



ProBleu

**Promoting ocean and water literacy
in school communities**

Call HORIZON-MISS-2022-OCEAN-01

Deliverable D2.4

Handbook for co-creating Blue School activities for impact

Lead Beneficiary: KTU

**Author/s: Eglė Butkevičienė, Aistė Balžekienė, Luigi Ceccaroni, Bianca Cruz,
Aisha Nankanja, Ineta Simonaite**

31/03/2026



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.



UK participants in Horizon Europe Project ProBleu [101113001] are supported by UKRI grant numbers: 10082336 Earthwatch Europe, 10081234 Plymouth Marine Laboratory and 10082355 Ocean Conservation Trust.

Grant agreement No. 101113001

Project acronym: ProBleu

Project full title: Promoting ocean and water literacy in school communities

Start of the project: June 2023

Duration: 36 months

Project coordinator: CSIC

Deliverable title: Handbook for co-creating Blue School activities for impact

Deliverable n°: D2.4

Nature of the deliverable: Report

Dissemination level: Public

WP responsible: WP2

Lead beneficiary: Earthwatch

Citation: Butkevičienė, E., Balžekienė, A., Ceccaroni, L., Cruz, B., Nankanja, A. & Simonaitė, I. (2026). *Handbook for co-creating Blue School activities for impact*. Deliverable D2.4 EU Horizon Europe

ProBleu Project, Grant agreement No. 101113001

Due date of deliverable: Month n°34

Actual submission date: Month n°34

Deliverable status:

Version	Status	Date	Author(s)
1.0	Version for reviews	24 March 2026	KTU
1.0	Reviewed version	27 March 2026	OCT, CSIC
2.0	Final version	31 March 2026	KTU

Table of contents

Table of contents	4
List of Figures	5
List of Tables	5
Preface	6
Summary	7
List of Abbreviations	8
1. Relevance of ProBleu School projects to Mission Objectives and SDG's	9
1.1 Relevance to the EU Mission Ocean Objectives	9
1.2 Relevance to Sustainable Development Goals	13
2. Methodology for the Co-creation of Institutional Roadmaps	16
2.1 The Relevance of Institutional Roadmaps for achieving EU Mission and SGDs	16
2.2 The Structure of Institutional Roadmaps Towards Impact	17
3. Results of Co-creation Sessions with ProBleu Schools	23
3.1 Institutional Roadmaps Co-creation Methodology Based on Design Thinking Principles	23
3.2 Results of Co-creation Sessions with ProBleu Schools	26
4. Examples of Institutional Roadmaps	34
5. Examples of Project Impact Towards the Mission and the SDGs	56
5.1 Mission Objective 1: Protect and Restore Marine and Freshwater Ecosystems and Biodiversity	56
5.2. Mission Objective 2: Prevent and Eliminate Pollution of our Ocean, Seas and Waters	57
5.3. Mission Objective 3: Make the Sustainable Blue Economy Carbon-neutral and Circular	58
5.4. SDG 6.3: Improve Water Quality by Reducing Pollution	59
5.5. SDG 6.3.2: The Guardians of the Streams	61
5.6. SDG 14.5: Conserve coastal and marine areas	62
Acknowledgements	63
References	63

List of Figures

Figure 1 Number of schools contributing to Mission Objective 1	10
Figure 2 Number of schools contributing to Mission Objective 2	11
Figure 3 Number of schools contributing to Mission Objective 3	12
Figure 4 Number of schools contributing to SDG 14	14
Figure 5 Number of schools contributing to SDG 6	15
Figure 6 Relevance of Blue Schools' targets in the Institutional Roadmaps	16
Figure 7 "Steps Towards Impact" methodology for Institutional Roadmaps	18
Figure 8 Principles of Design Thinking	24
Figure 9 Location of participants of 1 st ProBleu Co-creation session, October 2025	27
Figure 10 Example of discussion on challenges, vision and success criteria, 1 st ProBleu Co-creation session, October 2025	28
Figure 11 Example of discussion on obstacles and needed resources, 1 st ProBleu Co-creation session, October 2025	30
Figure 12 Sharing the examples of practical activities, 1 st ProBleu Co-creation session, October 2025	32
Figure 13 Students at the marine food events	59
Figure 14 Students of École élémentaire, France	61

List of Tables

Table 1 The key steps in applying Design Thinking to Institutional Roadmaps	24
Table 2 The key areas in defining success criteria for Institutional Roadmaps (results from 1 st ProBleu co-creation session)	29
Table 3 Resources needed for the implementation of long – term strategies in schools (results from 1st ProBleu co-creation session)	31

Preface

This Deliverable is based on the activities implemented in the Task 2.4. Task 2.4 builds on the results from ProBleu funded project activities and aggregates these results in a handbook (D2.4), detailing the methodology used to co-create Institutional Roadmaps and guidelines for future Blue Schools on how they can contribute to the achievement of the Mission objectives or other related goals. This handbook contains methodology and examples of Institutional Roadmaps for potential future projects to address the Mission objectives and SDGs.

This deliverable is public. As concerns the Horizon Europe Work Programme types of deliverables, it is classified as: Report.

Summary

The ProBleu project has successfully implemented a structured and participatory process to support schools funded under WP2 in co-designing sustainable and preferable pathways towards impact. These pathways are aligned with the objectives of the EU Mission “*Restore our Ocean and Waters*” and contribute to broader European and global policy frameworks, including the Sustainable Development Goals (SDGs).

The approach adopted by ProBleu placed strong emphasis on stakeholder engagement, co-creation, and institutional capacity-building within school communities. Schools were supported in moving beyond project-based activities towards more strategic, long-term planning by embedding impact-oriented thinking into their institutional practices.

A central component of this work was the application of a Design Thinking methodology, which provided a flexible yet structured framework for collaborative problem-solving and innovation. This methodology enabled the active involvement of a wide range of stakeholders, including teachers, students, school leadership, and, where relevant, external partners. By fostering inclusive participation, the process ensured that diverse perspectives were integrated into the development of Institutional Roadmaps, thereby enhancing their relevance, ownership, and feasibility.

To operationalise this approach, ProBleu organised a series of co-creation workshops across participating schools. These workshops were designed as a two-stage process. The first stage consisted of introductory sessions aimed at building awareness and capacity among participants, focusing on the development of Institutional Roadmaps and the identification of pathways towards impact. The second stage provided targeted support to schools in the co-development of their own Institutional Roadmaps, tailored to their specific contexts, priorities, and capacities.

The Institutional Roadmaps developed through this process outline strategic actions and measures through which schools can maximise the impact of their Blue School projects. In particular, they support schools in aligning their activities with key policy objectives related to the protection and restoration of marine and freshwater ecosystems, the prevention and reduction of pollution, and the promotion of environmental sustainability and civic engagement. Furthermore, the roadmaps contribute to strengthening schools’ role as active agents in the transition towards more sustainable and resilient communities.

The results of these activities have been systematically aggregated and consolidated into a comprehensive handbook (Deliverable D2.3). The handbook is intended to support the wider replication and scalability of the approach across the European Blue Schools network and beyond. It provides detailed documentation of the co-creation methodology, including practical guidance on stakeholder engagement, facilitation of Design Thinking processes, and the development of Institutional Roadmaps.

In addition, the handbook offers a set of actionable guidelines and recommendations for schools seeking to enhance the impact of their Blue School projects and to contribute effectively to the achievement of EU Mission objectives and related policy goals. It also includes illustrative examples of potential project impacts, drawing on the evaluation activities carried out under WP5. These

examples demonstrate how school-based initiatives can generate tangible environmental, educational, and societal benefits, and provide inspiration for future actions.

List of Abbreviations

WP – Work Package

EU – European Union

SDGs – Sustainable Development Goals

1. Relevance of ProBleu School projects to Mission Objectives and SDG's

This section examines the relevance of ProBleu-funded school projects in relation to the EU Mission “Restore our Ocean and Waters by 2030” and the Sustainable Development Goals, with a focus on SDG 14 (Life Below Water) and SDG 6 (Clean Water and Sanitation). It provides an overview of how school-based activities align with these frameworks, highlighting their contribution to key priorities such as ecosystem protection, pollution reduction, and sustainable water management. The analysis is supported by quantitative data on the number of schools contributing to each objective and goal, offering a structured view of the extent and distribution of engagement across the ProBleu network

1.1 Relevance to the EU Mission Ocean Objectives

The European Union's Mission 'Restore our Ocean and Waters by 2030' (henceforth referred to as the Mission) represents an ambitious and transformative commitment to protect, restore, and sustainably manage our marine and freshwater ecosystems (European Commission, 2021a). The Mission is structured around three interconnected objectives that guide action toward ocean and water restoration:

1. Protect and restore marine and freshwater ecosystems and biodiversity

This objective focuses on reversing the degradation of aquatic ecosystems and halting biodiversity loss (European Commission, 2020). It encompasses:

- Restoring degraded habitats, including wetlands, seagrass meadows, coral reefs, mangroves, and river systems
- Protecting and enhancing marine and freshwater biodiversity through habitat creation and species protection
- Establishing and effectively managing marine protected areas and coastal conservation zones
- Reconnecting rivers and removing barriers to allow natural ecosystem processes and species migration

A total of 86 ProBleu-funded schools (77.7%) contribute to Mission Objective 1, as shown in Figure 1. This represents the highest level of participation across the Mission objectives, confirming ecosystem protection and restoration as a central focus of school activities.

Mission Objective 1: Protect and Restore Ecosystems and Biodiversity

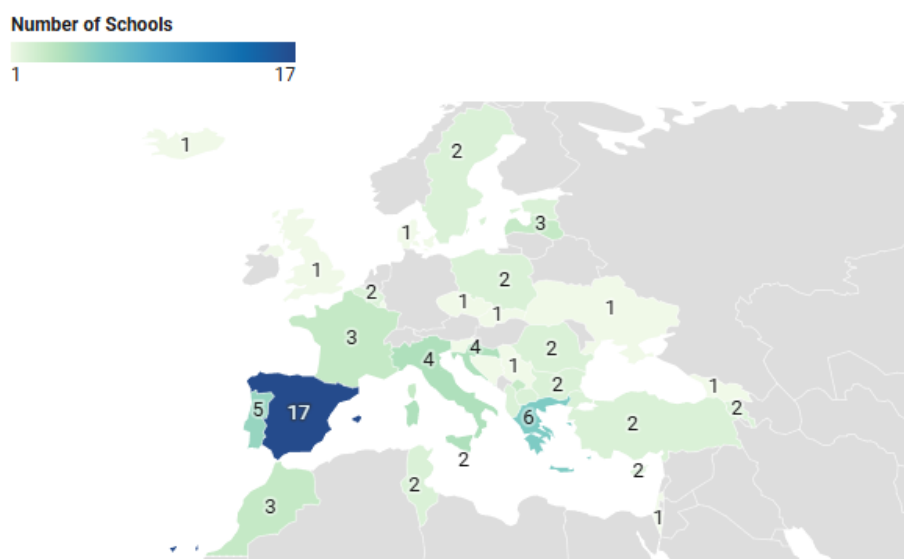


Figure 1 Number of schools contributing to Mission Objective 1

2. Prevent and eliminate pollution of our oceans, seas and waters

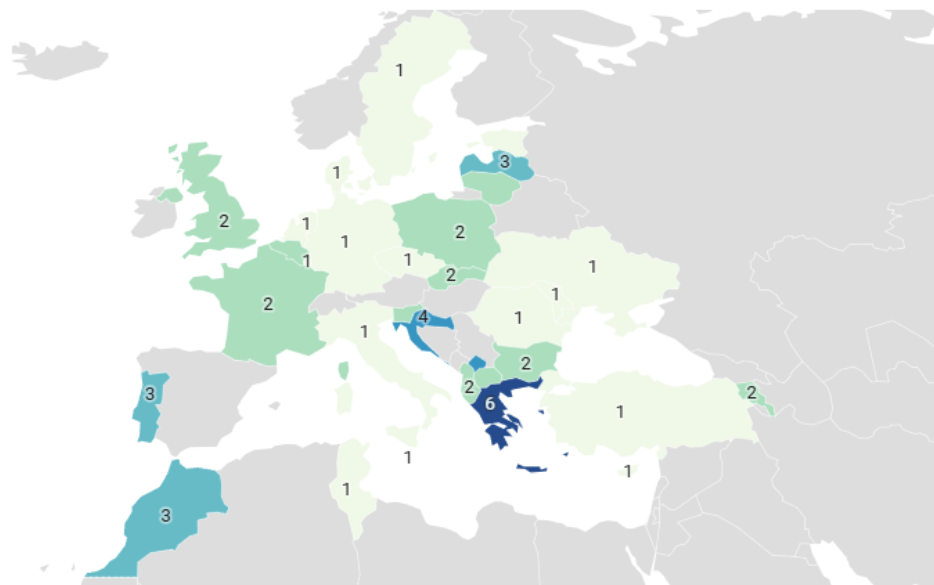
This objective targets all forms of pollution affecting aquatic environments (European Commission, 2021b):

- Eliminating plastic pollution, marine debris, and microplastics from water systems
- Reducing nutrient runoff and eutrophication from agricultural and urban sources
- Preventing chemical contaminants, pharmaceuticals, and hazardous substances from entering waterways
- Implementing circular economy principles to prevent waste at source
- Addressing noise and light pollution affecting marine life

Contribution to pollution prevention and reduction (Figure 2) is observed in **72 schools (65.2%)**. While slightly lower than Mission Objective 1, this still reflects strong engagement in addressing pollution through school-based actions.

Number of Schools

1 6



3. Make the sustainable blue economy carbon-neutral and circular

- Transitioning to sustainable fishing practices and responsible aquaculture
- Promoting ocean-based renewable energy (offshore wind, wave, tidal power)
- Developing blue carbon solutions through coastal ecosystem restoration (Macreadie et al., 2019)
- Supporting sustainable maritime transport and green ports
- Fostering circular economy approaches in marine industries and coastal tourism

Page 11 of 65

Mission Objective 3: Make the sustainable blue economy carbon-neutral and circular

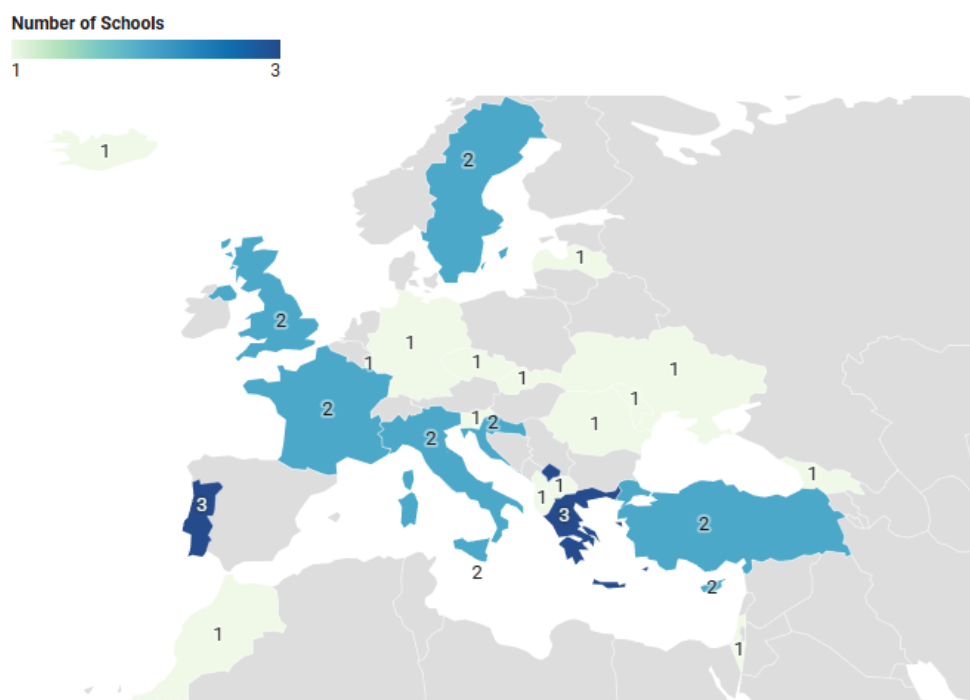


Figure 3 Number of schools contributing to Mission Objective 3

Blue Schools serve as crucial catalysts for achieving all three Mission objectives through education, engagement, and action (Santoro et al., 2017; Fauville et al., 2019):

- Empowering the next generation with a deep understanding of ocean-climate-biodiversity connections, marine ecosystems, and sustainable practices that support all Mission objectives (Santoro et al., 2017)
- Fostering pro-environmental attitudes and actions in students, families, and communities that reduce pollution, support conservation, and promote sustainable consumption (McKinley & Fletcher, 2012)
- Engaging students in real-world monitoring of water quality, biodiversity, and ecosystem health, contributing data that informs scientific understanding and policy decisions (Bonney et al., 2016)
- Developing networks of informed advocates who influence local and regional ocean and water management, pollution prevention, and sustainable blue economy development
- Inspiring creative solutions to environmental challenges through student-led restoration projects, pollution reduction initiatives, and exploration of sustainable blue economy opportunities

Through hands-on learning experiences, community partnerships, and transdisciplinary approaches, ProBleu-funded schools transform abstract Mission objectives into tangible local actions. Students

become active participants in ecosystem restoration, pollution prevention, and sustainable blue economy development, creating a multiplier effect that extends far beyond the classroom into families, communities, and future careers.

