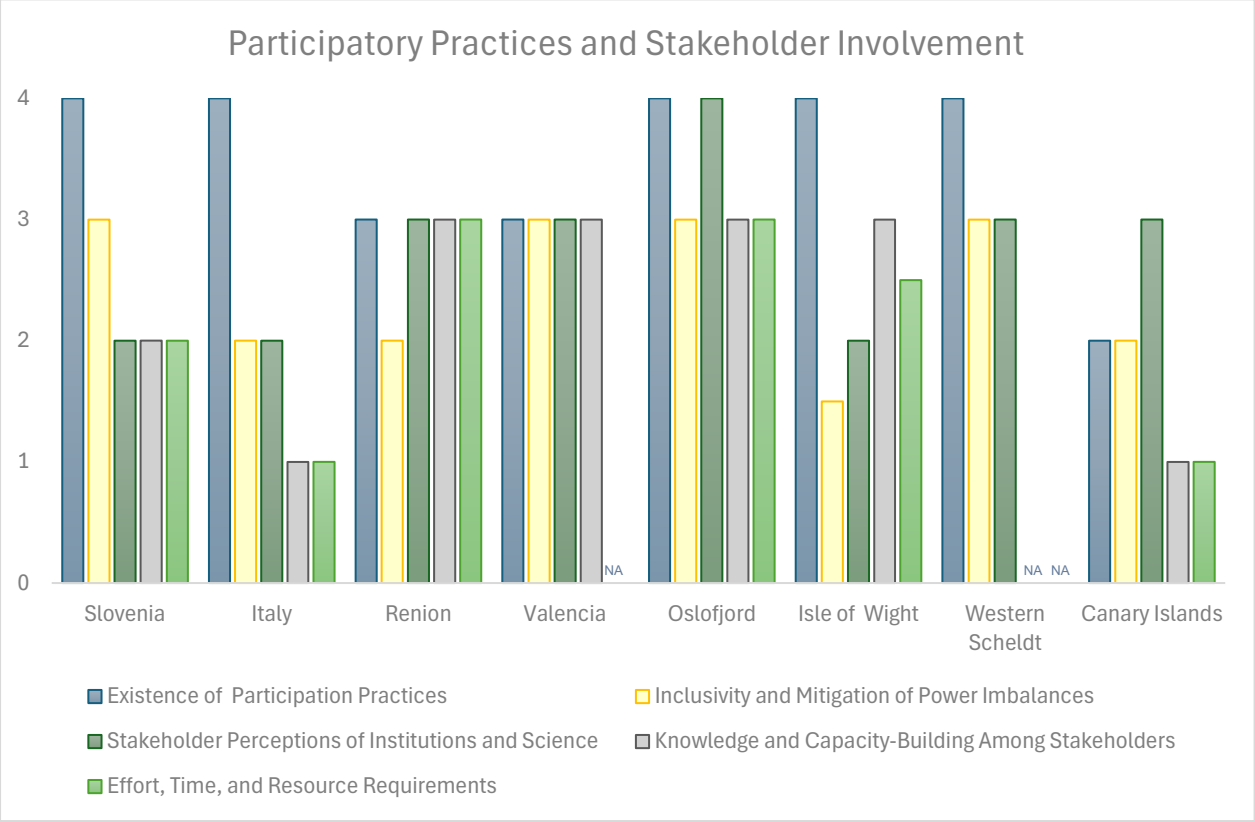

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Figure 5. Five indicators related to participatory practices and stakeholder involvement across eight case studies. NA: Not Available. A five-point Likert scale was used to assess the indicators.

Respondents consistently assessed participatory governance as widely present but weakly institutionalised across cases (Figure 5). While formal mechanisms such as consultations, stakeholder forums, and advisory bodies are generally in place, respondents indicated that the integration of these arrangements into the substantive influence on decision-making is not always fulfilled. This is reflected in relatively high scores for the existence of participatory processes, contrasted with lower scores for inclusivity, capacity-building, resourcing, and the integration of stakeholder input into policy outcomes.

