



D6.1- REPORT ON THE CONSTITUTION OF THE COMMUNITY OF PRACTICE

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ACRONYMS

AdA	<i>Águas do Algarve</i>
ADENE	<i>Agência para a Energia</i> (Energy Agency)
AEPSA	<i>Associação das Empresas Portuguesas para o Sector do Ambiente</i> (Portuguese Association of Companies for the Environment Sector)
APDA	<i>Associação Portuguesa de Distribuição e Drenagem de Águas</i> (Portuguese Water Distribution and Drainage Association)
BCSD	Business Council for Sustainable Development
CoP	Community of Practice
LIFE	Clean Energy Transition 2022 Programme
LIS-Water	Lisbon International Centre for Water
LNEC	<i>Laboratório Nacional de Engenharia Civil</i> (National Civil Engineering Laboratory)
PENSAARP	<i>Plano Estratégico para o Abastecimento de Água e Gestão de Águas Residuais e Pluviais</i> (Strategic Plan for Water Supply and Wastewater Management)
PNEC	<i>Plano Nacional de Energia e Clima</i> (National Energy and Climate Plan)
PPA	<i>Parceria Portuguesa para a Água</i> (Portuguese Water Partnership)
SDGs	Sustainable Development Goals
WENexus	Delivering the Water-Energy nexus for energy efficiency
WP	Work Package

1 Introduction

1.1 WENexus overview

WENexus – *Delivering the Water-Energy nexus for energy efficiency* (hereafter referred to as “WENexus”) is a European project, financed under the LIFE - Clean Energy Transition 2022 Programme and led by S317 Consulting in a consortium with Engidro Engineering Solutions and Sérvulo & Associados. The project started in September 2023 and it is intended to last 3 years (pilot phase).

The WENexus project aligns seamlessly with the objectives and prerequisites outlined in key documents, including the *Plano Estratégico para o Abastecimento de Água e Gestão de Águas Residuais* (PENSAARP2030), *Plano Nacional de Energia e Clima 2030* (PNEC), the Portuguese Roadmap for Carbon Neutrality 2050 and the United Nations 2030 Agenda for Sustainable Development Goals (SDGs). At its core, the project looks for the adaptation of the water sector by directing the development, implementation and standardization of innovative tools designed to enhance energy efficiency within the water sector. This endeavor is complemented by the provision of comprehensive technical, financial and legal support to the organizations responsible for water and wastewater service management and operations, guaranteeing a high degree of replicability and transferability potential within the sector.

WENexus primarily focuses on mobilizing private investment for water infrastructure renovation by creating innovative financial models specifically tailored for energy efficiency investments in water services infrastructures. Additionally, the project aims to contribute to the de-risking of energy efficiency projects in water infrastructures. Summarizing, the project’s goals are:

1. Contribute to the energy transition and sustainable energy use in the water sector;
2. Leverage investments that promote energy efficiency in water supply and wastewater systems in Portugal;
3. Ensure the replicability and transferability of the projects and good practices identified through the pilots developed.

Hence, WENexus' goals were designed to achieve energy and efficiency improvements, specifically through four key vectors:

- Vector 1 - acting on the system's electromechanical equipment efficiency, replacing them with more energy-efficient ones, where warranted, or eliminating hydraulic inefficiencies that may exist in the systems.
- Vector 2 - acting on sustainable energy production capacity by implementing energy production systems generated from photovoltaic panels.
- Vector 3 - acting on the power storage capacity, foreseeing the installation of storage batteries.
- Vector 4 - acting on the efficiency of the overall system, introducing systems to produce biomethane.

1.2 Scope of the document

This document includes the establishment of the Community of Practice (CoP) and focuses on the stakeholders' mapping involved in this community. The CoP will be very relevant for defining constraints and further ambitions, identifying barriers and respective solutions to overcome them, discussion of enabling consensual solutions and, most importantly, sharing information, analysis and feedback on the work developed by WENexus. This feedback will allow for the evaluation of the suitability and effectiveness of the analysis, solutions, models and that will result from the continuous WENexus collaboration and work among the entities engaged for the scope of the project.

1.3 Document structure

This report, made up of 4 sections, presents the constitution of the WENexus CoP.

The current section 1 corresponds to the Introduction.

In section 2, the attributes and objectives of the CoP are presented and defined. This section includes the importance of the CoP and how it can contribute positively for the progress of WENexus.

Section 3 presents the entities that make up the CoP and emphasizes the main roles of each of them within this community.