1.2 Relevance to Sustainable Development Goals

This section examines the relevance of ProBleu-funded school projects to the Sustainable Development Goals, with a particular focus on SDG 14 (Life Below Water) and SDG 6 (Clean Water and Sanitation). It outlines how school-based activities contribute to key SDG targets, demonstrating the alignment between local educational actions and global sustainability priorities related to ocean and water systems.

SDG 14: Life Below Water

Sustainable Development Goal 14 calls for the conservation and sustainable use of the oceans, seas, and marine resources for sustainable development. This goal recognises the ocean as fundamental to life on Earth, providing food security, climate regulation, economic opportunities, and cultural significance to billions of people worldwide.

How ProBleu-funded schools contribute to SDG 14

Blue Schools directly advance SDG 14 through multiple pathways that create measurable impacts on ocean health:

- **Marine pollution reduction (14.1):** School-led initiatives to reduce single-use plastics, organise beach and river cleanups, implement proper waste management, and prevent microplastic pollution create measurable reductions in marine debris while influencing family and community behaviours (Jambeck et al., 2015)
- **Ecosystem monitoring and protection (14.2):** Student participation in coastal habitat surveys, seagrass monitoring, coral health assessments, and biodiversity documentation contributes valuable data to marine conservation efforts and builds stewardship for local ecosystems
- **Ocean acidification awareness (14.3):** Educational programs on ocean chemistry, pH monitoring, and climate-ocean interactions enhance understanding of ocean acidification and motivate climate action
- **Sustainable seafood advocacy (14.4):** Learning about sustainable fishing practices, responsible aquaculture, and seafood supply chains empowers students to make informed consumption decisions and advocate for sustainable fisheries management
- **Marine area conservation (14.5):** Projects that support local marine protected areas, monitor conservation zones, and advocate for habitat protection contribute to expanding and effectively managing protected marine areas
- **Scientific knowledge development (14.A):** Hands-on research projects, data collection partnerships with marine scientists, and participation in citizen science programs build scientific literacy and contribute to the knowledge base needed for evidence-based ocean management (Bonney et al., 2016)

Alignment with SDG 14 (Figure 4) is observed in 94 schools (84.8%), representing the highest level of participation across all frameworks. This highlights the strong emphasis on ocean-related activities within ProBleu.

SDG 14: Life Below Water

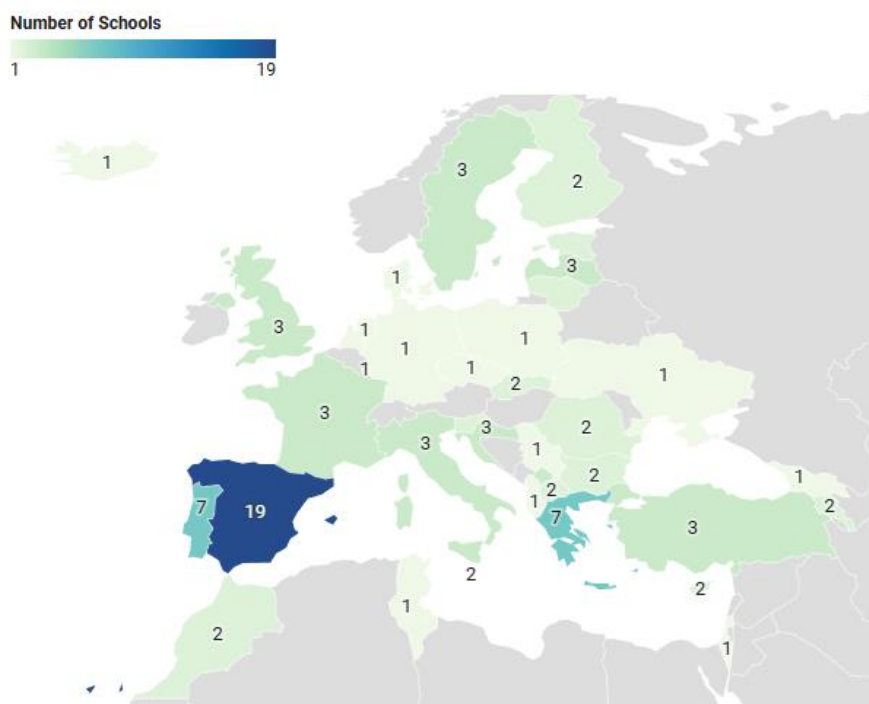


Figure 4 Number of schools contributing to SDG 14

SDG 6: Clean Water and Sanitation

Sustainable Development Goal 6 seeks to ensure the availability and sustainable management of water and sanitation for all. While often associated with drinking water and sanitation infrastructure, SDG 6 is fundamentally connected to ocean health through the water cycle, watershed management, and the land-sea continuum. Protecting freshwater systems is essential for protecting marine environments, as rivers and streams are the pathways through which pollution, nutrients, and sediments reach the ocean (GESAMP, 2001).

How ProBleu-funded schools contribute to SDG 6

Blue Schools advance clean water objectives while recognising their direct connection to ocean health:

- **Water quality monitoring (6.3):** Student-led monitoring of rivers, streams, lakes, and coastal waters documents baseline conditions, tracks pollution sources, and provides early warning of water quality degradation
- **Pollution source identification (6.3):** Watershed investigations help students understand how household, agricultural, and industrial activities affect water quality, motivating pollution prevention at source
- **Water conservation (6.4):** School-based water audits and conservation campaigns reduce consumption while teaching the value of freshwater as a finite resource connected to ocean health
- **Watershed stewardship (6.5, 6.6):** Riparian restoration, wetland protection, and stream cleanup projects improve freshwater ecosystem health while reducing pollution loads to coastal waters
- **Land-Sea literacy (6.3):** Educational programs that trace water from source to sea help students understand how their local actions affect distant marine ecosystems, fostering systems thinking and environmental responsibility

A total of **64 schools (58.0%)** contribute to SDG 6, as illustrated in Figure 5. This indicates a moderate but consistent level of engagement with freshwater-related challenges.

SDG 6: Clean Water and Sanitation

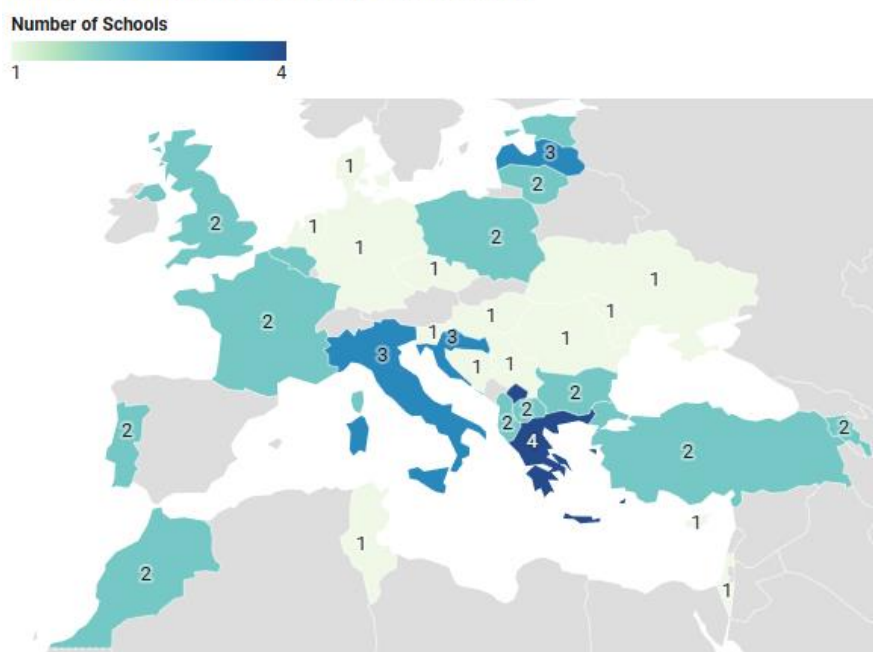


Figure 5 Number of schools contributing to SDG 6

By integrating SDG 6 and 14 principles throughout their curricula and activities, ProBleu-funded schools create a generation equipped with the knowledge, skills, and values necessary to protect and restore water and ocean health. The project influences families, communities, career choices, and advocacy efforts, multiplying impact on achieving Life Below Water and Clean Water and Sanitation targets across the EU and associated countries.

2. Methodology for the Co-creation of Institutional Roadmaps

2.1 The Relevance of Institutional Roadmaps for achieving EU Mission and SGDs

A key added value of the ProBleu project approach lies in the development and application of a structured methodology for Institutional Roadmaps. An Institutional Roadmap is a strategic plan that outlines the key steps an organisation or institution will take to achieve its long-term goals. It links day-to-day actions with the institution's broader mission and vision. Typically, it includes vision, resources, and performance indicators to monitor progress. It serves as a guiding framework for coordinated development across the institution.

This methodology is of strategic importance as it enables schools to transition from isolated, project-based activities towards coherent, long-term institutional strategies aligned with European policy objectives, EU Mission “Restore our Ocean and Waters” and Sustainable Development Goals. By embedding Design Thinking and co-creation principles, the methodology ensures that roadmap development is not a top-down exercise, but rather an inclusive and iterative process that reflects the needs, capacities, and ambitions of the different types of schools (see Figure 6).

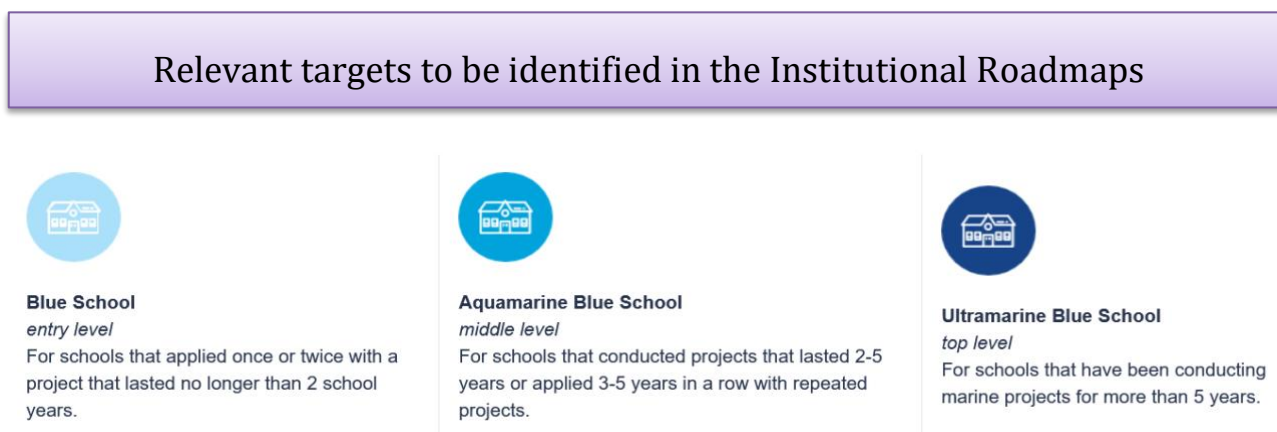


Figure 6 Relevance of Blue Schools' targets in the Institutional Roadmaps

Figure 6 shows that Institutional Roadmaps should be aligned with Blue Schools' targets, based on their experience and long-term commitment to marine (ocean-related) objectives. The three types represent progressive levels of involvement and dedication:

- **Blue School (entry level).** This is the starting point. Schools at this level are new to marine projects. They may have done one or two short projects (up to about 2 years). The school is just beginning its journey in ocean or environmental initiatives.

- **Aquamarine Blue School (middle level).** This is the intermediate stage. Schools have more consistent involvement. They've either: (a) run projects for 2–5 years, or (b) participated repeatedly over several years (3–5 times). The school is actively engaged and building experience with ongoing efforts.
- **Ultramarine Blue School (top level).** This is the highest level. Schools have been involved in marine projects for more than 5 years. The school has a long-term, sustained commitment and strong expertise in marine/environmental work.

The Institutional Roadmaps provide a clear framework for identifying impact pathways, setting priorities, and defining actionable steps towards achieving environmental and societal outcomes. They support schools in aligning their initiatives with the objectives of the EU Mission “*Restore our Ocean and Waters*” and related policy frameworks, including the Sustainable Development Goals. Importantly, it also facilitates the integration of Blue School principles into everyday educational practice, thereby enhancing the sustainability and scalability of project results.

Furthermore, the Institutional Roadmaps promote ownership and accountability among stakeholders by actively involving teachers, students, school leadership, and external partners in the co-creation process. This participatory approach strengthens institutional commitment and increases the likelihood of successful implementation and long-term impact. It also fosters key transversal competences, such as critical thinking, collaboration, and civic engagement, which are essential for addressing complex environmental challenges.

2.2 The Structure of Institutional Roadmaps Towards Impact

The Institutional Roadmaps are based on the “Steps Towards Impact” methodology. This methodology provides a structured and iterative framework to support schools in developing Institutional Roadmaps that lead to meaningful, long-term impact. Grounded in co-creation and Design Thinking principles, the methodology enables schools to systematically analyse their context, define strategic ambitions, and implement targeted actions aligned with broader environmental and societal objectives, such as EU Missions or SDGs.

The methodology is composed of five interconnected components (see Figure 7):



Figure 7 “Steps Towards Impact” methodology for Institutional Roadmaps

1. Current Situation

The process begins with a comprehensive assessment of the school's existing context. The “Current Situation” phase provides the analytical foundation for the development of Institutional Roadmaps. It involves a comprehensive and structured assessment of the school's existing context, capacities, and practices related to Blue School activities and broader sustainability efforts. This step ensures that subsequent planning is grounded in evidence and tailored to the specific realities of each institution.

Schools are encouraged to conduct a holistic review of their current position, including ongoing projects, curricular integration of environmental topics, stakeholder engagement, institutional policies, and available resources. This may also involve mapping existing partnerships with local communities, public authorities, non-governmental organisations, and other relevant actors. Such mapping helps to identify both internal strengths and external opportunities that can be leveraged in the roadmap development process.

A key component of this phase is the identification of challenges and gaps that may hinder progress towards desired impact. These may relate to limited resources, lack of coordination, insufficient stakeholder involvement, or gaps in knowledge and competences. At the same time, schools are invited to reflect on successful practices and achievements, which can serve as a basis for further development and scaling.

The process should be participatory and inclusive, engaging a broad range of stakeholders within the school community, including teachers, students, school leadership, and, where relevant, parents and external partners. This co-creative approach ensures that multiple perspectives are considered and that the assessment reflects a shared understanding of the current situation.

Where possible, schools are encouraged to use both qualitative and quantitative information to support their analysis. This may include feedback from participants, existing evaluation data, or indicators related to environmental performance, student engagement, or community involvement. Such evidence-based analysis strengthens the credibility and robustness of the roadmap.

Importantly, the “Current Situation” phase also supports alignment with relevant policy frameworks by enabling schools to assess how their existing activities contribute to objectives such as the EU Mission “Restore our Ocean and Waters” and the Sustainable Development Goals. This helps to position the school within a broader strategic context and identify areas for further contribution.

2. Vision

The “Vision” phase focuses on defining a shared, forward-looking ambition that guides the development of the Institutional Roadmap. Building on the analysis of the current situation, this step enables schools to articulate what they aim to achieve in the long term and how they intend to contribute to environmental sustainability, active citizenship, and broader societal goals.

The vision is developed through a co-creative process involving key stakeholders within the school community, including teachers, students, school leadership, and, where appropriate, external partners. This participatory approach ensures that the vision reflects a collective understanding of priorities and aspirations, fostering a strong sense of ownership and commitment among those involved in its implementation.

