

Work package summary

The work package focuses on valorising seaweed residues through collaborative strategies, pilot actions and capacity building. Joint strategies and implementation plans will optimise value chains for a circular and resource-efficient economy. Pilot actions will test tools and solutions for establishing circular value chains. Capacity building initiatives will enhance stakeholders' knowledge and skills. The goal is to maximise the value of seaweed residues, develop innovative circular value chains and raise awareness for more efficient resource utilisation. The work package contributes to a sustainable transition to a circular and resource efficient economy in the seaweed sector of the NWE region.

Activities

Activity 1.1	
Title	Elaboration and implementation of collaboration /implementation plan
Start period	Period 1, 1 - 6
End period	Period 2, 7 - 12
Description	<p>This project activity focuses on developing and implementing (through pilot actions) a joint collaboration/implementation document to fully capitalize on the potential of seaweed through the innovative process technology of Zeefier and BlueBlocks. The goal is to establish a unified approach and actionable steps for unlocking the economic, environmental and social benefits of seaweed resources. The key components of the collaboration/implementation document include 1) stakeholder engagement and strategy development, 2) document design and resource allocation, 3) documentation and reporting, 4) implementation and monitoring, and 5) evaluation and adaptation.</p> <p>1) Stakeholder engagement involves actively involving relevant stakeholders through consultations and meetings to gather their input and ensure their involvement in the strategy development process. This collaborative approach helps in formulating a shared vision, setting goals and establishing strategic priorities for maximizing the value of seaweed. A thorough analysis of the current state of seaweed utilization, along with identifying challenges and opportunities, allows for the creation of clear objectives.</p>

Activity 1.1	<p>2) The document design phase outlines specific steps and initiatives required to achieve the strategic objectives. This includes defining timelines, assigning responsibilities and establishing key performance indicators to monitor progress effectively. Identifying the necessary resources, such as funding, expertise, technology and available seaweed sources, ensures a well-supported implementation of the pilot actions. Developing a budget and securing the required resources, not least the inventory of available (residue) seaweed streams in the NWE region, is a crucial aspect of resource allocation.</p> <p>3) Documentation and reporting involve compiling all essential elements of the collaboration plan, including the vision, goals, strategic priorities, action steps, and resource allocation. This comprehensive document serves as a roadmap for the project, ensuring clarity and alignment among all stakeholders.</p> <p>4) Implementation and monitoring involve executing the action steps and initiatives outlined in the collaboration plan. It includes tracking progress, achieving milestones, and assessing the effectiveness of the measures implemented. Regular monitoring enables adjustments and fine-tuning as needed.</p> <p>5) Evaluation and adaptation involve conducting periodic assessments to evaluate the impact and success of the collaboration/implementation plan. This process helps identify areas for improvement and make necessary adjustments to ensure continued relevance and effectiveness.</p> <p>By implementing this project activity, the aim is to foster collaboration, drive innovation and facilitate the comprehensive valorisation of seaweed resources in the NWE region. Ultimately, this contributes to the development of a sustainable and circular economy by harnessing the full potential of seaweed.</p>
---------------------	---

Deliverables 1.1			
Running number	Deliverable title	Description	Delivery period
D.1.1.1	Stakeholder engagement report	A detailed report outlining the results of stakeholder consultations. It includes a shared vision, established goals and strategic priorities. This deliverable serves as the foundation for the collaborative approach towards maximizing the value of seaweed resources.	Period 1, 1 - 6
D.1.1.2	Resource allocation plan	A comprehensive plan detailing the resource allocation strategy, including the budget, funding sources and inventory of available seaweed streams. It acts as a guide for effective implementation of the pilot actions.	Period 1, 1 - 6
D.1.1.3	Implementation plan	The document will outline the purpose, vision, goals, planning and key actions to be taken towards the project outcomes and allocate them to the appropriate partner(s).	Period 1, 1 - 6
D.1.1.4	Amended implementation plan	Following the stakeholder report and new insights from the project execution, the Implementation Plan (D1.1.3) will be updated to ensure the continued relevance and effectiveness of the project.	Period 2, 7 - 12

Activity 1.2	
Title	Pilot actions for testing tools and solutions for seaweed valorisation
Start period	Period 1, 1 - 6
End period	Period 3, 13 - 18
Description	<p>The objective of this project activity is to test and evaluate tools and enabling solutions for the valorisation of seaweed residues to produce sustainable dyes and building materials; please see application attachment AlgaeVALOR Process Diagram. Zeefier and Blueblocks, utilizing their unique process technology, will conduct pilot actions to explore the feasibility, efficiency and environmental impact of utilizing seaweed residues in the textile and construction industries.</p> <p>To achieve this, the project will focus on the development and implementation of innovative tools and solutions specifically designed for seaweed residue valorisation. Within the framework of this</p>

Activity 1.2	
	<p>project, the focus is on the valorization of Ulva (a green seaweed) and Saccharina (a brown seaweed), but various seaweed species are opportune. Collaboration with the other project partners, experts and stakeholders in the NWE region will drive the refinement of these technologies and the creation of processes that meet environmental standards and ensure high-quality outputs.</p> <p>Pilot testing will be conducted to assess the effectiveness and viability of the tools and solutions. This will involve setting up small-scale production and demonstrations, where UGent and Green Turtle provide sufficient representative production materials to evaluate their performance in real-world conditions. The project will closely monitor and evaluate factors such as efficiency, resource consumption, environmental impact and resulting product quality. The data and feedback collected during this phase will inform improvements and optimisations.</p> <p>The project aims to foster knowledge sharing and collaboration by disseminating the findings and outcomes of the pilot actions to relevant stakeholders, including industry professionals, researchers, and policymakers. Through this exchange, the project aims to accelerate the adoption of sustainable practices in the textile and construction sectors.</p> <p>Based on positive results and feedback, strategies for scaling up production (seaweed production and processing) will be developed. The project will explore opportunities for commercialisation and market integration, driving the widespread adoption of sustainable dyes and building materials derived from seaweed residues.</p> <p>Continuous improvement is a key focus, with a commitment to refining and enhancing the tools and solutions based on feedback, technological advancements and emerging sustainability standards. The project aims for ongoing progress in terms of efficiency, cost-effectiveness and environmental impact.</p> <p>Through these pilot actions, the project aims to demonstrate the feasibility and potential benefits of</p>

Activity 1.2	
	utilising seaweed residues as a sustainable resource in the textile and construction industries. The results obtained will contribute to the development of more environmentally friendly and resource-efficient practices, promoting a sustainable future.