Case-specific patterns reveal clear variation in the formalisation and perceived effectiveness of participation across sites. Respondents from Slovenia, Italy, Oslofjord, the Isle of Wight, and the Scheldt provided relatively high scores (4) for the existence of participatory mechanisms, reflecting the presence of established consultation procedures, stakeholder forums, and advisory platforms. However, the quality and outcomes of these processes appear more uneven. In Oslofjord, respondents described regular engagement with affected groups, noting that *"stakeholder meetings with fishermen are organised to maintain dialogue… but it is often a difficult topic,"* highlighting the challenges associated with reconciling competing interests and translating dialogue into consensus or action. This suggests that, even where participatory structures are well established, their effectiveness is shaped by underlying conflicts, economic trade-offs, and the complexity of stakeholder interests, which can limit their ability to produce meaningful governance outcomes. Réunion and Valencia were assessed at an intermediate level (3), suggesting that participation is present but often project-based or unevenly institutionalised. In Valencia, case-study evidence points to the experimental use of participatory processes, particularly in strategic foresight, land–sea governance, and climate adaptation, where stakeholder engagement is actively pursued but remains insufficiently embedded in routine decision-making and policy implementation (Luján Climent et al., 2025; Grassi et al., 2025). Similarly, in Réunion, participatory practices are linked to specific conservation and environmental management initiatives, yet respondents noted that these processes tend to rely on ad hoc arrangements and pilot projects rather than stable, long-term institutional structures (Losen et al., 2025).

By contrast, the Canary Islands received the lowest score (2), reflecting more limited and uneven participatory practice related to land-sea governance. Studies on the Canary Islands further indicate that stakeholder participation in land-sea governance practices is often constrained by political, economic, and multi-level governance pressures, with stakeholder engagement occurring selectively and exerting limited influence on final decisions (González et al., 2025). Respondents further emphasised that, while consultative processes may formally exist in all cases, their practical impact on governance outcomes remains weak, reinforcing perceptions of participation as largely procedural rather than transformative.

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Despite the formal presence of participatory arrangements, respondents consistently highlighted persistent challenges related to inclusivity and power asymmetries. Most cases scored between 2 and 3 on inclusivity, indicating that dominant actors often retain disproportionate influence over governance outcomes. The Isle of Wight received the lowest score (1.5), while Italy and Réunion scored 2, reflecting particularly constrained stakeholder influence. In the Isle of Wight, a respondent explicitly linked weak inclusivity to power dynamics and decision-making authority, noting that *"there are a lot of stakeholders who want an action plan, but the people with the power don't want to do it… there is a kind of stop point that stops any long-term actions from happening,"* illustrating how formal consultation does not translate into meaningful influence over decisions. Similarly, in Oslofjord, respondents pointed to economic trade-offs as a structural constraint on equitable participation, observing that *"whenever you want to have a no-take zone, somebody is going to lose their job,"* highlighting how material stakes and livelihood concerns continue to shape whose voices carry weight, even where participatory structures formally exist.

Integration of stakeholder perspectives into policy-making was assessed as uneven across cases. Valencian respondents scored relatively high (4), suggesting comparatively stronger uptake of stakeholder input, whereas most other cases scored between 2 and 3. In the Scheldt Estuary, structured participatory platforms such as the Schelderaad provide regular opportunities for stakeholders to be consulted and to contribute to shared knowledge and dialogue. However, these processes remain largely advisory under the Flemish–Dutch Scheldt Commission, with final decisions taken by institutional authorities. As a result, respondents described stakeholder input as well-engaged but not consistently influential in formal decision outcomes, reflecting the moderate integration score. At the national level, both Belgium and the Netherlands maintain their own participatory approaches to flood safety. In each country, flood management is a highly institutionalized sector, dominated by central governments and water boards, which play a leading role in decision-making and the coordination of stakeholder engagement. Similar dynamics were reported in Oslofjord, where respondents continuously observed that *"there's consultation, but sometimes it feels like we are just ticking a box,"* pointing to limited translation of participation into policy outcomes. The broader analysis of the Oslofjord Plan highlights this pattern: although new governance arenas and instruments have been introduced to *"complement, coordinate, and reinforce"* existing arrangements, institutional barriers embedded in established structures have constrained the effectiveness of stakeholders' contributions in shaping policy outcomes, underscoring how formal mechanisms alone may not be sufficient to integrate diverse perspectives into land-sea governance decisions (Trubbach et al., 2025).