A well-defined vision is both aspirational and strategic. It sets a clear direction for the school's development while remaining grounded in its specific context and capacities. The vision should outline the desired impact of the school's activities, particularly in relation to the protection and restoration of marine and freshwater ecosystems, the promotion of sustainability, and the strengthening of civic engagement. In doing so, it aligns institutional ambitions with key policy frameworks, including the EU Mission “*Restore our Ocean and Waters*” and the Sustainable Development Goals.

This phase also encourages schools to think holistically about their role as agents of change. The vision may encompass multiple dimensions, such as curriculum innovation, whole-school approaches to sustainability, community engagement, and partnerships with external stakeholders. By considering these interconnected aspects, schools can develop a comprehensive and integrated perspective on their future development.

Clarity and communication are essential elements of this step. The vision should be formulated in a way that is accessible, motivating, and easily understood by all members of the school community. A clearly articulated vision serves as a reference point for decision-making and helps ensure coherence across different actions and initiatives.

Furthermore, the vision provides a foundation for defining success criteria and guiding subsequent planning phases. It establishes the overarching goals against which progress and impact will be assessed, thereby contributing to a more strategic and outcome-oriented approach.

Overall, the “Vision” phase transforms the insights gained from the current situation analysis into a shared ambition for the future. By aligning stakeholders around a common purpose, it creates the strategic direction necessary for designing effective actions and achieving meaningful, long-term impact.

3. Success criteria

This step focuses on identifying what success looks like in practice and how it can be recognised and measured. Building on the vision and planned actions, schools define specific, observable, and achievable indicators that reflect the desired outcomes and impact of their Institutional Roadmaps.

Success criteria help to operationalise ambitions by translating them into concrete benchmarks. These may include qualitative and quantitative indicators related to student learning outcomes, behavioural change, community engagement, environmental improvements, or institutional transformation. Importantly, success criteria should be co-created with stakeholders to ensure shared understanding, relevance, and commitment.

This step strengthens strategic alignment and coherence by linking actions, resources, and evaluation processes to clearly defined outcomes. It also enhances transparency and accountability, as progress can be assessed against agreed benchmarks. Furthermore, clearly articulated success criteria support motivation within the school community by making progress visible and achievements tangible.

In this way, the definition of success criteria complements the evaluation phase by providing a clear reference point for monitoring progress and assessing impact. It ensures that Institutional Roadmaps remain focused, measurable, and outcome-oriented, thereby increasing their effectiveness and long-term sustainability.

4. Actions Towards Impact

In this phase, the shared vision is translated into concrete, actionable steps that guide implementation at the institutional level. Building on the analysis of the current situation and the jointly defined vision, schools identify, design, and prioritise a set of targeted measures, initiatives, and interventions that will enable them to achieve their intended impact.

A key objective of this phase is to ensure that strategic ambitions are operationalised into feasible and structured actions. Schools are encouraged to define actions that are specific, time-bound, and clearly linked to desired outcomes. This includes outlining what will be done, by whom, within what timeframe, and with what expected results. Where appropriate, actions should be sequenced to reflect short-, medium-, and long-term priorities, enabling a gradual and sustainable transition towards impact.

The prioritisation of actions is an essential element of this step. Schools assess the relevance, feasibility, and potential impact of proposed measures, taking into account available capacities,

resources, and external conditions. This process supports informed decision-making and helps ensure that efforts are focused on interventions with the greatest added value.

Importantly, the actions identified should be aligned with institutional goals as well as broader policy frameworks, including the EU Mission “*Restore our Ocean and Waters*” and the Sustainable Development Goals. This alignment ensures coherence between local initiatives and European-level priorities, enhancing the strategic relevance and scalability of school-based activities.

The co-creation dimension remains central in this phase. Stakeholders—including teachers, students, school leadership, and external partners—are actively involved in defining and refining actions. This participatory approach strengthens ownership, fosters collaboration, and increases the likelihood of successful implementation.

Furthermore, this phase encourages schools to consider innovation and interdisciplinarity, integrating environmental sustainability into teaching practices, school management, and community engagement. Actions may include curriculum development, project-based learning activities, partnerships with local stakeholders, awareness-raising initiatives, or institutional policy changes.

5. Resources

The “Resources” phase focuses on identifying, mobilising, and strategically managing the assets required to implement the actions defined in the Institutional Roadmap. This step ensures that planned initiatives are realistic, feasible, and sustainable over time, taking into account the capacities and constraints of each school.

Schools are encouraged to adopt a comprehensive understanding of resources, encompassing human, financial, material, and organisational dimensions. Human resources include teachers, students, school leadership, administrative staff, and external partners, each contributing specific knowledge, skills, and capacities. Particular attention should be given to the roles and responsibilities of different actors, ensuring clarity in implementation and fostering shared accountability.

Financial resources are another critical consideration. Schools assess existing funding sources and explore potential opportunities for additional support, including local, national, and European programmes. This may involve identifying synergies with ongoing projects, seeking partnerships, or leveraging community resources to enhance impact.

Material and infrastructural resources, such as facilities, digital tools, and learning materials, also play a key role in enabling implementation. Schools are encouraged to evaluate the availability and adequacy of these resources and to identify any gaps that may need to be addressed.

In addition, organisational and knowledge-based resources are essential for effective delivery. This includes institutional policies, existing frameworks, methodological tools, and access to expertise. Capacity-building activities, such as training for teachers and staff, may be necessary to support the implementation of new approaches and ensure the long-term sustainability of actions.

A strategic aspect of this phase is the alignment of resources with priorities. Schools are encouraged to assess how available resources can be allocated efficiently to support high-impact actions. This

may involve making informed choices about where to invest time, effort, and funding in order to maximise outcomes.

The co-creation approach remains relevant in this phase, as stakeholders contribute to identifying and mobilising resources. Collaboration with external partners, including local authorities, NGOs, and community organisations, can significantly enhance resource availability and broaden the scope of impact.

Importantly, this phase also encourages schools to consider the sustainability of resources over time. Planning should account not only for immediate needs but also for long-term continuity, ensuring that actions can be maintained and scaled where appropriate.

6. Evaluation

The final component, the “Evaluation” phase, focuses on monitoring progress, assessing outcomes, and supporting continuous improvement throughout the implementation of the Institutional Roadmap. It ensures that actions remain aligned with the defined vision, success criteria, and intended impact, while providing evidence of results and informing future decision-making.

Evaluation is understood as an ongoing and iterative process rather than a one-time activity. Schools are encouraged to establish clear mechanisms for tracking progress over time, using both qualitative and quantitative indicators. These indicators should be closely linked to the defined success criteria and reflect key dimensions such as student learning outcomes, behavioural change, environmental impact, stakeholder engagement, and institutional development.

A central element of this phase is the collection and analysis of relevant data. This may include feedback from students and teachers, observations, surveys, project outputs, and measurable environmental indicators where applicable. The use of evidence strengthens the credibility of the process and enables schools to make informed adjustments to their actions.

The evaluation process should be participatory and inclusive, involving key stakeholders within the school community. By engaging teachers, students, and partners in reflection activities, schools can gain diverse perspectives on what is working well and what challenges remain. This collaborative approach not only enriches the evaluation process but also reinforces ownership and shared responsibility for outcomes.

Importantly, evaluation serves both accountability and learning functions. On the one hand, it allows schools to demonstrate progress towards their objectives and alignment with broader policy frameworks, including the EU Mission “*Restore our Ocean and Waters*” and the Sustainable Development Goals. On the other hand, it provides valuable insights that can inform the refinement of actions, the reallocation of resources, and the updating of the Institutional Roadmap.

The methodology also encourages schools to embed evaluation into their regular practices, ensuring that reflection and learning become integral components of institutional culture. This supports adaptability and resilience, enabling schools to respond effectively to changing circumstances and emerging challenges.

Furthermore, evaluation results can contribute to knowledge-sharing within the wider Blue Schools network. By documenting lessons learned, good practices, and challenges, schools support mutual learning and the continuous improvement of methodologies at the European level.

Summing up the methodology

Overall, the “Steps Towards Impact” methodology supports schools in adopting a strategic, participatory, and impact-oriented approach. By integrating analysis, visioning, action planning, resource management, and evaluation, it enables schools to move from isolated activities to coherent institutional change, contributing effectively to environmental sustainability and broader societal goals.

3. Results of Co-creation Sessions with ProBleu Schools

3.1 Institutional Roadmaps Co-creation Methodology Based on Design Thinking Principles

The co-creation sessions of ProBleu schools’ roadmaps applied a **participatory co-creation design** grounded in **Design Thinking methodology**, aiming to collaboratively develop sustainable pathways for Blue Schools aligned with Mission Ocean objectives and the Sustainable Development Goals (SDGs). The approach emphasizes stakeholder engagement, iterative development, and collective knowledge production through structured phases of co-design and feedback. Design Thinking methodology is human centred methodology, that is used to approach complex, multidimensional problems. It prioritizes user needs, rapid prototyping and collaborative feedback.

The Design Thinking methodology applies iterative process, is inherently flexible and nonlinear, allowing participants to cycle through stages as needed. The five commonly recognized stages are (Fei, 2024; Jadan-Guerrero et al., 2017):

1. **Empathize:** Understand user needs.
2. **Define:** Clearly articulate the problem.
3. **Ideate:** Brainstorm creative solutions.
4. **Prototype:** Develop tangible representations of ideas.
5. **Test:** Evaluate solutions and refine them.

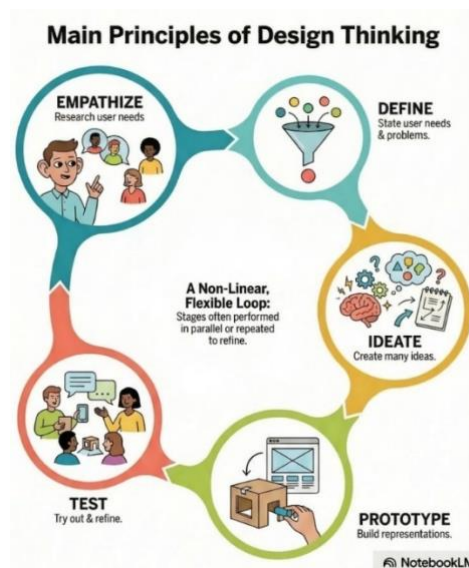


Figure 8 Principles of Design Thinking

Design Thinking can act as a framework for cultural and organizational transformation, aligning strategy with stakeholder needs and systemic goals. The iterative nature of Design Thinking allows institutions to adapt to changing needs and challenges, fostering innovative solutions (Cunha et al., 2026; (Peck et al., 2016). The Design Thinking methodology can effectively be applied in the development of the Institutional Roadmaps in different sectors, including education. The **key steps** in applying Design Thinking to Institutional Roadmaps are summarized in Table 1 (based on Heinrich et al., 2021; Hendricks et al., 2018; Kerr & Tweedy, 2021; Peck et al., 2016).

The use of Design Thinking methodology in the development of Institutional Roadmaps offers several key benefits (Allworth et al., 2023; Cunha et al., 2026; Heinrich et al., 2021). It strengthens *stakeholder engagement* by promoting collaboration and co-creation, thereby strengthening commitment among both internal and external stakeholders. It supports *innovation and flexibility*, allowing institutions to respond effectively to evolving needs and challenges while fostering innovative solutions. In addition, it aligns with *processes of organizational change*, serving as a framework for cultural transformation and ensuring that strategic directions reflect stakeholder needs and broader systemic goals. Furthermore, it facilitates *data-driven decision-making* by integrating both qualitative and quantitative insights, resulting in more comprehensive and actionable roadmaps. Design Thinking also allows to design Institutional Roadmaps that connect present actions with long-term sustainable visions, related to Sustainable development goals (Okada et al., 2022)

Table 1 The key steps in applying Design Thinking to Institutional Roadmaps

Design Thinking stage	Application to Institutional Roadmap Development
-----------------------	--

Empathize	Understand the needs of stakeholders (e.g. students, faculty, administrators) through engagement. This phase ensures the roadmap aligns with user needs and institutional goals.
Define	Clearly articulate the core challenges or objectives the institution aims to address. This step is crucial for setting ubiquitous strategic goals that guide the roadmap.
Ideate	Generate innovative ideas collaboratively to address the defined challenges. This phase encourages brainstorming and creative problem-solving across interdisciplinary teams.
Prototype	Develop tangible or conceptual models of the roadmap to visualize potential solutions. Prototyping allows for refinement of strategies
Test	Collect feedback from stakeholders to refine the roadmap. This iterative process ensures the roadmap remains relevant and effective

ProBleu project applied Design thinking methodology for the co-creation sessions with schools, participating in ProBleu, for the designing of Institutional Roadmaps. The methodology was implemented through a **three-phase co-creation process** conducted between September 2025 and February 2026.

Phase 1: Preparation and Engagement

This phase focused on stakeholder identification and baseline analysis. Stakeholder mapping was conducted, and participating schools were recruited through a structured registration process. At least one representative from schools was invited to participate, and additionally, schools could invite actors of the wider school community: teachers, students, parents, local NGOs, municipalities, and marine/environmental experts.

A baseline assessment was carried out by analysing existing school activities from project proposals to understand current contributions to ocean and water literacy, as well as alignment with SDGs and Mission objectives. Additionally, templates for Institutional Roadmaps were prepared to guide subsequent phases. The structure of the Institutional Roadmaps is presented in previous subchapter of this report.

Phase 2: Co-Creation Workshop

An online co-creation workshop was organized in October 2025, combining theoretical input and practical design activities. The workshop began with an introductory seminar on the idea of Design Thinking methodology linked to SDGs and Mission Ocean, Institutional Roadmaps and examples of sustainable school initiatives. The core of this phase was a **Design Thinking sprint**, structured into five stages.

Design Thinking sprint

- **Empathize:** Collect initial ideas for linking school aims/actions to SDGs and Mission objectives.
- **Define:** Formulate key challenges and aims for schools (mission, vision, success criteria)
- **Ideate:** Brainstorm practical Blue School activities, obstacles and resources (e.g., citizen science with water monitoring, beach clean-ups, marine biodiversity storytelling, sustainable cafeteria menus)
- **Prototype:** Build draft Roadmaps
- **Test & Feedback:** Short presentation of draft Roadmaps in the group and homework: share prototypes with school community for feedback

Phase 3 – Roadmap Development Support, Consolidation and Exchange

Facilitators helped schools translate ideas into Institutional Roadmaps with clear goals, milestones, and responsibilities. In this phase, schools submitted their developed institutional roadmaps.

A second online workshop for cross-school exchange was organized in January 2026. An online event enabled participants to present their roadmaps and receive peer feedback, building a sense of a Blue School network. After the workshop, schools had an opportunity to refine their institutional roadmaps based on knowledge exchange with other schools and feedback from the facilitators of ProBleu project.

Two co-creation online session used Padlet boards, where participant can collaborate in real time.

3.2 Results of Co-creation Sessions with ProBleu Schools

The ProBleu project team organized interactive online co-creation sessions with schools participating in the project, aimed at developing their Institutional Roadmaps to maximize the long-term impact of the project's results.

1st session for Co-creation of Institutional Roadmaps took place on 20th of October 2025 with total of 39 participants. Participants included the principals of schools, schoolteachers, partners of schools, students and ProBleu team members.

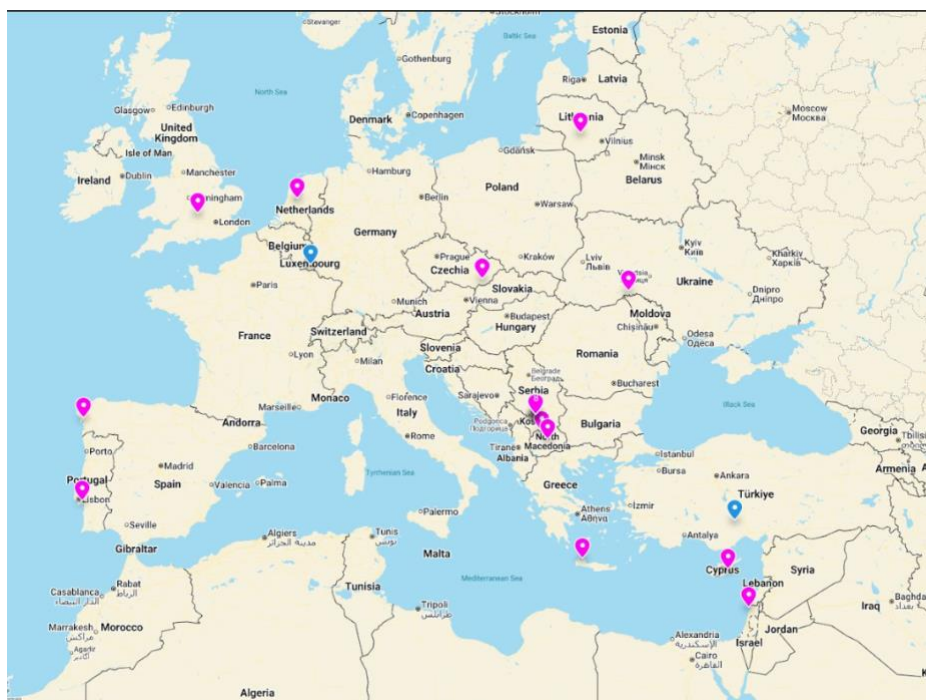


Figure 9 Location of participants of 1st ProBleu Co-creation session, October 2025

In the first stage (Empathize), school representatives were asked to link school aims/actions to Mission objectives and identify which Sustainable Development Goal and target is important for their Blue School aims and actions.