Finally, section 4 presents the references used on the scope of the current report.

2 Attributes and objectives of the Community of Practice (CoP)

A CoP is a dynamic group within a single organization or span across multiple organizations/entities that come together around a shared domain of interest and regularly interact to learn and develop their skills in that specific domain, typically within a professional or organizational context. These groups are characterized by their voluntary nature, as members choose to participate based on their mutual area of interest. The main features of a CoP include:

- **Knowledge Sharing** – CoP entities provide an environment where members can collectively deepen their understanding, refine their skills and address common challenges, sharing experiences, practices, information and resources related to their shared area of interest, through interactions such as discussions, workshops, seminars and online forums;
- **Continuous Learning** - The primary goal of a CoP is to promote continuous learning and professional development among its members by providing opportunities for idea exchange and skill development;
- **Creating Relationships** – CoP entities facilitate the building of strong relationships among members, promoting good professional networks;
- **Problem Solving** - By bringing together professionals with diverse experiences, CoP entities offer a space for the discussion and resolution of common challenges;
- **Innovation and Creativity** – CoP entities can stimulate innovation, creativity and cross-disciplinary collaboration, by bringing together diverse perspectives and expertise;
- **Professional Identity Development** - By participating in a CoP, members could have the opportunity to develop a stronger professional identity and become recognized experts in their field of practice. As individuals connect with like-minded peers who share similar interests and expertise, they develop a shared language, values, and norms within the community. This sense of belonging encourages participation, collaboration and the establishment of trusted relationships among members.

The following figure shows the different phases of implementing a CoP.

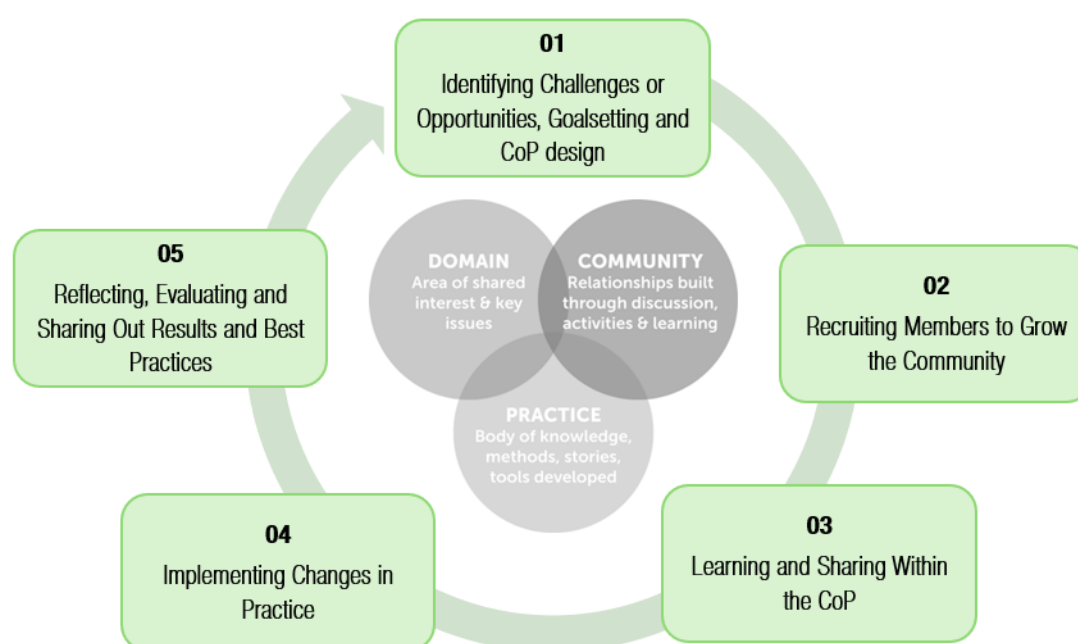


Figure 2.1 - Implementation phases of a CoP

It is crucial to emphasize that within each of the five phases outlined above, there is a dynamic interplay between three key elements: the domain or area of interest, the community itself (including the relationships forged within it), and the practical application of the knowledge and skills acquired.

In addition, there are essential aspects for the effective operation of a CoP:

- **Mentoring:** Offering tailored guidance and assistance to members seeking to develop their technical abilities or tackle obstacles;
- **Communication Management:** ensure that communication is simple and effective, through traditional channels, and easily accessible to all members and interlocutors;
- **Evaluation and Feedback:** Regularly evaluating CoP's performance and soliciting feedback from members to pinpoint areas for enhancement and ensure the community's requirements are being addressed.