Capacity-building and resourcing emerged as particularly weak dimensions of participatory governance. Italy and the Canary Islands received the lowest scores (1), indicating minimal investment in developing stakeholder knowledge and engagement capacity. Réunion, Valencia, Oslofjord, and the Isle of Wight scored moderately (3), reflecting some support but limited institutionalisation. In Oslofjord, respondents linked capacity-building primarily to awareness-raising, noting that increased media attention helped people understand why

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certain measures, such as higher sewage costs, might be acceptable. In contrast, Isle of Wight respondents emphasised the absence of sustained learning opportunities, stating that "we get invited to workshops, but there's no follow-up or training," underscoring weak institutional support for long-term capacity development.

Taken together, respondents' assessments suggest that participatory governance is formally widespread but substantively fragile. While consultation mechanisms are present across most cases, limited inclusivity, persistent power asymmetries, weak capacity-building, and inconsistent resourcing constrain participation's potential to function as a transformative governance mechanism. Differences across cases reflect both institutional conditions, such as the complexity of multi-level governance in Scheldt Estuary and locally experienced constraints, including economic trade-offs in Oslofjord and the Canary Islands (Trubbach et al., 2025; González et al., 2025; Vitale et al., 2025), rather than participation being uniformly effective or ineffective across contexts.

3.5. The use of e-governance tools

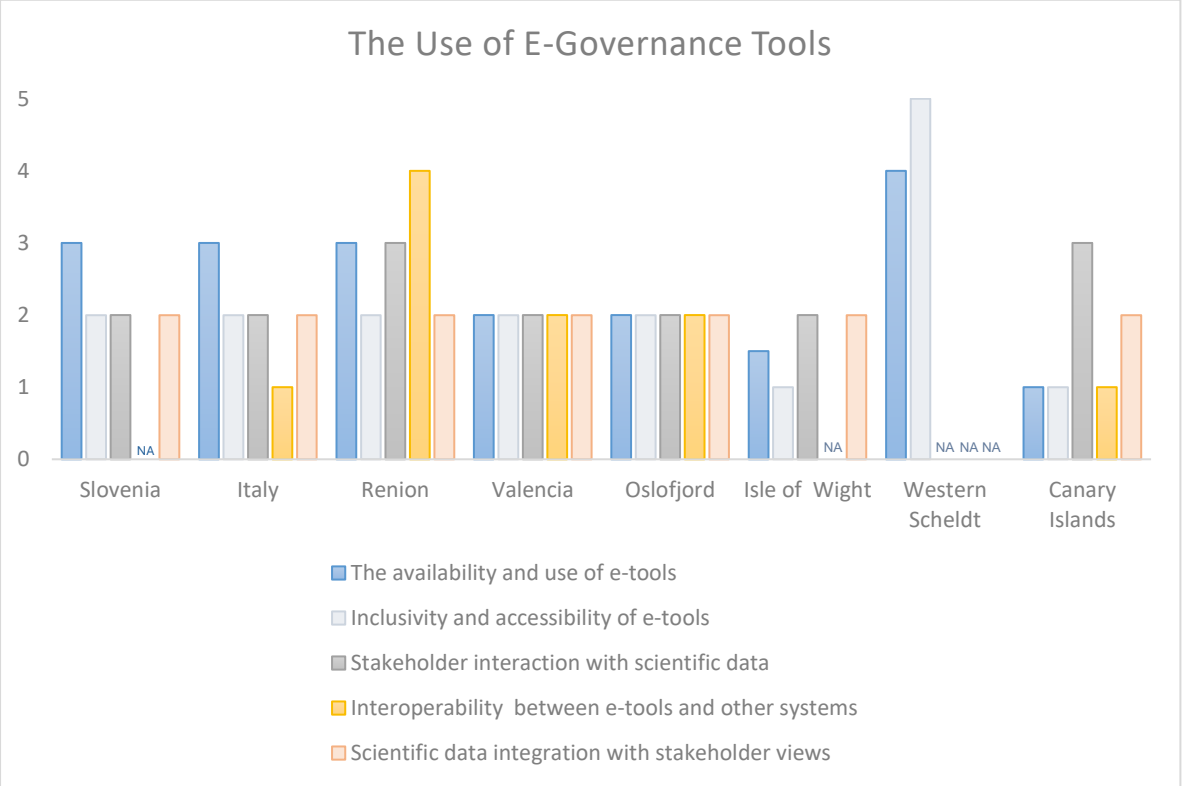

Figure 6. Five indicators related to the use of e-governance tools across eight case studies. NA: Not Available. A five-point Likert scale was used to assess the indicators.