Most of the participating schools linked their actions to Mission Ocean and Waters objective N. 1 “Protect and restore marine and freshwater ecosystems and biodiversity”. Examples included “Transforming Green Oases into Blue Schools for a Pink Future” which actively involved over 100 students in cleaning the Serava River and creating ecological art from collected waste. Many schools contribute to objective N. 2 “Prevent and eliminate pollution of our ocean, seas and waters” for example, Eco-Yam, Hevrat High-School in Israel is performing water sampling to monitor its quality after storms or specific events of pollution both in rivers and sea. The lowest number of participants indicated that their school project is relevant to mission objective N.3 “Make the sustainable blue economy carbon-neutral and circular”. Examples included St George's International School Ocean Gatekeepers, who are using a plastic recycling machine to reprocess on site school plastic into new items.

To map their schools' aims and actions to SDG objectives, participants were presented with visual representations of the targets of SDG 6 (“Ensure availability and sustainable management of water and sanitation for all”) and SDG 14 (“Conserve and sustainably use the oceans, seas and marine resources”). They were then asked to identify the specific target numbers most relevant to their school projects. For SDG 6, participants often mentioned Target 6.3 (“Improve water quality, wastewater treatment and safe reuse”), Target 6.4 (“Increase water – use efficiency and ensure freshwater supplies”), Target 6.6 (“Protect and restore water- related ecosystems”) and. For SDG 14,

participant most other identified Target 14.1 ("Reduce marine pollution"), Target 14.4 ("Sustainable fishing") and Target 14.5 ("Conserve coastal and marine areas").

The identification of relevant Missions Ocean and Water objectives and Targets of SDG's help to effectively focus planned actions and resources to achieve concrete objectives.

In the step 2 of the Design sprint (**Define**), schools were asked for formulate key challenges and aims (vision, mission, success criteria) to be included in their Institutional Roadmaps.

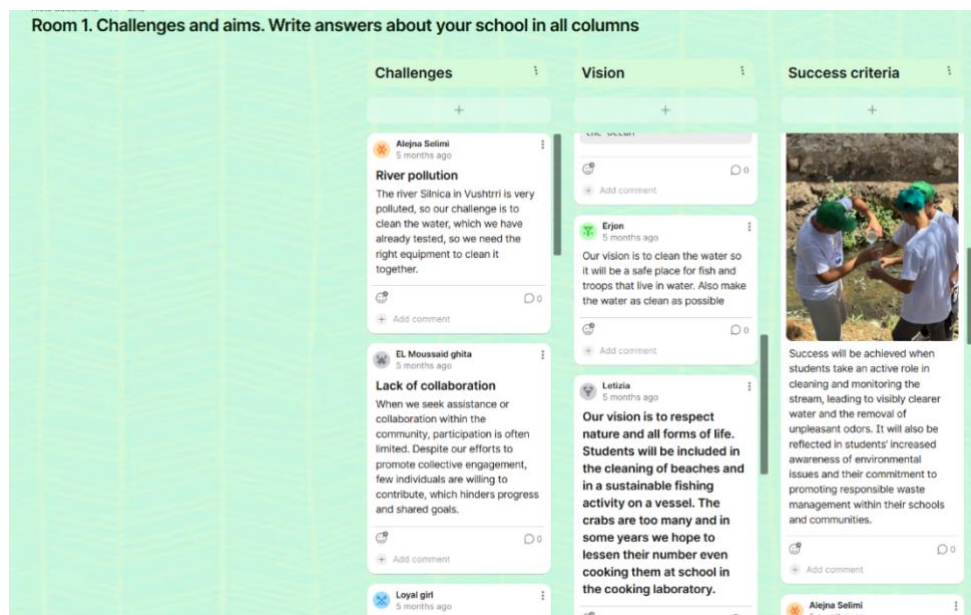


Figure 10 Example of discussion on challenges, vision and success criteria, 1st ProBleu Co-creation session, October 2025

The main challenges, raised by participants during the co-creation session, include:

- **Environmental issues (water-related).** High levels of water pollution in rivers and local water bodies, including contamination from waste, sewage, and microplastics; concerns about water quality and drinkability.
- **Need for skills and knowledge development.** Gaps in scientific literacy, understanding of environmental issues, and ability to apply technologies (e.g., robotics, water analysis).
- **Limited resources and infrastructure.** Lack of funding, insufficient equipment, and limited access to laboratory tools and fieldwork opportunities hinder project implementation.
- **Low awareness and engagement.** Limited participation and collaboration from the wider community and insufficient environmental awareness among students and the public.
- **Educational and organisational constraints.** Challenges in integrating activities into existing school schedules and curricula, as well as difficulties in delivering practical, applied learning (e.g., STEM, field-based activities).

Some original quotes from participants illustrate these challenges:

"We can save water and be more responsible for the nature. We can do more nice things for the nature cause the nature and water are everything we have".

"We want to help protect and care for the water that gives life to our planet. Through our actions and projects, we aim to keep rivers, lakes, and oceans clean and healthy for all living beings and for future generations."

"Promote scientific literacy in young people living near the sea so that they can learn about and respect it."

Participants presented their school visions, most of which were framed around the following themes:

- **Clean and safe water for all.** A strong shared vision of achieving clean, drinkable water and healthy aquatic ecosystems for humans and biodiversity.
- **Environmental protection and sustainability.** Commitment to protecting water resources, restoring ecosystems, and ensuring sustainability for future generations.
- **Increased awareness and active citizenship.** Developing environmentally responsible individuals who act as guardians of water and oceans and promote sustainable behaviours in their communities.
- **Education through practical and scientific learning.** Integrating scientific research, hands-on activities, and innovation (e.g., monitoring, analysis, STEM projects) into education.
- **Collaboration and community engagement.** Promoting cooperation within schools and across communities, including international collaboration and knowledge exchange.

Some Examples:

"Our vision is to restore and maintain clean stream water while actively involving the students to educate residents who live along its banks."

"Our vision is to make the water safe to drink and safe for aquamarine life, and also to encourage people to prevent polluting it as much as possible,"

"Our vision is to become a school that connects scientific exploration of nature, sustainable development, and international cooperation. We want our students not only to gain knowledge but also to actively contribute to environmental protection and community development."

"Our school aims to become an institution that leads society in protecting water resources and educates its students with a culture of sustainability and scientific research within 10 years."

The Institutional Roadmaps need to include success criteria that is specific, measurable, achievable, relevant and time-bound (SMART criteria). It is important to use clear, quantifiable targets (e.g., participation rates, number of events, datasets) The success criteria, shared by the participating schools, included several key areas (see Table 2):

Table 2 The key areas in defining success criteria for Institutional Roadmaps (results from 1st Probleu co-creation session)

Areas	Indicators
Participation	Increased involvement of students, teachers, and community members (e.g., % increase, number of participants).
Environmental impact	Measurable improvements in water quality and pollution reduction.
Activities and outputs	Implementation of fieldwork, citizen science, data collection, awareness campaigns, and prototype development.
Knowledge and awareness	Increased environmental literacy and behavioural change among students and communities
Dissemination	Communication results through outreach activities, materials, and events to increase visibility and impact.

During Step 3 (**Ideate**) participants were invited to Brainstorm on practical Blue School activities, obstacles and resources that are included in the Institutional Roadmaps.

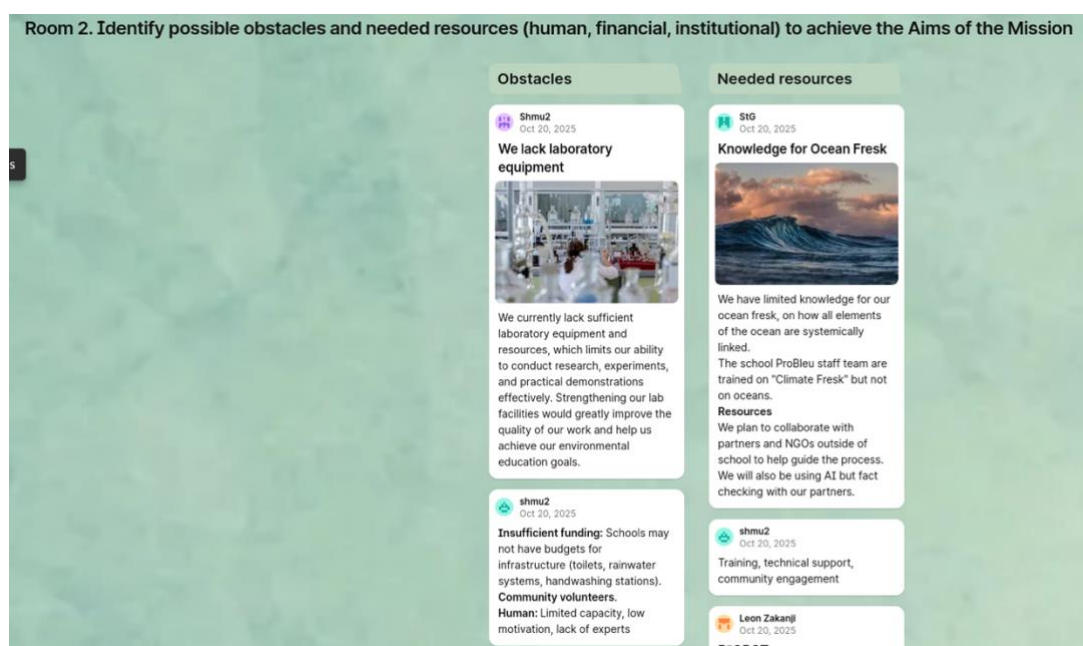


Figure 11 Example of discussion on obstacles and needed resources, 1st ProBleu Co-creation session, October 2025

Following obstacles were identified by the participants for the sustainability of the project results:

- **Limited resources.** Lack of equipment, laboratory tools, and technical materials for research and activities.

- **Financial constraints.** Insufficient funding for materials, infrastructure, travel, and project implementation.
- **Human capacity limitations.** Shortage of staff, limited expertise, low motivation, and insufficient involvement of stakeholders.
- **Low awareness and engagement.** Limited environmental awareness, misconceptions about water safety, and low community participation.
- **Institutional and curriculum barriers.** Rigid curricula, lack of time, and limited collaboration with external institutions.
- **Technical and knowledge gaps.** Limited skills and experience in environmental research, technology use, and project implementation.
- **External and environmental factors.** Pollution sources, irresponsible behaviour, and logistical challenges (e.g., coordination, weather conditions).

The discussion on needed resources revealed that the implementation of long-term strategies and activities requires adequate equipment and infrastructure, financial support, skilled human resources, training, institutional support, and strong collaboration with external partners and the community.

Table 3 Resources needed for the implementation of long – term strategies in schools (results from 1st ProBleu co-creation session)

Resources	Explanation
Equipment and infrastructure	Water testing kits, laboratory supplies, filtration systems, waste management tools, and technical equipment.
Financial resources	Funding for equipment, infrastructure, activities, outreach, and long-term sustainability.
Human resources	Teachers, students, experts, mentors, and community volunteers.
Training and capacity building	Technical training, scientific knowledge, and skill development support.
Collaboration and partnerships	Engagement with NGOs, external organisations, and networks for expertise and support.
Digital and communication tools	Platforms for awareness campaigns, data collection, design, and dissemination.
Institutional support	Flexible curricula, allocation of time, and policy support for project activities.
Community engagement	Active participation and collaboration with local communities to support impact and sustainability.

In Institutional Roadmaps for the long-term sustainability of Blue Schools, these resources should be clearly linked to the identified obstacles to effectively achieve the school's missions and objectives.

Finally, participants were invited to share the examples of the practical activities that they are implementing in their project, as well as the ideas of possible other activities. Participants actively shared the experiences and examples from their projects.

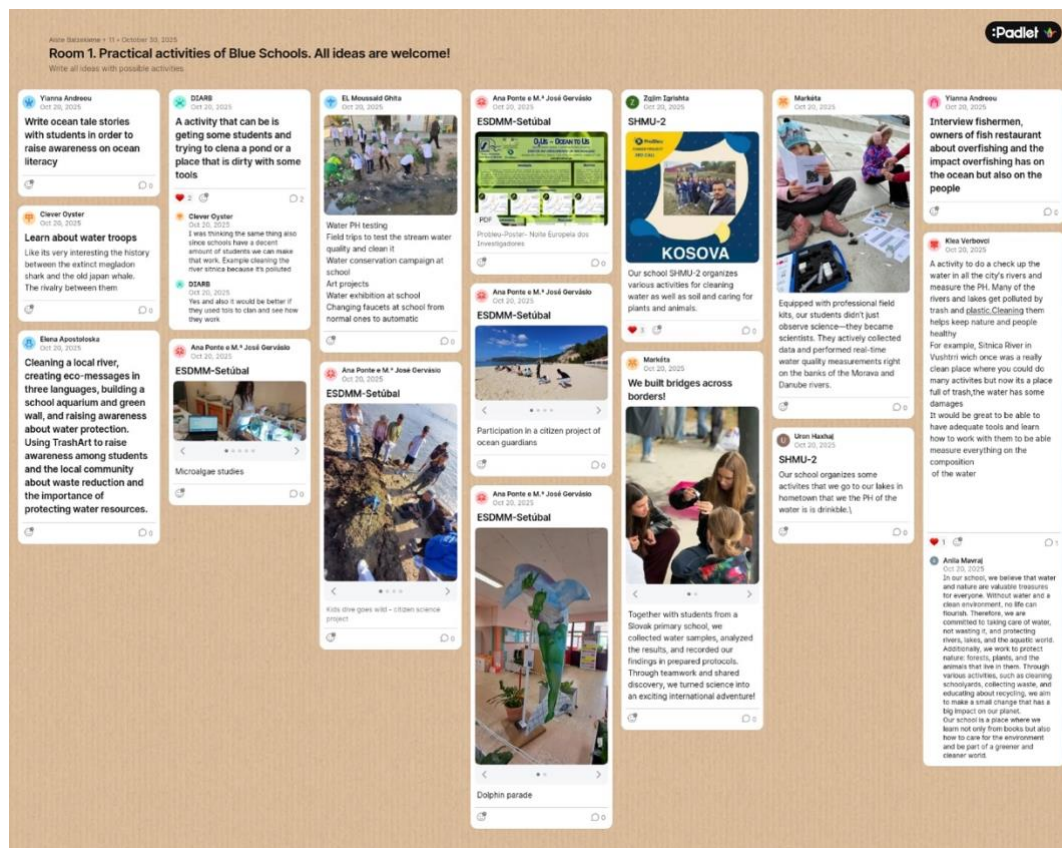


Figure 12 Sharing the examples of practical activities, 1st ProBleu Co-creation session, October 2025

The examples of practical activities included the following areas:

- **Water monitoring and scientific activities.** Water quality testing (e.g., pH, turbidity), fieldwork at rivers and lakes, data collection, and environmental analysis using scientific methods and protocols.
- **Environmental protection actions.** Cleaning rivers, ponds, and school environments; waste collection; reducing plastic use; and implementing water conservation practices.
- **Awareness-raising and education.** Campaigns, workshops, posters, exhibitions, storytelling, eco-messages, and community outreach to promote water and ocean literacy.
- **Hands-on projects and innovation.** Building water filtration systems, rainwater harvesting solutions, biodegradable vessels, and using recycling technologies and STEM-based approaches.
- **School-based sustainability initiatives.** Installing water-saving systems (e.g., automatic taps), eliminating plastic bottles, creating school gardens, aquariums, and green infrastructure.
- **Creative and interdisciplinary activities.** Art projects, competitions, games (e.g., Ocean Fresk), and media production to engage students in environmental topics.

- **Collaboration and community engagement.** Partnerships with NGOs, interviews with stakeholders (e.g., fishermen), citizen science projects, and international school collaborations.
- **Field visits and experiential learning.** Visits to wastewater treatment plants, outdoor learning activities, and real-world environmental investigations.

