AWARD

Alternative Water Resources and Deliberation processes to renew water supply strategic planning

D1.8 Synergies with CL6-2023-Climate-01-2

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Project Consortium

EXECUTIVE SUMMARY

The document, D1.8 “Synergies with CL6-2023-Climate-01-2”, outlines the collaborative efforts, work and synergies between three projects—AWARD, MARCLAIMED, and RECREATE—funded under the EU HORIZON EUROPE call CL6-2023-GOVERNANCE-01. These projects focus on the integration of Alternative Water Resources (AWR) to strengthen water supply resilience, particularly in the context of climate change, population growth and expanding economic activities. Together, the three projects form the AWR4Climate Cluster.

The cluster was officially launched on 20 November 2024. The main goal of the cluster Alternative Water Resources 4 Climate “**AWR4Climate**” is to encourage AWR research through collaboration in order to influence policy, create awareness and accelerate market adoption of innovative solutions. By joining forces, the three projects will carry more weight in the European area.

RELATED DELIVERABLES AND WORK PACKAGES’ CONNECTION

The deliverable D1.8 will support the following AWARD work packages: WP2 on regulatory frameworks, WP3 on governance assessment, and WP4 on digital tools, while building on key deliverables such as D1.5 (data management), D2.1 (AWR regulatory, policy framework and funding mechanisms), D2.5 (policy support) and D4.6 (digital interoperability) to ensure effective coordination and to maximise the impact of collaborations.

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VF	27/06/2025	Marwan SHAMEKH (OiEau), Nadine FRAGNIERE, (OiEau)	Comments integrated

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LIST OF ACRONYMS

AWARD	Alternative Water Resources Deliberation processes to renew water supply strategic planning
AWR	Alternative Water Resources
AWR4Climate	AlternativeWaterResources4Climate
C&C	Coordination and Communication
DC	Demo Cases
Dm&S	Data management and Sharing
EC	European Commission
FAIR	Findable, Accessible, Interoperable, and Reusable
GA	Grant Agreement
ICT	Information and communication technology
I&I	Innovation and Implementation
MAR	Managed Aquifer Recharge
MARCLAIMED	Integrated Decision Support Tool for Reliable and Affordable Application of Manage Aquifer Recharge with Alternative Water Resources in River Basin and Drought Management Plans
PI	Policy Impact
RECREATE	Reliability and Effectiveness of Integrated Alternative Water Resources Management for Regional Climate Change Adaptation
SE	Stakeholder engagement and social engagement
TRL	Technological Readiness Levels
WG	Working Groups
WP	Work Package

I Introduction

AWARD is a three-year European project that started in January 2024 and will end in December 2026. It brings together 16 partners and 2 affiliated entities from 7 countries, representing a range of expertise and stakeholder profiles, to promote and integrate Alternative Water Resources (AWR) and deliberative processes into strategic water supply planning.

Under the Horizon Europe programme, the call CL6-2023-CLIMATE-01-2 led to the funding of three sister projects: **AWARD**, **MARCLAIMED**, and **RECREATE**. These projects share a common focus on alternative water resources (AWR) and innovative water-supply solutions. Acknowledging both the potential of AWR and the barriers to its widespread adoption, the projects dedicate significant efforts and resources to advancing research, innovation, and collaborative action in this critical area. The AlternativeWaterResources4Climate (AWR4Climate) Cluster is the result of this collaboration. It brings together the three sisters projects to collectively support the integration of AWR into water management strategies.

During the preparation phase, AWARD partners anticipated the need to have a dedicated task for the clustering activities (Task 1.4, related to WP1 – Project Management). From the outset, the objective was to ensure synergies and coordinate joint activities to maximise the collective impact of the three sister projects.

The aim of Deliverable D1.8 is to explain how the three projects work together as part of the cluster to implement concrete actions that develop and promote AWR. This document highlights the importance of collaboration within the AWR4Climate cluster, describes how the cluster is organised, and offers recommendations for establishing and managing synergies between EU-funded projects. By building on the collective expertise and insights of these projects, the cluster aims to serve as a strong platform for accelerating the uptake of AWR and shaping the future of sustainable water governance across Europe.

II Presentation of AWARD, MARCLAIMED AND RECREATE

The following descriptions of the projects are based on the presentation made by the three projects' coordinators.

II.1 In a nutshell

The **AWARD** project brings together 16 partners from 7 European countries, forming a multidisciplinary and transnational consortium. With a total budget of €3.4M and a duration of three years from January 2024 to December 2026, the project aims to advance the integration of Alternative Water Resources (AWRs) into strategic water supply planning. Four demonstration cases have been established across different regions to generate practical insights and evidence-based knowledge.