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Overall, respondents perceived e-governance infrastructures as weakly developed and fragmented, with most scores clustering between 1 and 2 (Figure 6). This suggests that, while digital platforms, portals, and decision-support tools may formally exist, they are generally underutilised and exert limited influence on participatory, knowledge-integrated, or adaptive governance processes. Similar patterns have been identified in land–sea governance contexts where digital tools remain largely instrumental or project-bound rather than embedded in routine decision-making (Grassi et al., 2025; Luján Climent et al., 2025). Slovenia, Italy, and Réunion responses were at an intermediate level (3), indicating the presence of digital tools with partial or experimental use. Scheldt respondents provided the highest score (4), reflecting a comparatively more advanced deployment of decision-support systems. By contrast, the Isle of Wight (1.5) and the Canary Islands (1) were perceived as having very limited digital infrastructures, while Valencia and Oslofjord scored 2, suggesting basic platforms that are not systematically integrated into governance processes. Assessments of inclusivity and accessibility of digital tools reveal further limitations. Most cases scored around 2, indicating that even where tools available, they are not easily accessible or well understood by non-expert or marginalised participants. Scheldt respondents provided a score of 5 for inclusivity, reflecting strong perceived usability and access for stakeholders across multiple sectors. In contrast, the Isle of Wight and the Canary Islands received lower scores, highlighting that existing digital tools largely exclude ordinary stakeholders. These patterns support findings from the Canary Islands, where digital governance initiatives are constrained by political and economic pressures and offer limited opportunities for meaningful stakeholder engagement (González et al., 2025).

Respondents also evaluated the interaction between digital tools and scientific datasets. Réunion and the Canary Islands received mid-range scores (3), reflecting some engagement with scientific data through GIS platforms and online dashboards, while most other cases scored 2, indicating limited opportunities for stakeholders to explore, interpret, or challenge scientific information. In Réunion, contextual studies show that GIS-supported planning tools and institutional dashboards facilitate monitoring of land–sea interactions and environmental change, although stakeholder access and interpretive capacity remain uneven (Losen et al., 2025; Kotta et al., 2025).

Interoperability across planning, governance, and participatory systems was identified as a key weakness. Réunion received a relatively high score (4), reflecting perceived integration of digital platforms with planning tools and institutional databases. In the Réunion land–sea governance context, digital tools are widely deployed for environmental monitoring and research, but their integration into formal governance processes remains insufficient, constrained by administrative fragmentation and limited coordination between data systems and policy frameworks (Losen et al., 2025). Other cases, including Slovenia, Italy, and Oslofjord, scored lower, suggesting fragmented or incompatible digital systems that constrain information flows between planning, science, and stakeholder engagement. Across all cases, the integration of scientific data with stakeholder knowledge and perspectives scored low, mostly around 2. This may indicate that e-governance tools rarely support

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knowledge co-production or joint interpretation of evidence, an issue also highlighted in Valencia and other Mediterranean contexts (Grassi et al., 2025; Luján Climent et al., 2025).

Ex-ante to Interim Evaluation

Building on the ex-ante evaluation, which was primarily informed by case study experts and existing scientific literature, the interim evaluation shifts the focus towards stakeholder-based, experience-driven insights. While the ex-ante phase provided a structured baseline across the five key governance dimensions, it largely reflected expert assessments of institutional conditions rather than lived governance practices. The interim evaluation addresses this gap by capturing stakeholder perceptions before and after Workshop 2 through structured surveys, thereby grounding the analysis in real-world experiences. The pre-workshop survey establishes a baseline of how governance is perceived by actors directly involved in land–sea processes, while the post-workshop survey evaluates how participation in the BGG policy dialogues influences understanding, engagement, and perceived capacity for action. This stepwise approach enables a transition from theoretical and expert-informed assessments to practice-based insights, allowing the evaluation to capture both existing land-sea governance conditions and the immediate effects of participatory processes. In doing so, it strengthens the overall monitoring framework by integrating experiential knowledge, supporting reflexive learning, and providing a more robust basis for understanding pathways towards institutional change.

4. Interim Evaluation

The interim evaluation was divided into two components

1. The pre-workshop 2 surveys
2. The post-workshop 2 surveys

It is important to note that the findings presented here summarise the key insights from the pre- and post-WS2 surveys. A more detailed and in-depth analysis is currently underway and will be further developed and integrated into the forthcoming WP3 and WP4 deliverables.