Overall, activities combine **hands-on science, environmental action, education, and community engagement** to promote water and ocean sustainability.

During Step 4 (Prototype), schools were invited to develop draft versions of their roadmaps using the provided template and methodological guidance from the ProBleu team, building on the outcomes of the co-creation session. After the co-creation session, all the materials and padel boards, created during the workshop, were shared with the participants and they were encouraged to use this shared knowledge in the development of their Institutional Roadmaps.

2nd session for co-creation of Institutional Roadmaps took place on January 2026, and aimed at cross-school exchange and peer feedback of the developed Institutional Roadmaps with a total of 41 participants, including ProBleu team facilitators. Some schools were represented by multiple stakeholders (principles, teachers, students, social partners). Feedback on Institutional Roadmaps highlighted several key areas for improvement and refinement.

Feedback on Institutional Roadmaps — Key Points

- **Clarify and prioritise Mission Ocean objectives.** Identify one to three objectives to which the school can meaningfully contribute and explicitly link planned activities to these objectives.
- **Strengthen the link between actions and expected impact.** Clearly describe how each key action contributes to change at student, school, or community level and supports Mission Ocean goals.
- **Improve alignment between Mission objectives and SDGs.** Ensure consistent use of selected SDGs and clearly connect activities to relevant targets, particularly those related to water and ocean protection.
- **Refine success criteria and timelines.** Define measurable indicators (e.g., participation rates, number of activities) and establish short-, medium-, and long-term milestones with clear review timelines.
- **Improve coherence between actions, obstacles, and resources.** Align planned actions with identified challenges and required resources and organise them into clear thematic areas; include strategies to address external barriers such as low awareness beyond the school.
- **Strengthen stakeholder engagement and co-creation.** Increase the involvement of students, teachers, parents, local authorities, scientists, and community organisations in both development and implementation.
- **Enhance evaluation and learning processes.** Combine quantitative and qualitative approaches and use evaluation results systematically to improve and update the roadmap.
- **Improve communication and dissemination of results.** Share progress, results, and lessons learned within and beyond the school community to foster knowledge exchange and visibility.

- **Plan for long-term sustainability.** Embed successful activities into curricula and school planning, define long-term responsibilities, and seek partnerships and resources to ensure continuity beyond project funding.

Overall, the feedback focused on making roadmaps more strategic, measurable, forward-looking, and resilient to challenges.

Participants were asked to share their key take away messages. One inspiring example is quoted below:

“You can't change the whole world alone to think green, to behave sustainably, to think about biodiversity... but you can change the people around you who will help you with that...” Participant, 2nd co-creation session, Jan 2026

4. Examples of Institutional Roadmaps

This section presents a collection of ten examples of Institutional Roadmaps developed by participating schools within the ProBleu project. These examples illustrate how the “Steps Towards Impact” methodology has been applied in diverse educational contexts to design strategic, context-specific pathways towards environmental and societal impact.

The featured roadmaps reflect a variety of approaches, priorities, and levels of experience, demonstrating the flexibility and adaptability of the methodology. Each example highlights how schools have analysed their current situation, defined a shared vision, identified concrete actions, mobilised resources, and established success criteria and evaluation mechanisms. Together, they provide practical insights into how theoretical principles can be translated into actionable strategies.

The purpose of this section is to offer inspiration and guidance to other schools seeking to develop their own Institutional Roadmaps. By showcasing real-life applications, it enables readers to better understand the process, identify good practices, and adapt relevant elements to their own institutional contexts. The examples also illustrate how schools can contribute to the objectives of the EU Mission “Restore our Ocean and Waters” and related frameworks such as the Sustainable Development Goals.

While each roadmap is tailored to the specific needs and capacities of the school, common themes emerge, including stakeholder engagement, integration of sustainability into curricula, and the promotion of active citizenship. These examples underline the importance of a structured yet flexible approach, supported by co-creation and continuous reflection.

Overall, this section demonstrates the potential of Institutional Roadmaps as practical tools for driving long-term impact and embedding sustainability within school systems across Europe.

Institutional pathway towards impact #1

School's target
Our school contributes to the Sustainable Development Goals (SDGs) and their targets through activities that promote environmental care and the sustainable use of natural resources. Our

students take part in projects related to water conservation, recycling, and raising awareness about protecting nature. These activities specifically support SDG 6: Clean Water and Sanitation (Target 6.3 – improve water quality by reducing pollution) and SDG 13: Climate Action (Target 13.3 – educate and raise awareness on climate change). Through these efforts, we foster a culture of responsibility and cooperation for a greener, more sustainable future.

Current situation

Our school, SHMU-2 faces several environmental, social, and educational challenges related to ocean and water restoration. Environmentally, the main challenge is the lack of access to clean water sources and limited opportunities to engage directly in water protection activities. Socially, there is still low awareness among some students and community members about the importance of preserving oceans and water resources. Educationally, the challenge lies in integrating more practical, hands-on learning experiences about water sustainability into the school curriculum. Despite these difficulties, our school continues to promote awareness, collaboration, and responsible action toward protecting water and marine life.

Vision

In the next 10 years, our school aims to become a model of environmental responsibility and sustainability, where students actively engage in protecting water and ocean resources. We envision a school community that is more aware, innovative, and united in creating positive environmental change.

Success criteria

Within the set timeframe, our school aims to increase student participation in water and ocean protection projects by 70%, integrate sustainability topics into at least five school subjects, and organize annual awareness campaigns about water conservation. We also plan to develop collaborations with local and international partners to support long-term environmental goals.

Actions towards impact

Actions	Obstacles
Organize river and lake clean-up activities.	Limited funding for water and environmental projects.
Conduct workshops about ocean and water protection.	Low student participation or interest in sustainability and water protection activities.
Create a student eco-club to lead sustainability projects.	Insufficient access to clean water or restoration resources.
Partner with local organizations focused on water restoration.	Limited teacher training on environmental education.
Integrate water and climate topics into school subjects.	Challenges in forming partnerships with local organizations.

Resources

Actions	Human	Financial & Infrastructural
Educational materials and curriculum on water and environmental sustainability.	Teachers trained in environmental education	School budget allocated for environmental and water projects.
Partnerships and mentorship from local environmental organizations and experts.	Student volunteers and eco-club members.	Grants or sponsorships from local or international organizations.
Access to funding or grants for school-based water project	School administrators supporting	Infrastructure for water conservation, such as rainwater collection systems and water-saving devices.

	sustainability initiatives.	
Trained teachers and staff to guide student activities.	Engaged parents and community members supporting and participating in projects.	Recycling bins and waste management systems on campus.
Tools and equipment for clean-up, recycling, and water-saving initiatives.	Environmental experts or guest speakers offering guidance and training.	Spaces for workshops, eco-clubs, and environmental activities.
Evaluation		
To evaluate the success of our water and ocean restoration initiatives, the school will implement regular monitoring and assessment activities. We will track indicators such as the percentage of students participating in projects, reduction in water usage, number of clean-up activities conducted, and improvements in student knowledge and awareness through surveys and quizzes. Based on the results, the school will identify areas that need improvement, adjust activities, and set new targets to ensure continuous progress. Next steps include expanding successful programs, strengthening partnerships, and integrating sustainability more deeply into the curriculum.		

Institutional pathway towards impact #2

School's target
The SokyH2O project directly contributes to SDG 6 by building skills in sustainable freshwater management through student monitoring, open data and increased water literacy in the community. At the same time, it supports SDG 14 by demonstrating the link between the condition of local rivers and springs and the health of marine ecosystems influenced by all inland waters. Together, these goals underline the role of the school as a local centre of practical action for water protection with a global impact.
Current situation
Selyshchanskyi Lyceum faces: • Environmental challenges related to declining freshwater quality, pollution risks and the lack of systematic monitoring of local water bodies, including in protected areas; • Social challenges, including low community engagement in responsible water management, the need for inclusive participation of children with disabilities, and the development of partnerships between the school, local authorities, scientists and civil society; • Educational challenges, such as limited integration of practical water research and citizen science into curricula, a lack of open educational resources and the need to increase water literacy among students and teachers through modern, inquiry-based approaches.
Vision
Selyshchanskyi Lyceum is strategically transforming from a traditional school into an open community-based environmental education hub, where learning is combined with practical water

research, citizen science and inclusive participation. In 10 years, we envision the lyceum as a resilient hub of water literacy and environmental innovation for the community, fostering a responsible environmental culture, generating open data, and contributing to long-term natural resource management.

Success criteria

In the medium-term perspective (7–10 years), the school aims to achieve:

- Educational indicators: at least 70% of students engaged in practical environmental research; about 5 water literacy and citizen science modules integrated annually into curricula.
- Research indicators: a sustainable open database established and maintained for monitoring at least 14 water bodies, updated at least twice a year.
- Social and inclusion indicators: 100% accessibility of project activities for students with disabilities; at least 50% of activities implemented in partnership with the community, scientific institutions and local authorities.
- Environmental impact: permanent conservation practices introduced at least at 10 key water bodies, with documented improvement or stabilisation of water quality indicators.
- Strategic development: official integration of the school into European educational and environmental networks, and regular dissemination of methods and results among other schools in the community and region.

Actions towards impact

Actions	Obstacles
Integration of water topics and citizen science into teaching	Overloaded curricula, limited teacher time, insufficient training in research methods.
Regular student monitoring of water quality	Lack of equipment and consumables, weather and safety constraints, ensuring regularity.
Inclusive participation of all student groups	Need for adapted formats, additional technical support, limited financial resources.
Development of partnerships and use of results in community decision-making	Bureaucratic procedures, differing partner priorities, low readiness to use data.
Dissemination and long-term sustainability	Decreased motivation after the end of funding, limited communication resources, and the risk of losing continuity in monitoring.

Resources

Actions	Human	Financial & Infrastructural
Integration of water topics and citizen science into the curriculum.	Science teachers, project coordinator at the school; external experts/researchers for mentoring and professional development of teachers.	Payment for teacher training and consultations. Development or adaptation of learning modules and methodological materials. Classrooms with basic laboratory equipment; Digital platforms for storing materials and open data.
Regular monitoring of water quality by students.	Student research groups, mentors, invited specialists. Student research groups, mentor teachers and invited specialists in environmental monitoring.	Purchase of test kits, consumables, and simple measuring instruments. Transportation costs and safety insurance for fieldwork. Field and laboratory equipment; Safe access routes to water bodies; Storage spaces for equipment.

Inclusive engagement of all student groups.	Teacher assistants, social pedagogues; specialists in inclusive education and distance learning.	Adaptation of materials (simplified instructions, visual formats); Procurement of assistive devices and online tools; Accessible school facilities; Online environment for students unable to participate in person.
Development of partnerships and use of results in community decision-making.	Partnership coordinator; representatives of local authorities, national parks, NGOs, researchers.	Organization of meetings, roundtables, and joint events; Preparation of analytical materials and recommendations for the community. Spaces for public discussions (school, community, online); Digital tools for collaborative work with data.
Dissemination of results and ensuring long-term sustainability.	Communications officer or responsible teacher; Active student ambassadors and partners for scaling up the experience.	Support of online platforms, printing and creation of informational materials; Minimal funds to continue monitoring after project completion. School website, cloud storage, open data platforms; Permanent material base for continuing measurements.
Evaluation		
To measure success criteria, the school will undertake: Measurement actions: • Conducting baseline and final surveys of students and teachers on water literacy, environmental knowledge, and attitudes toward water resource conservation. • Recording quantitative participation indicators: number of students, teachers, and partners involved, as well as the number of conducted studies and events. • Analysis of the quality and regularity of monitoring data: completeness of measurements, number of database updates, coverage of water bodies. • Assessment of inclusiveness: tracking participation of students with disabilities and the adaptive formats used. • Monitoring community impact: number of prepared recommendations, meetings with local authorities, and instances of using results in local decision-making. Next steps: • Adjust educational modules and research protocols based on the obtained results. • Integrate the most effective practices into the school's permanent curriculum. • Expand partnerships and engage new funding sources to continue monitoring. • Share validated approaches with other schools in the community and region. Develop a long-term sustainability plan with a clear allocation of responsibilities and resources. These actions will ensure an objective assessment of achievements and support the transition from measuring outcomes to achieving lasting impact.		

Institutional pathway towards impact #3

School's target		
14. Conserve the sustainability use of oceans, seas and marine resources for sustainable development. 14.1 Reduce marine pollution.		
Current situation		
Ocean restoration: All of them refer to the students and the community. Environmental: lack of empathy between the actions that are done daily in the city and their impact in the nearby sea basin. Social: lack of clear connection between the stakeholders at the city and the ones at the nearby sea basin. Educational: lack of connection between the daily life and the state of the nearby sea basin.		
Vision		
Greater number of pupils and families involved in awareness and implementation activities towards EU Mission "Restore our Oceans and Water". Awareness- how your actions affect your sea? Development of different projects that will develop different 14 SDG targets: 14.1, 14.2, 14.5, 14.A. Nowadays, there are projects mainly towards the 14.1. But the other targets mention they will need also to be develop in the next 10 years.		
Success criteria		
Increase in the number of students involved in Ocean related projects: currently there is a 5% of students actively creating and delivering projects and actions related to target 14.1. It's expected to increase this percentage by 2% every year so by 2036 there will be 23% of students involved. Increase in the number of teachers involved in Ocean related projects: currently there is a 3%. It's expected to increase this percentage by 1% every year so by 2036 there will be 13% of teachers involved.		
Actions towards impact		
Actions	Obstacles	
Installation of more reBLUE boxes to collect plastic beach toys so they can be reused by tourists. IG: @rebluecyprus	Limited number of days that can be devoted to visit and survey the area where the boxes are installed in order to properly follow up the project.	
Collaboration with NGOs and research center that are developing and implementing projects to protect and restore ecosystems in our nearby sea basin.	Limited number of school hours that can be used to follow workshops or do site visits.	
Conserve coastal and marine areas: Increase activities and projects that involve pupils in this type of actions.	Limited number of school hours that can be used to follow workshops or do site visits.	
Increase the number of pupils that chose careers toward the investigation of ocean health.	Low percentage of pupils that chose careers towards ocean conservations.	
Increase awareness within the school and the community, improve the communication of results of our current projects.	Limited coverage of school achievements, more periodic open days, workshops and media presence could help.	
Resources		
Actions	Human	Financial & Infrastructural

Installation of more reBLUE boxes to collect plastic beach toys so they can be reused by tourists. IG: @rebluecyprus	Assign more teachers that could share the supervised visits to site with students.	Annual budget to allow the visits.
Collaboration with NGOs and research center that are developing and implementing projects to protect and restore ecosystems in our nearby sea basin.	Create new or retake existing connections with the national/ international NGOs that can deliver this type of workshops.	Budget to visit study sites.
Conserve coastal and marine areas: Increase activities and projects that involve pupils in this type of actions.	Implication of students to create student-based project that will study, create and implement solutions.	Dedicated time to work on group projects within the academic syllabus.
Increase the number of pupils that chose careers toward the investigation of ocean health.	Increase the number of talks to pupils about prospective careers in ocean conservation.	Include this talks in PSHE and career counsellor objectives.
Increase awareness within the school and the community, improve the communication of results of our current projects.	More teachers and parents involved in the projects so more events can be organized.	Budget and space in the school campus to organize such gathering.

Evaluation

School will measure:

- Academic Achievement & Growth
- Indicators: % at/above benchmark (e.g., environmental science), coursework completion.
- Tools: classroom grades, work samples with rubrics.
- Attendance & Engagement
- Indicators: attendance rate to extracurricular activities
- Tools: participation trackers.
- Behavior & Climate
- Indicators: positive behavior acknowledgments, time on task.
- Tools: behavior trackers.
- Wellbeing & Belonging
- Indicators: student sense-of-belonging, staff climate.
- Tools: Short pulse surveys (3–5 questions).
- Equity
- Indicators: Gaps in achievement/growth/attendance by subgroup (ELL, students with disabilities, race/ethnicity, gender), access to advanced courses, discipline disproportionality.
- Tools: Disaggregated reports across all domains.
- Family & Community Partnership
- Indicators: Family participation rate, two-way contacts, event attendance, response rates.
- Tools: Contact logs, RSVP data, survey feedback.