Figure 1 : AWARD key information

MARCLAIMED is an EU-funded project aimed at integrating the solutions Managed Aquifer Recharge (MAR) with Alternative Water Resources (AWR) to mitigate water stress and proactively manage droughts. This integration is essential for the sustainable use of both surface and groundwater resources.

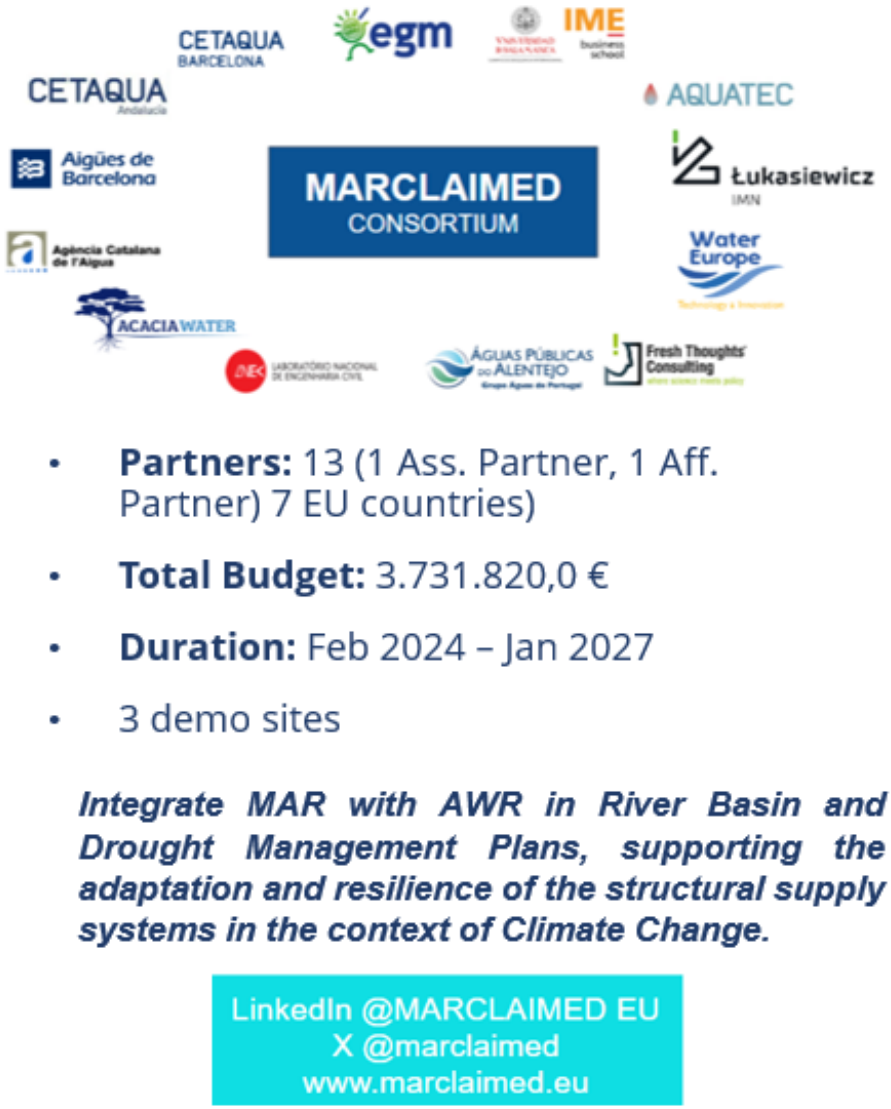

Figure 2 : MARCLAIMED key information

RECREATE (Reliability and Effectiveness of Integrated Alternative Water Resources Management for Regional Climate Change Adaptation) is a Horizon Europe project that aims to strengthen water resilience in regions facing increasing water stress due to climate change. Across Europe, water scarcity is becoming more frequent and severe, affecting people, ecosystems and economies. RECREATE supports the integration of Alternative Water Resources (AWR), such as treated wastewater, desalinated water, rainwater and aquifer recharge, into regional and local water management strategies. These alternatives can complement conventional sources, helping to secure safe, reliable and sustainable water supplies.