4.1. Pre-Workshop 2 Surveys

The pre-workshop questionnaire was designed to assess stakeholder perceptions of coastal governance across the case study areas before Workshop 2. The survey was developed based on the indicators and insights generated during the ex-ante evaluation. The initial version of the pre-WS2 questionnaire was prepared in early September 2025 and subsequently shared with the case study teams for feedback and pilot testing. Based on

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their input, the questionnaire was revised and finalized, and translated into relevant case study languages where necessary. The survey was administered using the Lime Survey platform of the Open Universiteit, the Netherlands.
The questionnaire was structured to combine Likert-scale questions with optional open-ended responses, enabling both standardized comparison across cases and the collection of qualitative insights. It included an initial section capturing respondent characteristics, such as professional role, experience in coastal governance, geographic focus, and level of engagement (e.g., local, regional, national, or international). The core of the questionnaire focused on five governance dimensions: (i) integrated land–sea management and planning, (ii) the use of scientific knowledge, (iii) strategic foresight, (iv) participatory practices and stakeholder involvement, and (v) the use of e-governance tools. Each dimension was assessed through multiple questions addressing specific aspects, including policy integration and coordination, the use and uptake of scientific evidence, scenario development and long-term planning, inclusiveness and effectiveness of participation, and the availability and use of digital tools. Responses were recorded using ordinal scales (e.g., from “none” or “highly fragmented” to “strong” or “fully integrated”), with additional space provided for respondents to elaborate on their answers.

4.2. Pre Workshop Srurvey 2 Results

4.2.1. Stakeholder Participation and Sector Representation

Across the six case studies (Canary Islands, Valencia, Scheldt, Oslofjord, Réunion, and the Isle of Wight), the pre-workshop survey yielded 42 responses. The respondent pool was dominated by research/academic actors (n=17) and government/policy actors (n=10), with smaller but still relevant representation from NGOs/environmental organizations (n=4), the private sector (n=4), consultancy (n=1), and local/community actors (n=1). A small number of responses (n=5) were classified as other or unclear due to hybrid or non-standard role descriptions.

4.2.2. Results by governance dimension

a. Integrated land–sea management and planning

Across the responses, perceptions of land–sea integration vary but generally fall within the range of:

- “mostly fragmented” to “moderately fragmented.”
- Fewer responses indicate stronger integration.

Coordination among organizations is most often rated as:

- Weak to moderate.

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Stakeholders commonly perceive:

- Incomplete alignment between land and sea policies.
- Coordination challenges across institutions.

However, variation exists between cases, with some responses indicating partial progress toward integration rather than complete fragmentation.

b. Use of scientific knowledge

Responses show a spread across weak to moderate levels of scientific knowledge use, with fewer responses indicating strong institutionalized use.

Key patterns include:

- Scientific knowledge is present but not consistently applied.
- The willingness of policymakers to use scientific knowledge varies across cases.
- Organizations supporting scientific knowledge integration are often rated as moderate rather than strong.

Therefore, we can assume that:

- Scientific knowledge systems do exist, but their integration into decision-making is uneven.

c. Strategic foresight

This dimension shows the most consistent pattern across responses:

- Scenario use is generally weak or moderate across cases.
- Familiarity with long-term visioning is limited.
- Linking short-term actions to long-term goals is often rated as minimal.
- Foresight practices exist in some cases, but are not systematically applied or embedded

This suggests that long-term planning capacity is still developing across most case studies.

d. Participation and Stakeholder Involvement

Responses indicate that generally:

- Participation is present (minimal to moderate levels) but not always influential.
- Inclusivity in terms of (different actors and sectors) is often unclear or only partially achieved.
- Stakeholders are involved in governance processes. But their influence on decision-making is limited.

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- Capacity building is rated from minimal to moderate.

Participation appears to vary between procedural engagement and more meaningful involvement depending on the case.

e. E-governance

Responses show strong variation across cases:

- Some respondents report regular use of digital tools, while others report limited or no availability
- There seems to be an uneven development of digital governance tools and limited evidence that these tools consistently support integrated governance.
- Integration of scientific and stakeholder knowledge through digital tools is mostly rated moderate or inconsistent.

The pre-workshop survey reveals several key patterns in stakeholder perceptions of coastal governance across the case studies. First, there is significant variation between cases, reflecting differences in local governance contexts, institutional capacities, and stakeholder experiences. Despite this variation, most governance dimensions are generally assessed at moderate levels, with relatively few responses indicating either very weak or very strong performance, suggesting that governance systems are neither fully ineffective nor fully integrated. Across all dimensions, strategic foresight emerges as the weakest area, with stakeholders consistently reporting limited development and weak integration of long-term, forward-looking approaches.