Institutional pathway towards impact #4

Our target

SDG 6 – Clean Water and Sanitation aims

6-3 – Improve water quality, wastewater treatment and safe reuse.		
6.6 – Protect and restore water-related ecosystems.		
SDG 14 – Life Below Water		
14.1 – Prevent and significantly reduce marine pollution of all kinds.		
14-A – Increase scientific knowledge research and technology for ocean health.		
Current situation		
Currently, our school is largely focused on waste sorting, and as educators, we strive to highlight the amount of waste found in watercourses in our region. Within science subjects, teachers introduce students to waste recycling, especially plastics.		
Vision		
Raising awareness about global issues like water pollution and climate change in our region.		
Reducing plastic waste and improving recycling habits within the school community.		
Engaging families and the wider community in water conservation efforts.		
Ensuring teachers have resources and training to teach sustainability effectively.		
Success criteria		
Achieve 90% participation of students and staff in waste sorting in classrooms and common areas.		
Reduce plastic waste in the school by 30% compared to the previous year.		
Organize at least 3 recycling workshops for students and parents.		
Present project outcomes at one school-wide event or local community fair.		
Conduct two surveys (start and end of year) to measure changes in student knowledge and attitudes toward water and waste issues.		
Actions towards impact		
Actions	Obstacles	
Place clearly labeled containers for sorted waste in every classroom and common area.	Parental involvement – low attendance at workshops or lack of interest in the topic.	
Create simple posters with instructions for proper sorting.	Lack of financial resources – posters.	
Invite experts from a local waste processing company.	Lack of financial resources – workshop materials.	
Hold a school event “Earth Day” to present projects.	Time constraints – teachers have limited space in the schedule for extra activities.	
Create a simple online or paper questionnaire for students and teachers.	Low motivation among students and teachers – sorting may be seen as “extra work.”	
Resources		
Actions	Human	Financial & Infrastructural
Recycling bins, posters, workshop supplies, reusable bottles, and containers.	Teachers: To integrate topics into lessons, supervise activities, and lead workshops	Funds for purchasing bins, workshop materials, and promotional items.
Space for sorting stations, areas for workshops and presentations.	Students: Active participation in sorting, projects, and awareness campaigns.	Fundraising: School events or campaigns to raise money for sustainability projects.
Information Resources: Educational materials, guidelines for waste sorting, and water conservation.	Parents and Community Members: Support workshops and	Grants and Sponsorships: Applications for environmental education grants or local business sponsorship.

	community events.	
Information Resources: Educational materials, guidelines for waste sorting, and water conservation.	External Experts: Specialists from environmental organizations or waste management companies	Grants and Sponsorships: Applications for environmental education grants or local business sponsorship.
Evaluation		
- Waste Sorting Participation (90%) - Action: Conduct monthly checks of classrooms and common areas to verify proper waste sorting. - Indicator: Percentage of classrooms meeting sorting standards (target: 90%). - Tool: Simple checklist or photo documentation. - Plastic Waste Reduction (30%) - Action: Weigh or count plastic waste collected at the start and end of the year. - Indicator: Reduction in kilograms or number of plastic items compared to baseline. - Tool: Record sheets maintained by janitorial staff. - Recycling Workshops (3 events) - Action: Track attendance and collect feedback forms after each workshop. - Indicator: Number of workshops held and participant satisfaction (target: 3 workshops, >80% positive feedback). - Project Presentation - Action: Document the event with photos, videos, and attendance records. - Indicator: At least one school-wide or community event completed. - Knowledge and Attitude Change - Action: Conduct two surveys (start and end of year) for students and staff. - Indicator: Improvement in correct answers and positive attitudes toward waste and water issues (target: +20% improvement). - Next steps: - Analyze Data: Compare baseline and final results for each indicator. - Report Findings: Prepare a summary report with charts and key achievements. - Share Outcomes: Present results to students, parents, and local community. - Plan Improvements: Identify gaps (e.g., low participation or workshop attendance) and set new goals for the next school year. - Sustainability: Integrate successful practices into school policy (e.g., permanent recycling stations, annual environmental day).		

Institutional pathway towards impact #5

Our target
To achieve the goals of the EU Mission “Restore our Ocean and Waters” and the relevant Sustainable Development Goals (SDGs), our school follows a structured pathway towards impact. The process begins with an assessment of the current situation, identifying key environmental, social, and educational challenges related to ocean and water restoration. Building on this analysis, a shared vision is developed to define the desired change, guiding the school’s strategic direction and setting measurable targets.

Current situation
Our school is located on the island of Lemnos, a coastal environment where the quality of marine and freshwater ecosystems directly affects local wellbeing, biodiversity, and economic activity. Microplastics are an emerging threat that is increasingly visible in public discourse, but still not fully understood by many citizens, especially young people. At the same time, the school community recognises that marine pollution is strongly linked to everyday habits, such as the extensive use of single-use cups and bottles, and the lack of systematic reuse practices. Students frequently rely on bottled water, while awareness about alternatives (refilling, filtration systems, reduction of packaging) remains uneven. From an educational standpoint, environmental learning is most effective when it includes real-world experiences, scientific observation, and community engagement. Through the “Guardians of the Aegean” project, our school has already activated a strong foundation: students have participated in coastal clean-ups, interacted with expert organisations (Aegean Rebreath, A. C. Laskaridis Foundation), explored sustainable maritime practices (Aegean Cargo Sailing), and engaged with scientific approaches through visits and measurements (Archipelagos, University of the Aegean). These activities confirm that there is both student motivation and institutional capacity to develop a longer-term pathway toward measurable impact. However, the challenge remains to move from isolated actions to a stable institutional culture that consistently supports: • protection and restoration of coastal ecosystems, • microplastics prevention and reduction.
Vision
In 10 years, our school will function as a model “Blue School” for Lemnos, where ocean and water stewardship is embedded in everyday learning and school operations, and students consistently lead actions that protect coastal ecosystems, reduce microplastics, and promote circular, low-impact blue practices in the local community.
Success criteria
Within 10 years, our school aims to achieve the following measurable results, ensuring participation and impact at the whole-school level (~ 300 students): 1) Protection and restoration of coastal ecosystems • Organise and complete at least 2 coastal ecosystem actions per school year • (e.g., beach/port clean-ups, identification of polluted zones, awareness events linked to coastal protection). • Ensure participation of at least 120 students per year (~40% of the student body) in these activities. • Establish a student environmental team with at least 20 active members • annually to support planning, communication, and continuity. 2) Microplastics awareness and reduction of plastic use • Deliver at least 2 school-wide awareness actions per school year focused on microplastics and plastic pollution (e.g., expert visits/teleconferences, film-based discussions, themed workshops, classroom modules). • Reach at least 250 students per year (~80–85%) through these awareness and learning activities. • Achieve a minimum 30% reduction in single-use plastics at school (cups and bottles), measured through baseline vs follow-up waste audits (at least twice per year). • Run one continuous communication initiative per school year (e.g., social media campaign, posters, student-led presentations). 3) Circular and low-impact blue practices (blue economy dimension) • Implement at least 1 school–community action per year that promotes • circular and low-carbon habits (e.g., “Bring Your Own Cup” initiative with

• cafés, reuse campaigns, responsible consumption actions). • Engage at least 1 local stakeholder per year (municipality, port authority, NGOs, university departments, local cafés/shops) through meetings, joint events, or formal collaboration.		
4) Sustainable water management at school • Complete the installation and full operation of a school water filtration system, • and ensure that at least 200 students (~67%) regularly use refillable bottles by the end of the timeframe (tracked via surveys and observation). • Use collected rainwater for the school garden, covering at least 50% of garden irrigation needs during the growing season (based on basic usage records and teacher supervision).		
5) Monitoring, documentation, and evaluation • Conduct at least 2 monitoring/measurement activities per school year related to water quality (e.g., pH, salinity, temperature), using school equipment and partner support where needed. • Produce one annual impact report including: • number of students involved, • number and type of actions delivered, • partnerships and dissemination outcomes, • o evidence (photos, student products, short reflections).		
Actions towards impact		
Actions		Obstacles
1. Annual coastal ecosystem protection actions (2+ per year)		Need for permissions/safety supervision for students.
2. Whole-school microplastics education & awareness programme (2+ school-wide actions per year)		Limited time in the school timetable and pressure of curriculum demands
3. School plastic-reduction policy and behaviour change campaign		Habits are difficult to change; low adoption by part of the student. Limited cooperation of local businesses / community uptake.
4. Sustainable water management measures in school		Technical/maintenance issues (filters, spare parts, ongoing costs. Low student use if promotion and routines are not embedded.
5. Citizen science monitoring and data sharing		Teacher workload and need for staff continuity/training. Costs for transport/field visits or partner-supported activities.
Resources		
Actions	Human	Financial & Infrastructural
1. Annual coastal ecosystem protection actions (2+ per year)	Student Environmental Team (20 members/year) Participating students (~120/year). Teachers as supervisors and coordinators External support: Port Authority / Municipality / NGOs	Cleaning materials (gloves, bags, grabbers) Transport (if needed) to coastal sites Waste collection logistics (support from Municipality/Port Authority) First-aid & safety materials Communication material
2. Whole-school microplastics education	Teachers Guest speakers / experts Student team	Digital infrastructure (projector, computers)

& awareness programme (2+ actions per year)		Learning materials (presentations, worksheets, posters)
3. School plastic-reduction policy and behaviour change campaign	School leadership & teachers Student Environmental Team Student community (~300) as end-users Local businesses as community partners	Waste audit tools (simple recording sheets / bins checks) Posters / digital campaign materials Reusable cup/bottle promotion mechanisms Communication channels (school site, social media) Optional incentives (certificates / school recognition scheme)
4. Sustainable water management measures	School administration Teachers and technical support (monitoring use and maintenance routines) Students (daily use and behaviour change)	Water filtration system maintenance Refill points accessible to students Rainwater tank and basic irrigation connection for garden
5. Citizen science monitoring and data sharing	Teachers supervising field measurements Student team trained in monitoring methods External scientific partners (e.g., Archipelagos / University of the Aegean)	Monitoring equipment already acquired via ProBleu Field kits / consumables (where needed) Possible transport costs for field visits / partner- supported activities
Evaluation		
To evaluate progress and ensure continuous improvement, our school will implement a structured evaluation process linked to the Success Criteria and aligned to the EU Mission objectives and SDG targets. 1) Indicators and measurement tools Our school will monitor success using a combination of quantitative and qualitative indicators: Participation & engagement indicators • Number of coastal ecosystem actions delivered per year (target: ≥ 2/year) • Number of students participating in coastal actions (target: ≥ 120/year) • Number of active members in the student environmental team (target: ≥ 20/year) • Number of school-wide awareness actions on microplastics (target: ≥ 2/year) • Number of students reached through awareness actions (target: ≥ 250/year) Behavioural change indicators • Reduction of single-use plastics (cups and bottles) at school (target: $\geq 30\%$ reduction) measured through: ◦ baseline waste audit (beginning of school year) ◦ follow-up waste audit (mid-year and/or end of school year) Water management indicators • Regular use of refillable bottles by students (target: ≥ 200 students / $\sim 67\%$) tracked through short student surveys (twice per year) • Use of collected rainwater for garden irrigation (target: $\geq 50\%$ coverage) based on irrigation log maintained by responsible teachers/students Scientific monitoring indicators • Number of monitoring/measurement activities per year (target: ≥ 2/year) including parameters such as:		

○ pH ○ salinity ○ temperature • Recording of results in a shared school dataset (spreadsheet or digital logbook) for comparison across years. 2) Evaluation timeline (annual cycle) Evaluation will follow a consistent annual cycle: • September–October: baseline data collection (waste audit + student survey + planning of actions) • November–March: implementation phase and mid-term review (participation monitoring, documentation, progress check) • April–June: follow-up measurements (waste audit + survey + monitoring activities). Production of the annual impact report and identification of improvements for the following year 3) Documentation and reporting To ensure accountability and visibility, our school will produce one annual impact report, including: • number of students involved, • number and type of actions delivered, • partnerships and dissemination outcomes, • evidence (photos, student products). All outputs (photos, posters, presentations, measurements, student reflections) will be archived and published to our school website, to support continuity and long-term monitoring. 4) Using evaluation for improvement (next steps) Evaluation findings will be used to refine the roadmap each year through the following actions: • Adjusting awareness approaches if behavioural change targets are not met (e.g., stronger student-led peer campaigns, improved incentives, more frequent communication). • Strengthening partnerships with local stakeholders and NGOs if participation or logistical barriers limit field actions. • Expanding monitoring activities and integrating them into lessons to enhance scientific consistency and student ownership. • Reviewing the functionality and usage of the water filter and rainwater system to ensure they remain operational, visible, and actively used. This evaluation approach ensures that progress is measurable, evidence-based, and scalable, reinforcing our school's long-term contribution to healthier marine and freshwater ecosystems and a more sustainable local culture.

Institutional pathway towards impact #6

Our target
SDG 6 – Clean Water and Sanitation • Target 6.3: Improve water quality by reducing pollution, eliminating dumping of hazardous materials, and increasing wastewater treatment and safe reuse • Target 6.4: Increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity

Target 6.B: Support and strengthen the participation of local communities in improving water and sanitation management		
Current situation		
Our school faces several interconnected challenges in addressing water quality and ocean restoration. Limited financial and infrastructural resources restrict our ability to implement comprehensive water quality monitoring programs and acquire essential equipment such as water testing kits and educational materials. Additionally, we lack partnerships with local environmental organizations, research institutions, and governmental bodies that could provide technical expertise, funding opportunities, and practical support for our initiatives. Most critically, there is low community awareness about the importance of water quality and ocean health, with local residents demonstrating limited understanding of how water pollution affects human health, ecosystems, and future generations.		
Vision		
Within 10 years, every student will graduate as a water steward, equipped with knowledge and practical experience in water conservation, while our school maintains strong partnerships with environmental organizations and serves as a catalyst for community-wide awareness about water quality issues.		
Success criteria		
Increase water literacy among 80% of students and 60% of families through educational programs. Establish formal partnerships with at least 3-5 local environmental organizations, universities, or governmental agencies.		
Engage at least 100 students annually in hands-on water conservation projects.		
Actions towards impact		
Actions		Obstacles
Establish a student-led Water Quality Monitoring Program		Lack of water testing equipment and materials.
Develop Community Awareness Campaign		Limited budget for campaign materials and events. Difficulty reaching broader community beyond school families.
Build Strategic Partnerships		Lack of existing networks or contacts.
Resources		
Actions	Human	Financial & Infrastructural
Water Quality Monitoring Program	- Science teachers trained in water testing - Student volunteers (monitoring club) - Parent volunteers for transportation - External expert from environmental organization	- Water testing kits (pH, turbidity, dissolved oxygen): - Transportation costs for site visits - Safety equipment (boots, gloves) - Data recording materials and software
Community Awareness Campaign	Communications/marketing teacher - Student design team - Parent volunteers for event organization - Social media coordinator	- Printing materials (posters, brochures) - Event venue and refreshments - Social media tools and website hosting - Educational materials and displays
Build Strategic Partnerships	School principal or coordinator for partnership development	- Meeting and networking costs - Membership fees for

	- Administrative staff for documentation - Teacher liaison for ongoing collaboration	- environmental networks - Partnership agreement documentation - Communication tools (video conferencing, email)
Evaluation		
A semester progress review with staff and students will identify successes and challenges, leading to an annual impact report documenting achievements and lessons learned. We will track the following key indicators: • Number of water samples collected and analyzed per semester (target: 36 samples/year from 3 sites) • Number of students and community members participating in cleanup events and awareness activities (target: 100+ annually) • Pre- and post-program water literacy assessment scores showing percentage improvement in knowledge (target: 30% improvement) • Number of formal partnership agreements established (target: 3-5 within two years) • Volume of waste collected during cleanup events (measured in kg) Based on these findings, we will refine action plans, scale successful initiatives, seek additional partnerships and resources, and share best practices with other schools to expand our impact.		

Institutional pathway towards impact #7

Our target
SDG 6 – Clean Water and Sanitation Target 6.3: Improve water quality by reducing pollution. Target 6.6: Protect and restore water-related ecosystems, including rivers. SDG 14 – Life Below Water Target 14.1: Prevent and reduce pollution, particularly plastic waste, that reaches marine ecosystems through rivers.
Current situation
“Pashko Vasa” School is located in a community close to the Fan and Zme rivers, where water pollution, plastic waste, and limited environmental awareness present ongoing environmental challenges. Unsustainable human activities and insufficient waste management negatively affect local freshwater ecosystems and biodiversity. From a social perspective, students and their families have limited awareness of the long-term impacts of water pollution on public health and environmental sustainability. Educationally, opportunities for experiential and outdoor learning related to water protection are limited, and the school faces challenges in integrating practical water and river restoration topics into the curriculum. In addition, structured cooperation between the school, local institutions, and the community on water conservation remains underdeveloped.
Vision
In ten years, “Pashko Vasa” School will be a leading model of environmental and water education in the region, empowering students to act as active stewards of the Fan and Zme rivers. The school will serve as a hub for community engagement, promoting sustainable water use, river protection and long-term behavioural change for the benefit of people and freshwater ecosystems.
Success criteria
Within the set timeframe, “Pashko Vasa” School aims to achieve the following measurable results: At least 80% of students demonstrate increased knowledge and awareness of freshwater protection, pollution prevention and sustainable water use, as measured through surveys.