Deliverables 1.2			
Running number	Deliverable title	Description	Delivery period
D.1.2.1	Performance metrics dashboard	This (digital) tool will enable monitoring and evaluation of factors such as efficiency, resource consumption, environmental impact and product quality. Stakeholders can access this dashboard to track the progress of the project and make informed decisions based on gathered data.	Period 1, 1 - 6
D.1.2.2	Preliminary Pilot results report	This initial report offers an overview of the progress of pilot actions, including objectives, methodology and implementation process. It presents a summary of collected data, analysis and achieved results.	Period 2, 7 - 12
D.1.2.3	Best practices handbook	Practical handbook that documents the best practices and lessons learned during the pilot testing phase. The handbook will facilitate knowledge sharing, collaboration and the replication of successful methods in similar (Interreg NWE) initiatives.	Period 3, 13 - 18
D.1.2.4	Scaling strategy plan	The plan will guide in scaling up production, ensuring widespread adoption of sustainable dyes and building materials derived from seaweed residues. Stakeholders and local authorities can leverage this document to promote the integration of seaweed-based solutions in mainstream industries.	Period 3, 13 - 18
D.1.2.5	Pilot results report	The report offers an overview of pilot actions, including objectives, methodology and implementation process. It presents a summary of collected data, analysis and achieved results. Additionally, it highlights key lessons, challenges and recommendations for future actions/improvements.	Period 3, 13 - 18

Activity 1.3	
Title	Capacity building and awareness raising activities
Start period	Period 3, 13 - 18
End period	Period 3, 13 - 18

Activity 1.3**Description**

The objective of this activity is to promote and establish large-scale, sustainable and professional seaweed cultivation in the NWE region. Alongside communication activities, the activity will focus on capacity building and training to ensure the successful implementation of seaweed valorisation practices. By targeting relevant stakeholders and connecting with local public authorities, the project aims to enhance knowledge and skills, foster innovation and facilitate the adoption of pilot actions and sustainable practices.

Through the development and implementation of a blueprint on seaweed valorisation, the project will equip stakeholders and local public authorities with the necessary expertise and understanding of seaweed residue valorisation. This blueprint will be designed by the project partners in collaboration with industry experts, research institutions (UGent) and other key stakeholders. The content of the blueprint will cover various aspects, including cultivation techniques, sustainable harvesting practices, processing technologies and quality control measures specific to seaweed residues.

The awareness raising activities will be tailored to the needs of different sectors, including the textile, construction and biotechnology industries, as well as policymakers and relevant governmental agencies. Several events and practical training sessions will be organised to provide hands-on experiences and foster knowledge exchange among participants.

Furthermore, the blueprint will focus on highlighting the economic and environmental benefits of seaweed residue valorisation in consultation with local public authorities. This will include showcasing successful case studies, demonstrating the potential for job creation and emphasizing the role of seaweed residues in transitioning towards a circular economy.

These actions, coordinated alongside the communication activities as mentioned under section C.7.3, will ensure effective dissemination of information and foster collaboration among stakeholders. Through this holistic approach of capacity building, awareness raising and targeted

Activity 1.3	<p>training initiatives, the project aims to create a comprehensive support system for seaweed valorisation. The blueprint will empower stakeholders, including local public authorities, to embrace sustainable practices, leverage the potential of seaweed residues and contribute to the development of a thriving blue economy in the NWE region.</p> <p>By combining capacity building, awareness raising and targeted training initiatives, the project aims to create a knowledgeable and skilled workforce. This will facilitate technology transfer and accelerate adoption of developed sustainable practices in the valorisation of seaweed residues. By empowering stakeholders, including local public authorities, the project will contribute to the growth of the seaweed sector, stimulate innovation and promote the transition towards a more sustainable and circular economy in the NWE region.</p>
---------------------	---

Deliverables 1.3			
Running number	Deliverable title	Description	Delivery period
D.1.3.1	Seaweed valorisation blueprint	Collaboratively designed by the project partners, industry experts and research institutions, the blueprint will cover cultivation techniques, sustainable harvesting practices, processing technologies and quality control measures specific to seaweed residues.	Period 3, 13 - 18
D.1.3.2	Sector-specific dissemination session	An easily accessible (NWE region) online webinar will be organised to share hands-on experiences, fostering knowledge exchange and showcasing the economic and environmental benefits of seaweed residue valorisation with relevant stakeholders	Period 3, 13 - 18
D.1.3.3	Economic and environmental impact showcase	Based on the pilot process and results, the project will develop an inspirational showcase of the economic and environmental potential of seaweed residue valorisation. This will be in a format for easy distribution and sharing.	Period 3, 13 - 18
D.1.3.4	Capacity building agenda	Based on learnings from the project a recommended capacity building agenda will be developed. This will be shared with relevant stakeholder (education, local governments) to make them aware of what they need to include in their curriculae to ensure availability of skilled personnel in the future	Period 3, 13 - 18