4.3. Post-Workshop 2 Survey

The post-workshop questionnaire was designed to evaluate stakeholder experiences following Workshop 2 and to assess the perceived usefulness of the tools, scenarios, and processes introduced during the workshop 2. The survey combined Likert-scale questions with open-ended responses and was structured into several sections. It included an initial part capturing respondent characteristics, followed by an evaluation section focusing on (i) the accessibility and understanding of scientific information presented during the workshop, and (ii) the use and usefulness of e-governance tools, including the BGG dashboard. Respondents were also asked about their prior experience with digital tools and their preferences for different types of outputs (e.g., maps, graphs, tables).
A dedicated section assessed the scenarios developed during the workshop, including their clarity, usefulness in identifying challenges, ability to support decision-making, and their realism for planning purposes. It also evaluated the collaborative process, including stakeholder engagement, the extent to which participants felt their input was considered, and whether the workshop improved their preparedness to act on policy goals. The questionnaire

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concluded with open-ended questions on missing elements, support needs, and suggestions for future workshops, as well as willingness to participate in subsequent activities.
Link to the Questionnaire:

4.3.1. Post-Workshop 2 survey results

The number of participants in the post-Workshop 2 survey varied significantly across the case studies. In total, **104 responses** were collected. The highest number of responses was recorded in the Valencia case study (49 responses) and the Canary Islands (47 responses), indicating strong stakeholder engagement in these workshops. The North Adriatic case study included a smaller sample of 6 responses, while the Scheldt and Réunion case studies each had 1 completed response.
The post-WS2 questionnaire assessed participant experiences of the workshop itself, with particular attention to the accessibility of scientific information, the perceived usefulness of digital tools and the BGG dashboard, the clarity and usefulness of the scenarios, and the support needed for future workshops.

The responses reveal notable variation in sectoral representation across cases. Réunion and Western Scheldt are each represented by a single respondent, from government/policy and research/academic sectors respectively, limiting the breadth of perspectives in these cases. The North Adriatic case includes a more diverse, though still relatively small, group of respondents from government/policy, consultancy, and NGO/environmental sectors, alongside one incomplete response without a clearly defined role. In contrast, the Canary Islands and Valencia case studies, which have substantially higher response rates, reflect a broader and more diverse stakeholder composition. These include participants from research and academia, government and policy, the private sector, NGOs and environmental organisations, as well as hybrid or non-traditional roles such as students, environmental educators, and technical staff.

This variation in sectoral representation helps explain differences in how respondents engaged with the workshop and evaluated its components. Participants with technical or policy-oriented backgrounds generally reported higher familiarity with the tools and greater confidence in the usefulness of scenarios for planning and decision-making. In contrast, respondents from less technical or more outreach-oriented backgrounds more frequently emphasised the need for clearer guidance, stronger facilitation, and more accessible forms of presentation.

A general pattern across the post WS2 responses is that respondents were usually positive about the clarity of scientific information and even more positive about the scenario exercise. Even though most consistent answers across cases concern whether the scenarios were understandable, whether differences between scenarios were clear, whether the process was engaging, and whether participants felt their input was considered. By contrast, the digital-tool component is more mixed: respondents often saw the dashboard and other tools as useful in principle, but familiarity, ease of use, and desired outputs varied much more strongly across cases and across stakeholder types.

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4.3.2. Use of scientific information

Across the cases, participants generally found the scientific information presented in Workshop 2 understandable. In the Canary Islands, most responses shown are clustered around “Easy” and “Very Easy,” with only a small number indicating difficulty or neutrality. In Valencia / Spain, the visible responses also lean toward “Easy,” with some “Neither difficult nor easy.” In Scheldt, the single response rated scientific information as “Easy,” while Réunion rated it “Very Easy.” North Adriatic is more mixed, ranging from “Very Easy” and “Easy” to “Neither difficult nor easy.” Taken together, this suggests that the workshop generally succeeded in communicating scientific content, but that its accessibility was not uniform for all participants.