A reduction of at least 50% in plastic waste within the school premises and surrounding areas involved in school activities.
Implementation of a minimum of two water- and river-related educational and community-based activities per year, focusing on the Fan and Zme rivers.
Active participation of teachers, students and families in at least one collective environmental action annually.
Establishment of at least one long-term partnership with local stakeholders to support water and river protection initiatives.

Actions towards impact		
Actions	Obstacles	
Integrate water protection, river ecosystems, and pollution prevention topics related to the Fan and Zme rivers into the school curriculum	Limited availability of adapted teaching and learning materials	
Organise student-led clean-up activities along selected sections of the Fan and Zme rivers	Lack of equipment, transport, and logistical support	
Implement awareness-raising campaigns on plastic reduction and responsible water use within the school and community	Low initial engagement and limited environmental awareness among families	
Establish a school environmental club focused on river protection and sustainability	Time constraints within the school schedule	
Resources		
Actions	Human	Financial & Infrastructural
Integrate water and river protection topics into the curriculum	Teachers, school coordinator	Teaching materials, printed and digital resources
Organise river clean-up activities	Students, teachers, parents, local volunteers	Gloves, waste bags, transport support
Awareness-raising campaigns on plastic reduction and water conservation	Students, teachers	Posters, leaflets, basic printing costs
Establish and maintain a school environmental club	Teachers, students	Dedicated school space, basic equipment
Conduct simple water observation and monitoring activities	Teachers, students, local experts	Basic water testing kits, outdoor learning materials
Evaluation		
The school will evaluate progress by using a combination of quantitative and qualitative indicators aligned with the defined success criteria. Student knowledge and awareness will be measured through survey and participation records. Environmental impact will be monitored through observations of waste reduction, the frequency of clean-up activities, and visible improvements in the school environment and selected river areas. Annual reviews will be conducted by teachers and school coordinators to assess results, identify challenges, and adjust actions where necessary. Lessons learned will inform future planning, and successful practices will be shared with the local community and relevant stakeholders to strengthen long-term impact.		

Institutional pathway towards impact #8

Our target
SDG 6 – Clean Water and Sanitation Target 6.3: Improve water quality by reducing pollution Our school raises awareness about water pollution through curriculum-based lessons, student projects and campaigns focused on reducing plastic waste and harmful substances. Target 6.4: Increase water-use efficiency and ensure sustainable withdrawals The school promotes responsible water use through awareness activities, water-saving practices, and student-led monitoring of water consumption within the school. SDG 14 – Life Below Water Target 14.1: Prevent and significantly reduce marine pollution Our school contributes by educating students about marine litter and microplastics and by organising awareness campaigns to reduce plastic pollution. Target 14.2: Sustainably manage and protect marine and coastal ecosystems Through project-based learning, interdisciplinary activities and partnerships, students learn about marine ecosystems, biodiversity protection and climate resilience
Current situation
Located in a coastal area on the Black Sea, in Constanța, Romania, our school faces environmental challenges closely linked to marine and freshwater ecosystems, including marine pollution, plastic waste, pressure on coastal biodiversity, and the impacts of climate change on the Black Sea region. These challenges directly affect the local community and require continuous awareness and action. From a social perspective, there is a growing need to strengthen environmental responsibility among young people and to encourage active citizenship in protecting marine and water resources. Although awareness is increasing, behavioural change related to waste reduction, water use and ecosystem protection remains a key challenge. From an educational point of view, the school aims to continuously update and strengthen ocean literacy and sustainability education, ensuring that students develop not only knowledge but also practical skills and a sense of responsibility towards the ocean and waters. With almost 25 years of experience in environmental education, education for sustainable development and ocean literacy, our school actively addresses these challenges. Since 2020, the school has been part of the European Network of Blue Schools and NEBS Network, and is also a UNESCO school, promoting cultural values linked to natural and cultural tangible and intangible heritage. However, the complexity of current environmental challenges calls for deeper interdisciplinary approaches, stronger partnerships and innovative educational practices to further support ocean and water restoration efforts.
Vision
In the next 10 years, our school will continue to be a reference point for ocean literacy and environmental education in the Black Sea coastal area, supporting students in developing responsible attitudes and practical skills for protecting marine and freshwater ecosystems. The school will strengthen interdisciplinary learning and partnerships to contribute steadily to sustainable water and ocean stewardship at local and European level.
Success criteria
• the number of students involved annually in ocean literacy, water protection and sustainability education activities; • the number of interdisciplinary projects, workshops and campaigns focused on ocean and freshwater restoration; • measurable reductions in single-use plastic consumption and improved waste separation within the school; • participation in local clean-up actions and environmental events related to the Black Sea and inland waters;

- the number of partnerships and networks (e.g. Blue Schools, UNESCO, local stakeholders) actively contributing to learning activities; - evidence of increased student awareness and responsible behaviour, assessed through surveys, reflections and project outcomes.		
Actions towards impact		
Actions	Obstacles	
Implement school-wide marine and freshwater conservation programs, including clean-up campaigns along the Black Sea coast and local rivers.	Limited funding for materials and transportation for field activities.	
Integrate ocean literacy and water stewardship modules into the curriculum.	Overloaded curriculum in specialized topics.	
Reduce single-use plastics and promote sustainable alternatives in school cafeterias and events.	Resistance to change from suppliers or people's habits.	
Organize workshops and awareness campaigns involving students, families, and local communities.	Low initial engagement from parents and community members.	
Develop partnerships with local and European NGOs, research institutes, and schools for joint projects.	Coordinating schedules and priorities across multiple institutions.	
Resources		
Actions	Human	Financial & Infrastructural
Implement school-wide marine and freshwater conservation programs (water analysis and biodiversity research campaigns for rivers and coastal areas)	Teachers, students, volunteers from local NGO's	Funding for transportation, equipment;
Integrate ocean literacy and water stewardship modules into curriculum	Science teachers, guest lecturers from marine research institutes and local NGO's	Classroom materials, digital resources, lab equipment
Reduce single-use plastics and promote sustainable alternatives	School staff, students	Budget for reusable utensils, water bottles, partnerships with sustainable suppliers
Organize workshops and awareness campaigns with students, families, and local communities	Teachers, students, NGO experts, local authorities	Funds for event logistics, educational materials, promotional tools
Develop partnerships with local NGOs, research institutes, and Network of European Blue Schools members	School leadership, teachers, project coordinators	Budget for travel, collaborative project materials
Evaluation		
Indicators:		
1. Student participation in marine and freshwater projects: number of students involved in clean-up campaigns, restoration projects, and workshops each year. Indicator: ≥30% increase in active participation within 5 years.		
2. Reduction of single-use plastics in school: Monitoring the quantity of single-use plastics purchased and disposed of in the school. Indicator: ≥30% reduction within 3 years.		

3. Community engagement: number of workshops, awareness campaigns, and collaborative events organized with families and local communities. Indicator: At least 5 events annually.
4. Biodiversity and water quality improvements: simple monitoring methods (e.g., water testing kits, species counts) in local rivers and coastal areas where restoration projects occur. Indicator: number of school research projects developed to measure improvements in water quality and biodiversity presence over time.
5. Partnership effectiveness: number of joint projects and collaborations with local NGOs, research institutes, and European Blue Schools. Indicator: ≥3 active partnerships each year with tangible project outputs.

Next Steps:

- Develop an annual monitoring plan to record participation, materials use, and environmental impact.
- Train students and teachers on data collection, biodiversity monitoring, and reporting methods.
- Share progress reports with the school community and partner institutions to promote transparency and motivation.
- Adjust actions and strategies based on monitoring results to continuously improve outcomes.
- Expand successful projects and best practices to other schools in the NEBS network and local community.

Institutional pathway towards impact #9

Our target
Our school contributes to the Sustainable Development Goals by advancing SDG 6 (Clean Water and Sanitation) and SDG 14 (Life Below Water) through student-led investigation, environmental documentation, and awareness-raising activities that promote the protection, sustainable management, and restoration of freshwater ecosystems.
Current situation
Our school is situated in a municipality affected by significant freshwater challenges, including pollution of rivers such as Sitnica and the degradation of wetlands like the Henc marsh. Students have limited opportunities to connect their learning with real-life environmental issues, particularly related to water ecosystems. Socially, there is low awareness among youth and the community about the importance of freshwater protection in a landlocked country like Kosovo. Educationally, water literacy is underrepresented in the curriculum, and practical, civic-oriented environmental education is still emerging. These gaps present both a challenge and an opportunity for change.
Vision
In ten years, our school aims to become a model of environmental education and water literacy, where students are active citizens leading community-based environmental initiatives. We envision

a school where outdoor learning, digital storytelling, and interdisciplinary environmental education are embedded into everyday learning.		
Success criteria		
- At least one interdisciplinary water-related project implemented each year with full student engagement. - Integration of water protection topics into science, geography, and civic education curricula. - Participation in national and international water education networks (e.g., Blue Schools). - Improved awareness and behavioural change among students, measured through pre- and post-project surveys. - Creation of reusable educational materials that reach at least 5 other schools or community groups annually.		
Actions towards impact		
Actions	Obstacles	
1. Organizing field visits to polluted rivers and wetlands	Weather conditions; limited transport availability	
2. Conducting interviews with water experts and community members	Scheduling and access to experts	
3. Producing and editing the student-led documentary on water awareness	Limited technical skills and time constraints	
4. Sharing results through school events, social media and other schools	Reaching wider audience outside the school community	
5. Integrating water-related topics into interdisciplinary school lessons	Curriculum constraints and lack of teaching resources	
Resources		
Actions	Human	Financial & Infrastructural
1. Field visits	Teachers, students, police escort	School minibus, snacks, weather gear
2. Interviews	Mentors, experts, media teacher	Audio-visual equipment, transportation
3. Video production	Media teacher, editor, translator	Adobe Premiere Pro, camera, microphones, tripod
4. Public screening & distribution	School staff, project coordinator	Projector, venue setup, printing posters
5. Lesson integration	Subject teachers (science, geography, civic ed.)	Access to project materials and ICT tools
Evaluation		
To evaluate success, the school will use pre- and post-activity surveys to measure changes in students' awareness and understanding of freshwater issues. Additionally, success will be measured by the number of students actively engaged, the quality and reach of the documentary, and feedback from the community. Documentation, media reach analytics, and teacher reflections will serve as qualitative indicators. The project team will also compile a final report and organize a reflection session to identify lessons learned and define next steps for future environmental education projects.		

Institutional pathway towards impact #10

Our target
SDG 14, Target 14-1 “Reduce marine pollution”: Our school aims to sensitize the public and particularly children about the negative impact of underwater noise pollution on marine life. By getting children to listen to underwater sounds in the presence or absence of boats, container ships, tugboats or drilling rigs, they will become aware of how human activity is a source of underwater noise. Through games, children will learn how this noise can affect communication between marine organisms and, therefore, understand how their choices (or those of their parents) could mitigate noise pollution. SDG14, Target 14-A “Increase scientific knowledge, research and technology for ocean health”: The school aims to involve its own students as well as other participating schools into a citizen science initiative, whereby they go out and record underwater sounds along different stretches of the bay of Koper. This will provide a wealth of data about noise in relation to location, time of the day and season. The data can then be used to identify trends or construct noise maps. Moreover, through the use of hydrophones, underwater cameras, sampling nets and microscopes, children will get a hand on actual scientific protocols and methodologies, which can instruct them on how to run science projects.
Current situation
Our school is located in Koper-Capodistria, a small town along the Slovenian coast. Half of the shoreline in the municipality of Koper is taken up by the port, which is used by cruisers, container ships, other cargo ships and military vessels. Besides that, the centre of town has also a sports marina and harbour for small leisure boats. All this boat capacity puts a strain on the local marine ecosystem in terms of oil spills, ballast waters, noise pollution and accidental collisions. At the beginning of the school year, the students were asked to respond to a questionnaire about the impact of human activity on marine life. It turned out that students were aware of issues, such as global warming, microplastics, coral bleaching and oil spills. They also mostly used the sea for leisure in summer: to swim, go snorkelling, kayak, fish or go on family trips with a motorboat. However, they were not aware of issues such as overfishing, invasive species, loss of habitat or noise pollution. The latter are less visible to the eye, receive less attention by the media or are not included in school curricula. Therefore, schools should dedicate more efforts to educating students about visible but also less apparent threats to our local marine environment and the impact they have.
Vision
Our school aims to bring the challenges faced by our local marine and terrestrial ecosystems into the classroom, so that students can make informed choices about the impact of their daily actions on the well-being of the local environment. Within the next 10 years, the school will increase awareness of the EU Mission “Restore our Oceans and Waters” by including measurements of marine life well-being and sustainable practices into the biology curriculum, MTI curriculum and outreach activities.
Success criteria
Within the next 10 years, the school aims to achieve the following: - All students visit the Marine Biology Station in Piran at the beginning of their studies. - By the end of the first year, students can describe at least three challenges faced by the local marine environment. - By the end of their second year, students can perform on site measurements of marine biodiversity. - By the end of their third year, students produce a work of art or classroom activities to sensitize the public (children, teachers, family) about the need for marine conservation. - By the end of their last year, students can come up with a science project of their own to measure the impact of human activity on marine ecosystems. - Visiting or exchange students take part in at least one citizen science activity.

- Every year the school proposes one citizen science outreach activity to partner schools within the UNESCO network.		
Actions towards impact		
Actions	Obstacles	
Mapping of underwater noise pollution at different locations, times and seasons along the coast. Underwater sounds are important for communication by marine organisms; yet we are not aware of them and, particularly we are not aware of how human activity interferes with them.	It is difficult to predict ship activity in the port and, therefore, measurements on site may not always yield all desirable conditions.	
Use of biowaste from marine organisms as a source of sustainable materials for constructing objects of daily use or as fertilizer. Shells or exoskeletons from Crustacea discarded from meals can find a second life as fertilizers or powder for making biobricks, from which new objects can be created.	Insufficient shells or exoskeletons are collected by students from their home waste. This issue can be mitigated by asking restaurants to donate their discarded shells/crustaceans.	
Identification of invasive species such as the blue crab, Ctenophora and certain jellyfish. These species have a negative impact on fish and local crabs, but most people are unaware of them or cannot recognize them.	While most invasive species are found all year round, some jellyfish may be present only during the summer holiday season. Sampling at the end of June, just before the end of the school year, could be attempted.	
Monitoring of local marine habitats to assess their change over time in terms of species richness, diversity and physical parameters. Habitat loss is a serious issue in the Bay of Koper, but witnessing its effects requires regular and ongoing measurements.	Canoe rental for on site measurements may not be available during the school year, in which case shore-based assays may be necessary.	
Outreach activities to promote awareness of the challenges faced by the local marine environment. Games, art, visual or sound installations, science project protocols and demos can be effective at engaging local schoolchildren.	Schools have set schedules and last-minute or external activities are difficult to accommodate into their plans. Advance planning and agreement with teachers is a solution.	
Resources		
Actions	Human	Financial & Infrastructure
Mapping of underwater noise pollution at different locations, times and seasons along the coast.	One teacher and one class of students	ProBleu, school own funds. All necessary equipment is already available.
Use of biowaste from marine organisms as a source of sustainable materials for constructing objects of daily use or as fertilizer.	Two teachers, an external collaborator and one class of students	School own funds. All necessary equipment is already available except for a grinder.
Identification of invasive species such as the blue crab, Ctenophora and certain jellyfish.	One teacher and one class of students	School own funds. All necessary equipment is already available.

Monitoring of local marine habitats to assess their change over time in terms of species richness, diversity and physical parameters.	Two teachers and one class of students	Municipal funds and school own funds. All necessary equipment is already available except for canoe rental.
Outreach activities to promote awareness of the challenges faced by the local marine environment.	One teacher and one class of students	UNESCO, ProBleu, school own funds. All necessary equipment is already available except for some art supplies.
Evaluation		
To measure the success of the proposed actions, the school will ask any external beneficiaries participating in outreach activities (other schoolchildren, their mentors, visiting/exchange students or teachers) to fill in short questionnaires. The questionnaires will be distributed on site and filled in immediately at the end of each activity. They will be tailored to the type of public and, therefore, could be either in print, digital or live form. The school's own students will be evaluated for their work as part of their regular curriculum and receive grades that reflect their commitment and understanding of the actions taken. Based on how the activities proceed and the feedback given by the participants, the activities will be modified or cancelled, with new ones implemented instead. Given the positive experience the school has had so far with engaging other partners into citizen science projects, we believe that the proposed actions will also serve to strengthen ties among schools.		