To gain a deeper insight into the life cycle of the CoP, it is important to understand that it typically follows a finite timeline, consisting of several distinct and often overlapping stages. Each stage involves various activities aimed at helping members achieve their goals, acquire knowledge and progress to the next stage. While most CoPs do not have a predefined end date upon formation, regular evaluation of the community and its activities is crucial. This evaluation, along with ongoing monitoring and learning,

ensures that the CoP remains relevant and effective. Assessing how well the community is serving its members, as well as the broader sector or practice, enables the CoP to adapt and evolve in response to changing needs and external factors. Providing formal opportunities for members to contribute their insights at key milestones ensures a lasting legacy of collaboration, even if it's decided that the CoP should be transformed or disbanded.

3 WENexus Community of Practice (CoP)

In the case of WENexus, the CoP aims to engage other entities from the water, environment, and energy sectors, extending beyond management entities. The CoP will collaborate, with the project consortium, to identify concerns, issues, and goals related to the water-energy nexus, while leveraging its expertise and knowledge to define alternative solutions. Additionally, the CoP assumes a significant role in analyzing and disseminating feedback on WENexus activities over its three-year duration, similar to that of an advisory board. This feedback facilitates ongoing evaluation of the effectiveness of implemented measures, performance models, and supporting tools.

The goal is to promote open dialogue between the CoP and the consortium and interested utilities throughout the development of WENexus. The establishment of the WENexus CoP creates an environment conducive to more effective collaboration and continuous learning, enabling stakeholders to exchange knowledge, experiences, and valuable contributions to the project.

Furthermore, the CoP facilitates joint exploration of innovative solutions and practices to address the complex challenges of the water-energy nexus. Additionally, it plays a crucial role in extending the project's impact beyond its duration and facilitating the replication of achieved results in the future.

3.1 Main responsibilities

In the context of WENexus, the main responsibilities and activities of the CoP within the project are as follows:

- **Promotion:** This involves spreading the word about the WENexus, both within and outside the organizations, to attract new Management Utilities to the WENexus and keep interested the ones already engaged. It includes activities like promoting the project in relevant meetings or conferences and using social media to raise awareness about the WENexus Project;
- **Sharing Technical Content:** At the heart of a CoP is the sharing of technical knowledge that's relevant to the WENexus Project. CoP members can share articles, case studies, and other materials that help everyone learn and exchange experiences in water, sanitation and energy sectors;
- **Revision:** Ensuring the quality of technical content developed in the scope of the WENexus Project is vital. The CoP members, will have the opportunity to review and examine the WENexus outputs, such as WENexus project reports and pilot projects, offer feedback to enhance accuracy and relevance and uphold standards to ensure the final outcomes are suitable as possible;
- **Workshops and Events:** These are hands-on activities designed to promote learning and interaction among CoP members, the WENexus consortium and the Water Management Utilities. The CoP entities will be invited to take part in events organized within the framework of the WENexus project, aimed at sharing their expertise and gaining insights into the project's outcomes. In this regard, special emphasis is placed on their participation in the final workshop for presenting the results of the WENexus project.

3.2 Communication workflow between the consortium and CoP

The following figure shows the communication workflow between the consortium and the CoP members.