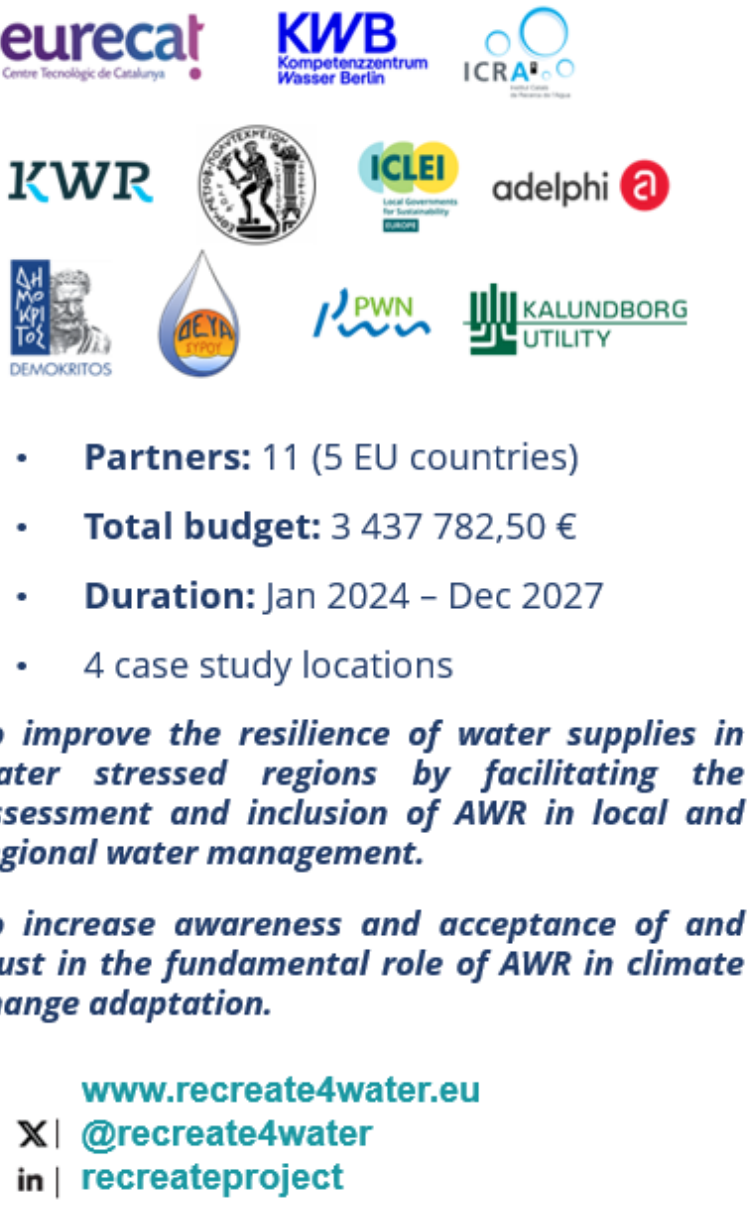

Figure 3 : RECREATE key information

II.2 Projects' demonstration

In total, the three projects cumulate 11 demonstration areas, each with their own characteristics and AWR related focus.

II.2.1 AWARD'S Demo Cases

AWARD Demo Cases (DC) are located in three different biogeographical regions (fig. 4), DC#1 and DC#2 are in the continental region, DC#3 in the Mediterranean and DC#4 in the Atlantic one. They all face water scarcity issues due to climate change and explore AWRs as complementary solutions to support integrated and cross sectorial water management. As shown in the figure below, aquifer recharge, storm water, rainwater harvesting and water reuses are the AWRs considered by the DCs to improve water security of water supply.