5. Examples of Project Impact Towards the Mission and the SDGs

The following examples are drawn from ProBleu-funded projects and illustrate how Blue School initiatives create measurable impacts toward the EU Mission objectives and SDG targets. These real-world cases demonstrate the diverse pathways through which school-based projects contribute to ocean and water restoration across the EU and associated countries.

Educators used the [MICS](#) (Measuring Impact of Citizen Science) tool to assess the reach and effectiveness of their ProBleu-funded project. This tool provides a standardised method for capturing the multi-dimensional impact of participatory research. These findings are formally documented and consolidated within Deliverable 5.3.

5.1 Mission Objective 1: Protect and Restore Marine and Freshwater Ecosystems and Biodiversity

CIFP Can Marines, Spain

Project description:

An integrated vocational training centre providing education in agriculture and maritime fishing developed a comprehensive project to germinate *Posidonia oceanica* seeds and repopulate degraded coastal areas. *Posidonia* meadows are critical Mediterranean ecosystems that support biodiversity,

protect coastlines, and sequester significant amounts of carbon. Students applied knowledge from multiple modules, germination techniques, seedling development, and water chemistry monitoring while partnering with local authorities, research institutes (IMEDEA - Mediterranean Institute of Advanced Studies), and environmental NGOs.

Impact pathways:

- Students conducted germination trials, developed seedling cultivation protocols, and successfully repopulated degraded seagrass areas along the Ibiza coastline, restoring critical marine habitat
- Vocational students, the island's future nautical, fishing, and agricultural professionals, gained hands-on experience in marine restoration, integrating conservation into their career preparation
- Partnerships with Santa Eulalia and Ibiza Town Councils (environmental departments), IMEDEA researchers, GEN GOB environmental NGO, local dive centres, and three secondary schools created a regional restoration network
- Digital educational materials, germination protocols, and monitoring data were made publicly available, enabling replication across the Mediterranean region
- Public presentations at regional fairs (Professional Training Fair, Environment Fair, Agro-ecological Production Fairs) reached thousands of community members, building support for seagrass protection

This project demonstrates how vocational education can directly contribute to ecosystem restoration while preparing students for blue economy careers that integrate conservation principles. The collaboration between educational institutions, research organisations, and local authorities created a scalable model for seagrass restoration in Mediterranean coastal communities.

5.2. Mission Objective 2: Prevent and Eliminate Pollution of our Ocean, Seas and Waters

La Muntanyeta School, Spain

Project description:

This inland school developed a comprehensive water awareness project connecting freshwater quality to ocean health. Through research, experimentation, and scientific method, students investigated water pollution processes, particularly eutrophication in laboratory settings and explored solutions. The project engaged the entire school community (students, families, teachers) in understanding that protecting freshwater systems is essential for protecting oceans.

Impact pathways:

- Students conducted laboratory experiments on eutrophication processes, analysing how excess nutrients affect water quality and create environmental problems that cascade from freshwater to marine systems
- By focusing on the relationship between freshwater and ocean health, students in an inland location understood their role in protecting marine environments through local water stewardship
- Collaboration with the Environmental Engineering and Microbiology Group (GEMMA) at Universitat Politècnica de Catalunya provided scientific expertise and validated student research approaches
- Awareness campaigns reached 200 students and 50+ family members annually, promoting simple actions, reducing household chemicals, proper waste disposal, and water conservation that prevent pollution from entering water systems
- Materials shared through the District Resource Centre, etwinning European school networks, and local media (Betevé television, La Marina newspaper) multiplied impact beyond the school community

This project illustrates how inland schools can meaningfully contribute to ocean protection by addressing pollution at its source. The scientific approach to understanding eutrophication, combined with community engagement, created informed citizens who recognise their responsibility for water quality regardless of proximity to the coast.

5.3. Mission Objective 3: Make the Sustainable Blue Economy Carbon-neutral and Circular

Strömstad Gymnasium, Sweden

Project description:

Building on their established Blue School certification, Strömstad Gymnasium expanded its annual 'Life at Sea' program to focus on sustainable food resources from lower trophic levels. The project organised marine food events featuring algae, sea urchins, mussels, and sustainable shrimp, partnering with innovative local blue food-tech companies and small-scale fisheries. All 380 students and teachers participated, with additional research-based field work at Tjärnö Marine Laboratory, Gothenburg University.

Impact pathways:

- Direct collaboration with Nordic Seafarm (algae production), Pronofa (sea urchins), and Scanfjord/Musselbaren (mussels) connected students with emerging sustainable aquaculture businesses, demonstrating viable blue economy careers.
- Three innovative marine food events, sustainable seafood lunch prepared by local chefs, company exhibitions with taste samples, and hands-on cooking workshops introduced 380 students to lower-trophic seafood as nutritious, sustainable alternatives to conventional protein sources (Figure 13).

- School cultivated algae using a commercial buoy system from Nordic Seafarm, providing students with direct experience with sustainable mariculture technologies and business models.
- Five-week field research projects at Tjärnö Marine Laboratory enabled final-year students to conduct scientific investigations into marine ecosystems and sustainable resource use, preparing them for marine science careers.
- Parents attended presentations showcasing sustainable seafood initiatives, extending awareness into households and influencing family consumption patterns.

This project exemplifies how Blue Schools can advance the circular, sustainable blue economy by connecting students with innovative marine food businesses, shifting perceptions about seafood sustainability, and preparing the next generation for blue economy careers. The emphasis on lower-trophic species addresses overfishing while supporting emerging aquaculture sectors aligned with circular economy principles.



Figure 13 Students at the marine food events

5.4. SDG 6.3: Improve Water Quality by Reducing Pollution

École élémentaire, France

Project description:

Students established themselves as guardians of the Thau Lagoon, a biodiverse Mediterranean lagoon supporting shellfish aquaculture, fishing, and recreation. Over an academic year, students explored the lagoon's ecosystems, studied marine biodiversity, identified environmental pressures, and

collaborated with local authorities and stakeholders to define conservation actions. The project emphasised water quality monitoring as fundamental to protecting both freshwater inputs and marine lagoon health.

Impact pathways:

- Students conducted regular monitoring of lagoon water parameters, documenting baseline conditions and tracking changes over time, with support from IFREMER scientists and the Marine Station, which provided equipment and expertise
- Field observations of marine fauna and flora, plankton analysis under microscopes, and ecosystem mapping created comprehensive biodiversity inventories that inform lagoon management decisions
- Partnership with the municipality (site owner) and Mixed Union of the Thau Basin positioned students as legitimate stakeholders in lagoon governance, enabling youth voices in environmental management
- Investigations of pressures affecting the lagoon, nutrient inputs, urban runoff, and aquaculture impacts helped students understand water quality degradation pathways and advocate for source reduction
- Student-organised presentations, exhibitions, and Ocean Day events shared findings with families and the broader community, extending water quality awareness beyond the school. Regular blog updates documented progress and encouraged public engagement (Figure 14)

This project demonstrates how young students can contribute meaningful water quality data while developing as environmental stewards. The emphasis on co-management with local authorities recognises students as legitimate participants in watershed governance, creating pathways for youth environmental leadership. By connecting freshwater inputs to lagoon health, the project reinforces the land-sea continuum essential to both SDG 6 and SDG 14.



Figure 14 Students of École élémentaire, France

5.5. SDG 6.3.2: The Guardians of the Streams

Primary School, Beersel, Belgium

Project description:

Through hands-on citizen science using FreshWater Watch protocols developed by Earthwatch Europe, students monitored water quality, identified aquatic species, and observed ecological change. Working in small teams, children used water quality testing kits, field guides, and observation logs to become caretakers of their watershed. The project combined rigorous fieldwork with creative interpretation: collected data was transformed into posters, audio recordings, and guides for public events. The initiative partnered with Toverbos (nature-based education), River Cleanup, Natagora (conservation NGO), and the municipality. Designed as a 6-month project, it established reusable toolkits and annual monitoring routines for long-term impact, fostering curiosity, critical thinking, and deep ecological awareness in young water stewards.

Impact pathways:

- FreshWater Watch protocols enabled even ages 6-12 to contribute scientifically valid water quality data to regional and European freshwater databases, demonstrating that rigorous citizen science is achievable with primary-aged students when appropriately supported.
- Monitoring three different waterways developed a comparative understanding of how land use affects water quality, building systems-level thinking about watershed health and the connections between local streams and downstream ecosystems.
- Public celebration day and accessible materials extended water stewardship awareness beyond students. Families participated in findings presentations, and community members gained access to local watershed health information.
- Collaboration with Toverbos, River Cleanup, Natagora, and municipal authorities created a support ecosystem providing expertise, resources, and legitimacy that ensures program continuity beyond individual teachers or student cohorts.
- Transforming scientific data into posters, audio recordings, and public guides developed students' science communication skills while making technical watershed information accessible to diverse community audiences.
- Reusable toolkits and annual monitoring routines positioned the school for multi-year data collection that can detect trends and measure intervention effectiveness, building institutional capacity for sustained watershed stewardship.

This project exemplifies how young students engage in meaningful citizen science through age-appropriate adaptations of rigorous protocols like FreshWater Watch. By focusing on accessible local streams, the project built place-based environmental literacy while contributing to watershed assessment. The emphasis on emotional and scientific discovery recognises that environmental stewardship requires both knowledge and care. As an inland, freshwater-focused project, it demonstrates the critical SDG 6-SDG 14 connection: protecting local streams is protecting the ocean, as all freshwater eventually flows to marine environments.

5.6. SDG 14.5: Conserve coastal and marine areas

Fowey Primary School, United Kingdom

Project description:

Located on the Fowey estuary, a designated National Landscape and marine conservation zone in Cornwall, this primary school developed an immersive six-month project combining classroom learning with on-water experiences. Year 5 and 6 students (ages 9-11) explored their local estuary ecosystem, history, wildlife, and human impacts through both land-based activities and kayaking sessions. The project specifically addressed equity by providing estuary access to students who had never experienced it due to economic and social barriers.

Impact pathways:

- Students learned the ecological and regulatory significance of their local marine conservation zone, developing a personal connection and commitment to protecting this nationally important area

- Six on-water kayaking sessions enabled direct observation of estuary ecosystems, wildlife, tidal dynamics, and human activities, creating experiential knowledge impossible to replicate in classrooms
- Curriculum modules covered estuary ecosystems and protected zones, environmental impacts, wildlife and conservation, maritime history and communities, sustainable tourism, and river safety, integrating ecological, cultural, and socioeconomic dimensions
- Collaboration with Fowey Harbour Commissioner, Natural England, Encounter Cornwall, and Fowey RNLI connected students with professionals responsible for managing and protecting the estuary
- Providing estuary access to students who had never experienced it, despite living in Fowey, addressed environmental justice concerns and ensured diverse community members develop stewardship relationships with protected areas
- Materials and approaches shared across their 14-school multi-academy trust enabled replication in both coastal and inland schools, scaling impact regionally

This project exemplifies how place-based marine education can build stewardship for protected areas while addressing equity gaps in environmental access. By combining experiential learning with formal partnerships, young students become informed advocates for marine conservation zones, understanding both their ecological value and the regulations that protect them.

Through the ProBleu network, these proven approaches can be scaled, refined, and adapted to diverse geographic, cultural, and educational contexts across the EU and associated countries. The accumulated evidence demonstrates that Blue School projects create measurable contributions to the EU Mission objectives and SDG targets while preparing a generation equipped to address complex ocean and water challenges.

Acknowledgements

Acknowledgment for ProBleu schools which participated in the co-creation sessions.

References

- Allworth, J., D'Souza, L., & Henning, G. (2023). The Case for Design Thinking in Higher Education and Student Affairs. *Design Thinking in Student Affairs*, 1–13.
<https://doi.org/10.4324/9781003444084-1>
- Bonney, R., Phillips, T. B., Ballard, H. L., & Enck, J. W. (2016). Can citizen science enhance public understanding of science?. *Public understanding of science*, 25(1), 2-16.
- Cunha, A. S., Cordeiro, J. V., & Victorino, G. (2026). Design thinking for organizational change: A systematic review of enablers and barriers. *Journal of Open Innovation: Technology, Market, and Complexity*, 12(1). <https://doi.org/10.1016/j.joitmc.2026.100742>
- European Commission. (2020). *EU Biodiversity Strategy for 2030: Bringing nature back into our lives*. COM(2020) 380 final. Brussels: European Commission.

- European Commission. (2021a). *Mission Implementation Plan: Restore our Ocean and Waters by 2030*. Brussels: European Commission.
- European Commission. (2021b). *Pathway to a Healthy Planet for All: EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'*. COM(2021) 400 final. Brussels: European Commission.
- European Commission. (2021c). *European Climate Law*. Regulation (EU) 2021/1119. Brussels: European Commission.
- European Commission. (2021d). *On a new approach for a sustainable blue economy in the EU: Transforming the EU's Blue Economy for a Sustainable Future*. COM(2021) 240 final. Brussels: European Commission.
- Fauville, G., Strang, C., Cannady, M. A., & Chen, Y. F. (2019). Development of the International Ocean Literacy Survey: measuring knowledge across the world. *Environmental Education Research*, 25(2), 238-263.
- Fei, C. (2024). Design Thinking Models and Tools to Support the Design Process. *Lecture Notes in Educational Technology, Part F2540*, 49–77. https://doi.org/10.1007/978-981-97-0076-9_4
- Heinrich, W. F., Ludwig, P. M., McCarthy, S. R., Lewis, E. J., Swayne, N., & Louson, E. (2021). Testing Assessments of Integrated Experiential Learning. *Applying Design Thinking to the Measurement of Experiential Learning*, 288–309. <https://doi.org/10.4018/978-1-7998-7768-4.ch018>
- Hendricks, S., Conrad, N., Douglas, T. S., & Mutsvangwa, T. (2018). A modified stakeholder participation assessment framework for design thinking in health innovation. *Healthcare*, 6(3), 191–196. <https://doi.org/10.1016/j.hjdsi.2018.06.003>
- Jadan-Guerrero, J., Miranda, S., Altamirano, Z., & Manzano, J. (2017). Design thinking paradigm in the development of an open source strategic planning framework. *Proceedings - 2017 International Conference on Information Systems and Computer Science, INCISCOS 2017, 2017-November*, 347–352. <https://doi.org/10.1109/INCISCOS.2017.63>
- Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., ... & Law, K. L. (2015). Plastic waste inputs from land into the ocean. *science*, 347(6223), 768-771.
- Kerr, K. G., & Tweedy, J. (2021). The Curricular Approach: How Design Thinking Can Identify and Center Ubiquitous Institutional Learning Goals. <https://Services.lgi-Global.Com/Resolvedoi/Resolve.aspx?Doi=10.4018/978-1-7998-7768-4.Ch006>, 96–106. <https://doi.org/10.4018/978-1-7998-7768-4.ch006>
- Kershaw, P. J., Turra, A., & Galgani, F. (2019). GESAMP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection: London.
- Macreadie, P. I., Anton, A., Raven, J. A., Beaumont, N., Connolly, R. M., Friess, D. A., ... & Duarte, C. M. (2019). The future of Blue Carbon science. *Nature communications*, 10(1), 3998.
- McKinley, E., & Fletcher, S. (2012). Improving marine environmental health through marine citizenship: a call for debate. *Marine Policy*, 36(3), 839-843.

- Okada, Y., Kishita, Y., Nomaguchi, Y., Yano, T., & Ohtomi, K. (2022). Backcasting-Based Method for Designing Roadmaps to Achieve a Sustainable Future. *IEEE Transactions on Engineering Management*, 69(1), 168–178. <https://doi.org/10.1109/TEM.2020.3008444>
- Peck, A., Antonen, J., & Preston, M. (2016). Using Design Thinking to Develop and Guide Institutional Strategy. *Https://Services.Igi-Global.Com/Resolvedoi/Resolve.aspx?Doi=10.4018/978-1-7998-7768-4.Ch016*, 245–270. <https://doi.org/10.4018/978-1-7998-7768-4.ch016>
- Santoro, F., Selvaggia, S., Scowcroft, G., Fauville, G., & Tuddenham, P. (2017). *Ocean literacy for all: a toolkit* (Vol. 80). UNESCO Publishing.