This is important because the workshop asked participants not only to receive information but also to use it in scenario discussions. Where respondents judged the information as easy to understand, they also tended to evaluate the scenario process more positively. Where respondents gave more neutral answers on scientific accessibility, they also tended to express a need for simpler guidance, more time, or clearer facilitation. This pattern is particularly visible in some responses from the Canary Islands and the North Adriatic.

4.3.3. E-governance tools and the BGG dashboard

Perceptions of digital tools are clearly more uneven than perceptions of the workshop scenarios. Across the case-studies, many respondents viewed digital decision-support tools as useful for engagement and co-creation, but they differed more strongly in how familiar they felt with those tools and how easy they considered them to use for different stakeholders. In Canary Islands, many respondents rated the dashboard and related tools positively, often at “Quite a bit” or “Very much so,” but ease of access was more variable, including lower ratings from some users. In Valencia, the visible responses suggest a broader spread from low familiarity to very strong familiarity, and from low accessibility to moderate or high accessibility. In Réunion, the single respondent had little prior use of digital decision-making tools, yet still judged them highly useful. In Scheldt, the single response combined low familiarity with a strong belief in usefulness. In the North Adriatic, responses are again mixed, and one respondent explicitly noted that the dashboard itself was not actually fully used in the workshop, which affected how that person answered the e-tool questions.

The qualitative answers make this mixed picture clearer. Participants asked for outputs such as maps, downloadable vector graphics, GIS layers, tables, and text summaries, depending on their professional needs. They also suggested additional data layers, such as human activities, sea-level information, environmental impacts, protected areas, habitat types, species distributions, policy indicators, and economic information. These requests show that stakeholders do not see digital tools merely as visualization devices; they expect them to function as practical interfaces for analysis, communication, and planning. At the same time, repeated calls for guidance, training, handbooks, and simpler interaction indicate that usefulness alone is not enough: users also need support and appropriate tailoring.

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4.3.4. Scenarios and collaborative process

The post-workshop evaluation shows that the scenario component was the most consistently well-received aspect across the case studies. Participants generally found the scenarios clear, distinguishable, and useful for structuring discussions, with many reporting that the process helped them better understand vulnerabilities, identify policy gaps, and reflect on potential responses. This positive pattern is particularly evident in the Canary Islands and Valencia, where responses indicate strong engagement, while North Adriatic shows a more mixed but still generally positive assessment. In cases with very limited responses, such as Réunion and Western Scheldt, the available feedback also points to a positive perception of clarity and usefulness, although the small sample size limits the strength of interpretation.

At the same time, a consistent distinction emerges between the perceived clarity of the scenarios and their practical applicability. While participants widely agreed that the scenarios were understandable and useful for discussion, they were less certain about their ability to support concrete decision-making or immediate action. This gap is visible across several cases, including Réunion, North Adriatic, and parts of Valencia. Overall, this suggests that Workshop 2 was effective in fostering shared understanding and facilitating dialogue, but less effective in translating these insights into actionable outcomes, highlighting a need for stronger linkage between scenario development and implementation-oriented guidance in subsequent stages.

4.3.5. Support needs and suggestions for future workshops

Across the cases, respondents consistently highlighted the need for more time, clearer guidance, and more practical support to fully engage with the workshop process. While the specific suggestions vary across case studies, they point to common challenges in translating the workshop format into effective participation. In the Canary Islands, participants emphasised the need for simpler processes, clearer explanations, and stronger facilitation. In Réunion, the respondent highlighted the need for additional training on scenario development, more time for interaction with the BGG team, and a clearer connection between scenarios and actionable outcomes. In Valencia, suggestions focused on involving a broader range of administrative actors and using more operational, practice-oriented tools. In Scheldt, the respondent called for supporting materials such as a handbook and greater inclusion of citizen perspectives, while in the North Adriatic, participants emphasised the need for more time to complete tasks, clearer use of the dashboard with local data, and better guidance on linking challenges, stakeholders, and sectors.

A second recurring theme concerns the composition of stakeholders involved in the workshops. Respondents across cases emphasised the importance of broader and more balanced participation, including stronger representation from policymakers, public administration, citizens, and key economic sectors such as tourism, fisheries, and transport. This indicates that participants not only evaluate the workshop format itself but also reflect critically on who was included and who was missing. As such, WS 2 was experienced not only as an analytical exercise but also as a governance space, where the legitimacy, relevance, and potential impact of the process are closely linked to the diversity and balance

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of stakeholder participation. Across the cases, willingness to participate in the next workshop is generally high and positive.

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