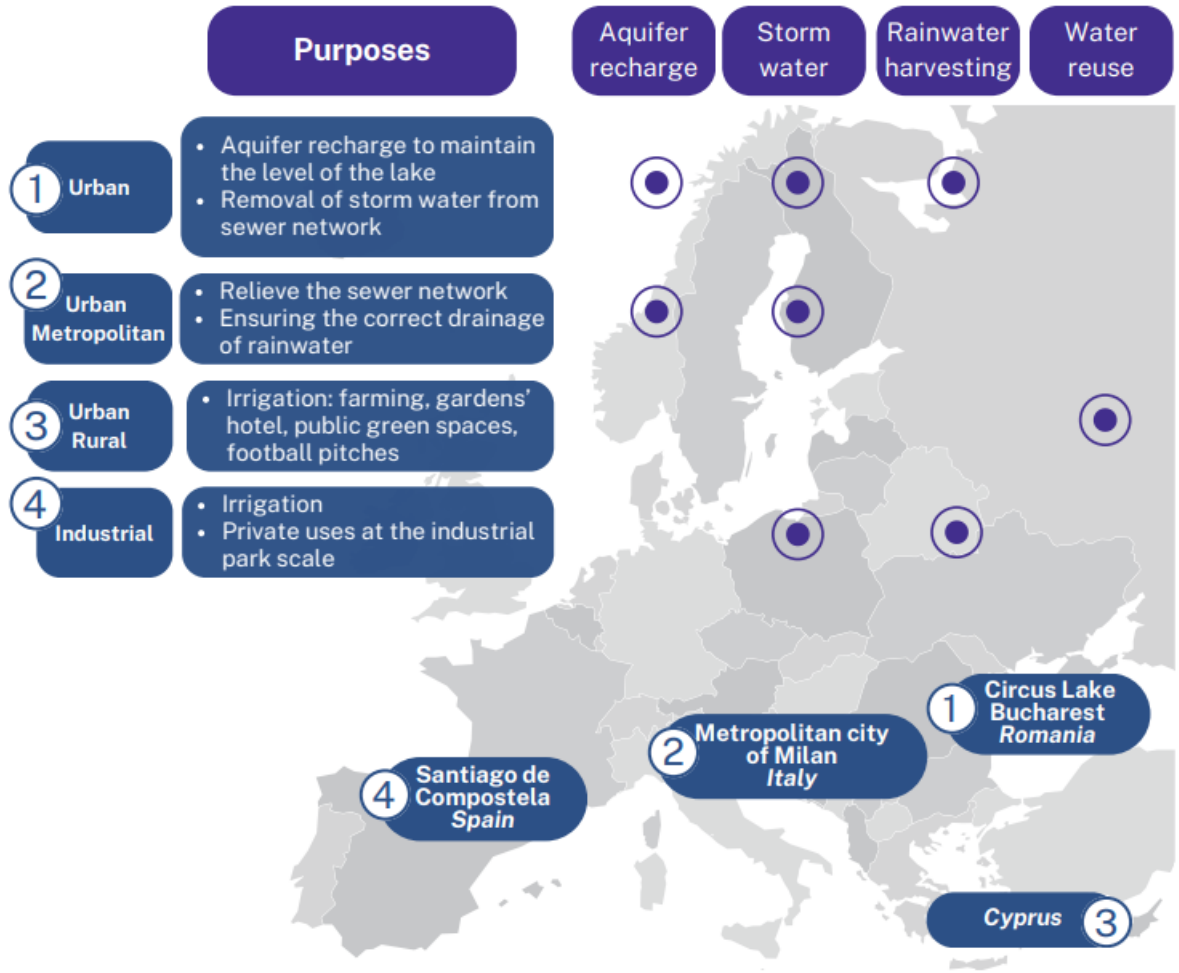

Figure 4 : AWARD's Demo Cases

Read more: https://www.awardproject.eu/demo-cases

II.2.2 MARCLAIMED's demo sites

The three demo sites of the MARCLAIMED project are using Managed Aquifer Recharge with the aim of increasing the feasibility, reliability and social acceptance of reclaimed water as a structural solution to improve the resilience of their natural systems.

In **Barcelona** (Spain), The Llobregat River faces significant water stress and scarcity risks, highlighting the need for optimized water resources management. MARCLAIMED aims to Improve the resilience of the overall system by increasing the quantity of groundwater resources in the Baix Llobregat aquifer and leverage the establishment of a dynamic tariff for reclaimed water that allows cost recovery among end users of Baix Llobregat aquifer groundwater. In **Composta** (Portugal), the project will seek to improve understanding and management of groundwater pollution risks associated with soil-aquifer treatment and increase water quality and optimized infiltration rates. Finally, in the Wadden region, the project will preserve aquifer water quality by controlling nutrients and pesticides in the tile drainage water and enhance the cost-effectiveness, optimization, and minimal footprint of the large-scale ASR – Aquifer Storage and Recovery system.

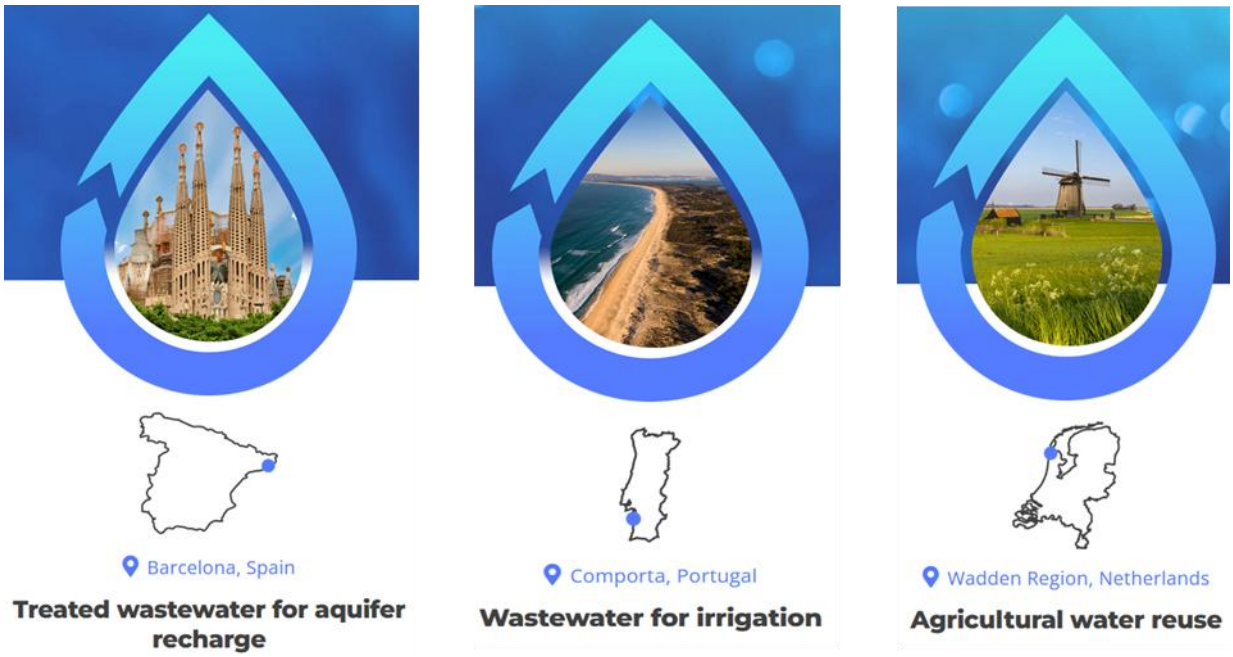

Figure 5 : MARCLAIMED Demo sites

Read more: https://marclaimed.eu/demo-sites/

II.2.3 RECREATE's demo sites

RECREATE is active in **four coastal regions across Europe**, each facing growing water stress and already experienced in applying Alternative Water Resources (AWR). The RECREATE case studies include **North Holland** (The Netherlands), **Kalundborg** (Denmark), **Costa Brava** (Spain) and **Syros** (Greece).

In **North Holland** (The Netherlands), RECREATE is working to future-proof the regional water system through the integration of AWR into long-term planning. Currently reliant on groundwater and treated surface water, **Kalundborg** is now exploring a broader mix of AWR, including wastewater reuse, seawater desalination and

rainwater harvesting. Within the RECREATE project, **Syros** serves as a crucial case study to explore how AWR can enhance water security in small, insular and climate-vulnerable communities. The project will also support **Costa Brava** in its transition toward a circular water economy by enabling the safe expansion of reclaimed water use, including for potable purposes and imrpove the monitoring, digitalisation and efficiency of AWR systems.

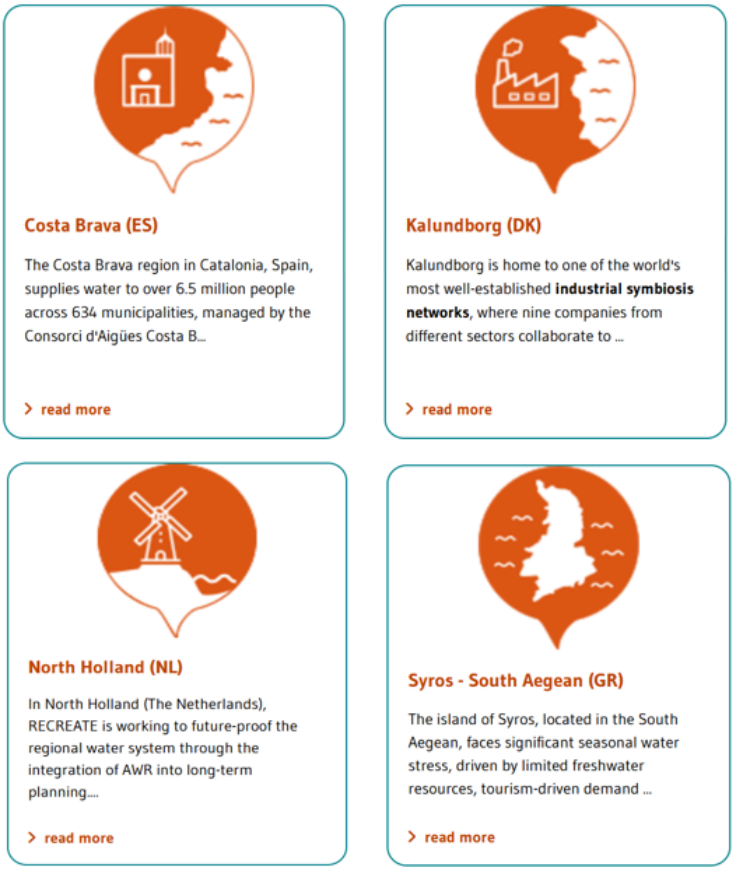

Figure 6 : RECREATE's demo sites

Read more: https://www.recreate4water.eu/case-studies

II.3 Projects' Key Contacts

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III The Alternative Water Resources 4 Climate (AWR4Climate) Cluster

The AlternativeWaterResources4Climate (AWR4Climate) Cluster is the result of this collaboration. It brings together the three sisters projects to collectively support the integration of AWR into water management strategies. The cluster aims to enhance the resilience of water supplies to climate change impacts and provide evidence-based solutions for implementing AWR. Aligned with the EU's climate adaptation and water security goals, the cluster works to promote the sustainable use of AWR, protect natural water resources, and respond to growing water demand. By leveraging synergies between the projects, the cluster also seeks to develop innovative strategies, effective assessment tools, and robust, transferable solutions to support the integration of AWR into existing governance frameworks.

The governance of the cluster operates on a rotating leadership model, with each project taking turns to lead the group's activities and strategic direction. The cluster is also divided into thematic Working Groups to structure collaboration and focus on key areas. To ensure effective and coherent communication, the AWR4Climate cluster has chosen not to develop a separate website. Instead, each of the three projects will create a dedicated section within their own websites to present the cluster, highlight its common objectives, and showcase joint activities. This decentralized approach allows the cluster to maintain strong visibility while being cost-efficient and easy to manage, by leveraging each project's existing communication channels. These dedicated pages will promote a shared identity and narrative, and will include direct links to the other two sister projects.

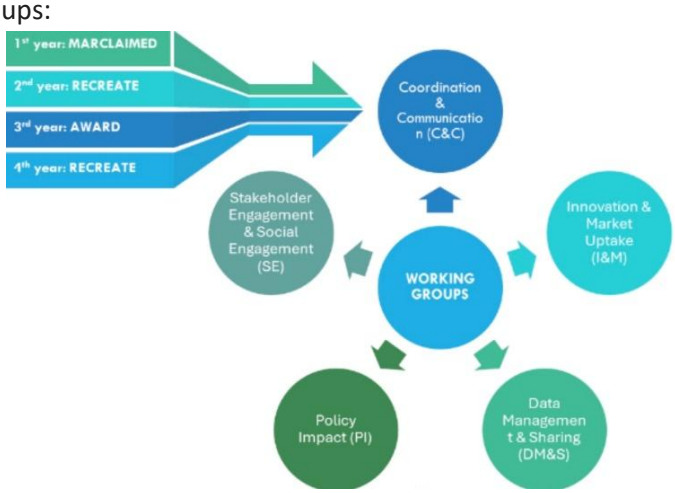
The AWR4Climate synergy group has identified the following key areas of focus:

- **Fostering collaboration and synergy**: Promoting internal collaboration and cooperation with stakeholders and society, ensuring that AWR is effectively integrated into both policy and practice.
- **Shaping effective policies**: Working with policymakers to build supportive frameworks that encourage the use of AWR technologies across sectors.
- **Data management and sharing**: Establishing a case study hub to facilitate the sharing of data and insights between projects and stakeholders.
- **Disseminating evidence-based practices**: Organizing joint conferences and utilizing social platforms to spread information on successful AWR solutions.
- **Market uptake and exploitation**: Facilitating the adoption of innovative AWR solutions through collaborative efforts and demonstration projects.

Organizational Structure and Activities

The AWR4Climate cluster is organized around 5 working groups:

1. **Coordination and Communication (C&C)**: MARCLAIMED (lead in the 1st year), RECREATE (lead in the 2nd & 4thyear), & AWARD (lead in the 3rd year)
2. **Innovation and Implementation (I&I):** MARCLAIMED & RECREATE (co-lead)
3. **Data management and Sharing (DM&S):** RECREATE
4. **Policy Impact (PI):** Revolving lead
5. **Stakeholder engagement and social engagement (SE):** AWARD



These working groups streamline the collaboration efforts across projects and enable effective knowledge exchange.

IV The Working Groups of the cluster

The AWR4Climate cluster is organized around 5 working groups (WG), each focusing on a specific aspect of research, implementation, and policy development related to AWR**.** These groups ensure effective collaboration between the three sister projects—MARCLAIMED, RECREATE, and AWARD—and facilitate knowledge sharing, innovation, and stakeholder engagement. Each WG is led by one or more projects and is responsible for driving progress within its domain.

IV.1 WG1: Coordination and Communication (C&C)

The C&C Working Group is responsible for managing the internal organization of the cluster and ensuring effective communication between the projects, external stakeholders, and the broader scientific and policy communities. This group develops and maintains the cluster's strategy and action plan, organizes joint communication efforts, and ensures that all projects remain aligned with the cluster's overall objectives. It also plays a key role in monitoring and evaluating the impact of cluster activities.
The leadership of this group rotates annually between the three projects, with MARCLAIMED taking the lead in the first year, followed by RECREATE in the second and fourth years, and AWARD in the third year.

IV.2 WG2: Innovation and Implementation (I&I)

The I&I Working Group focuses on the development, testing, and integration of new technologies and methodologies for AWR. This group facilitates collaboration between the projects to identify innovative technological solutions, assess their feasibility, and promote their adoption in real-world applications. It also evaluates the market potential of these solutions and shares best practices based on case studies conducted across the projects.

The leadership of this group is held by MARCLAIMED, with RECREATE as co-leader.

IV.3 WG3: Data Management and Sharing (Dm&S)

The Dm&S Working Group ensures that the cluster follows best practices in data governance, interoperability, and accessibility. It is responsible for developing a structured framework for data collection, management, and exchange across the projects. This includes defining common protocols and standards for data sharing, integrating climate and hydrological data into water management strategies, and creating a centralized data repository for all cluster activities.

The leadership of this group is assigned to RECREATE, which oversees the implementation of data management strategies and fosters collaboration with other European initiatives, such as the ICT4Water Action Group.

IV.4 WG4: Policy Impact (PI)

The PI Working Group plays a crucial role in shaping regulatory frameworks to support the implementation of AWR solutions. It analyses existing EU water policies, identifies regulatory gaps, and develops policy recommendations based on the results of the cluster's case studies and research activities. This group also engages with policymakers and decision-makers to advocate for regulatory reforms that facilitate the large-scale adoption of AWR technologies.

The leadership of this group is shared between all three projects.

IV.5 WG5: Stakeholder Engagement and Social Awareness (SE)

The SE Working Group is dedicated to improving public perception and acceptance of AWR solutions. This group works closely with water sector stakeholders, local communities, and policymakers to address concerns, promote knowledge exchange, and foster trust in alternative water resources. It also develops communication strategies, organizes workshops, and creates platforms for collaboration between different actors involved in water management.

The leadership of this group is held by AWARD, which ensures that engagement activities are aligned with the needs and expectations of key stakeholders.

V Action Plan

The Action Plan of the AWR4Climate cluster outlines a series of structured actions designed to achieve the cluster's objectives. These actions are distributed across the five Working Groups.

V.1 Coordination and Communication

To ensure a smooth and efficient collaboration between the sister projects, the Coordination and Communication Working Group focuses on establishing governance mechanisms and communication strategies.

V.1.1 Establishment of the cluster

In 2024, the cluster was formally established and leadership structures and working group roles were defined (see chapter II). A set of dissemination guidelines has been developed, including the creation of a cluster logo.

V.1.2 Development of an annual action plan

An annual action plan will be developed, ensuring that technical synergies between projects are identified and leveraged. Tools such as GANTT charts will be used to facilitate strategic planning and tracking progress.

V.2 Innovation and Implementation

The Innovation and Implementation Working Group will focus on developing and demonstrating new technologies related to AWR.

V.2.1 Research efforts

In 2024 and 2025, research efforts will be directed towards advancing alternative water technologies, with the goal of integrating these innovations into scientific publications and industry applications.

V.2.2 Development of a case study hub

In 2025 and 2026, a case study hub will be developed, compiling cross-project insights to showcase potential applications of AWR technologies. This hub will serve as a platform for knowledge sharing and stakeholder engagement.

V.2.3 Assessment framework

By 2026, an assessment framework for technological readiness levels (TRL) will be introduced, allowing for the evaluation of AWR solutions based on their maturity and potential for large-scale implementation.

V.3 Data Management and Sharing

To enhance data accessibility and interoperability, the Data Management and Sharing Working Group will implement several key initiatives.

V.3.1 Data Management Plans

By 2025, all projects will integrate Data Management Plans (DMPs) that align with FAIR (Findable, Accessible, Interoperable, and Reusable) principles.

V.3.2 Case Study Repository

A centralized case study repository will be developed in 2025, providing a structured database of best practices and real-world examples related to AWR and climate adaptation.

V.3.3 Refining Interoperability

Between 2025 and 2026, efforts will focus on refining data interoperability standards, ensuring that data can be exchanged seamlessly between different platforms and stakeholders as one of the main objectives of clusters is to promote cooperation and teamwork.

V.3.4 Data Governance Framework

By 2026, a comprehensive data governance framework will be developed, establishing clear guidelines on data security, privacy, and compliance within the water sector.

V.4 Policy Impact

The Policy Impact Working Group will focus on influencing regulatory frameworks and advocating for policies that support AWR solutions.

V.4.1 Analysis of EU regulations

An analysis of existing EU regulations will be conducted**,** identifying gaps that hinder the adoption of AWR solutions.

V.4.2 Policy recommendations

By the end of the cluster, policy recommendations will be developed, based on evidence from the cluster's research and demonstration projects. These recommendations will be compiled into policy briefs and position papers for European and national policymakers. A joint policy brief will be developed during the life of the project.

V.4.3 Direct engagement

Throughout the years, direct engagement with policymakers will be intensified**,** through events, consultations, and strategic partnerships with regulatory bodies.

V.5 Stakeholder Engagement and Social Awareness

The Stakeholder Engagement and Social Awareness Working Group will work to build trust and awareness around AWR technologies.

V.5.1 Using the projects' platforms

The three projects will be able to share knowledge with the stakeholders through the digital platforms that will be developed in each project with specific sections on their websites related to the cluster, allowing water managers, researchers, and policymakers to exchange insights and discuss strategies for AWR implementation.

V.5.2 Future initiatives

Public awareness campaigns and educational initiatives will be rolled out**,** targeting key audiences such as municipalities, industries, and citizens to highlight the benefits of AWR.

V.5.3 Future events

Future events are yet to be decided but workshops and webinars should surely be organised.

This structured Working Group framework and Action Plan provide a clear roadmap for the AWR4Climate cluster, ensuring a coordinated, innovative, and impactful approach to integrating alternative water resources into European water management systems.

VI CONCLUSION

VI.1 Recommendations for strengthening and managing the AWR4Climate Cluster

The AWR4Climate cluster brings together three sister projects—MARCLAIMED, RECREATE, and AWARD—to foster synergies, share knowledge, and accelerate the adoption of AWR solutions. Based on the experience of forming this cluster, several recommendations can be made to enhance its effectiveness and ensure long-term impact:

- **Engage project coordinators early in the process:** establishing the cluster at the outset of the projects, or even during the proposal stage, ensures better alignment and coordination. Early collaboration also allows project coordinators to share their experiences, identify common challenges, and provide mutual support.
- **Define clear objectives and areas of synergy:** beyond the overarching goal of promoting AWR, the cluster must establish specific shared objectives. This involves:
    1. Identifying technical and strategic complementarities between the sister projects.
    2. Defining common goals and structuring them into thematic WGs.
    3. Encouraging active participation from project partners by assigning leadership roles within the WGs.
- **Implement an efficient governance structure:** to ensure smooth operations, the cluster must have a well-defined management approach, including:
    1. A rotating leadership model, allowing each project to take the lead at different stages.
    2. Regular meetings at both strategic and technical levels to align progress and address challenges.
    3. A digital collaboration space (e.g., Teams, SharePoint) to facilitate document sharing and co-writing.
- **Strengthen cluster identity and engagement:** for the cluster to be perceived as a valuable initiative rather than an additional burden, it is essential to build a sense of community among partners. This can be achieved by:
    1. Involving all partners in the branding and identity of the cluster (e.g., choosing a name, defining a visual identity).
    2. Providing communication materials, such as a concept note, a dedicated PowerPoint template, and a set of key messages.
    3. Keeping partners regularly informed about the cluster's activities and achievements through newsletters and project meetings.

VI.2 Next steps

As the three projects progress, their interactions within the AWR4Climate cluster will become increasingly valuable. In the coming years, the cluster will focus on consolidating its work in key areas, particularly through its five working groups, which will serve as the primary platforms for collaboration and knowledge exchange.

To maintain momentum, leadership of the Coordination and Communication WG will continue its annual rotation, ensuring that each project plays a role in shaping the cluster's strategic direction. The other WGs will maintain their initial leadership structures to ensure continuity in their work.

Through these next steps, the AWR4Climate cluster will solidify its position as a leading collaborative initiative in the field of alternative water resources, contributing to more resilient and sustainable water management practices across Europe.

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