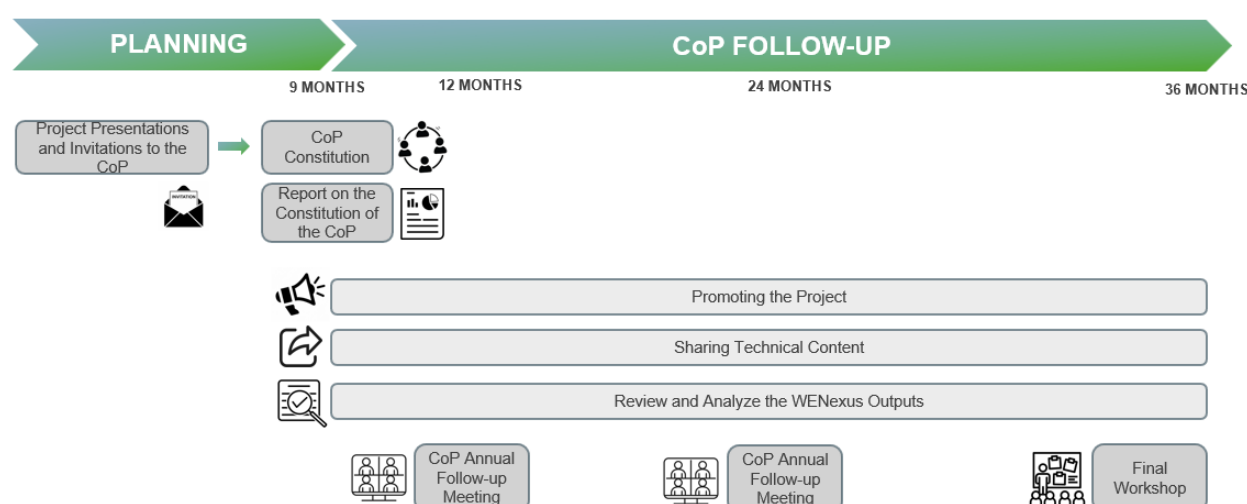


Figure 3.1 – WENexus CoP communication workflow

The first stage of planning involved presentations of the WENexus project to stakeholders identified as relevant as advisors, discussion partners and/or agents with potential to share information and disseminate results. These presentations led to the constitution of the CoP and its reporting (i.e. the present deliverable D6.1).

The follow-up activities of the CoP, during the remaining phases, will include actions to promote the WENexus project, sharing of technical content, and also the review and results of the project. The consortium will promote at one annual follow-up meetings with the CoP members, aimed at sharing the status of the projects and their periodic findings / results.

In the final stage of the project, the consortium with the CoP members, will host a workshop to share the best practices and results achieved during the development of WENexus, with the aim of promoting the replication of the project within the water sector in Portugal.

3.3 WENexus Community of Practice (CoP) Members

The WENexus CoP brings together several prominent entities from the water and environmental sector in Portugal, each offering valuable contributions to the project based on their extensive experience and expertise.

Currently, the WENexus CoP has the participation of 6 members, namely: **LIS-Water**, with its track record in research and sustainable governance of water services, providing crucial perspectives; **LNEC**, a leading institution in civil engineering and environmental matters, will contribute its technical and scientific knowledge to the group's dynamics; **BCSD**, recognized as a significant organization for corporate sustainability in Portugal, offers a perspective focused on integrating environmental principles into business activities; **PPA**, serving as a comprehensive network of stakeholders in the water sector, promotes cooperation and the sharing of best practices, **AEPSA**, representing companies in the environmental sector, brings a deep understanding of the needs and challenges faced by businesses, and **AdA**, as the managing entity responsible for water supply and sanitation in the Algarve region, provides an essential perspective on operation, maintenance, and practical challenges. The presence and contribution of these entities to the WENexus Community of Practice promise to enrich and boost the success of the project.

The following table presents and describes the entities that constitute the WENexus CoP and the main participation they will have in this Project.

Table 3.1 – CoP constitution

Entity Name	Entity Description	Main Responsibilities			
		Promotion	Sharing technical content	Revision	Workshop Participation
 <i>Águas do Algarve, S.A.</i> (AdA)	Its mission is to ensure the supply of water for human consumption and the treatment of wastewater according to the highest standards of quality and reliability, within a framework of economic, social and environmental sustainability. Águas do Algarve, S.A. was invited to be part of the CoP, as it is the first management utility to sign a cooperation protocol with WENexus, and it is also a utility with a significant know how and practice in the efficient and rational management of its systems.		√		√
 <i>Agência para a Energia</i> (ADENE) (*)	Its main goal is to advocate for and engage in initiatives that serve the public interest within the energy sector, while also aligning with related policies of other sectors. This involves collaborating with other entities responsible for these areas. Moreover, it strives to support and implement endeavors that benefit the public in terms of optimizing water consumption and enhancing energy efficiency in transportation.	√	√	√	√
 <i>Associação das Empresas Portuguesas para o Sector do Ambiente (AEPsA)</i>	AEPsA is an association, created in 1994, which represents and defends the collective interests of private companies operating in the environmental sector, and is a key player in dynamizing the development of the environmental sector market. It is currently organized into six colleges, including the College of Concessions (Water Supply and Wastewater / Sanitation Concessions), which carries out the following main activities: i) Drafting opinions on proposed legislation for the water / sanitation sector; ii) Monitoring the PENSAAR 2020 program; iii) Allocation of Community funds; and iv) Creation of a concessions database.	√	√		√
 <i>Associação Portuguesa de Distribuição e Drenagem de Águas (APDA) (*)</i>	Its goal is to foster the advancement of the sector and ensure effective water governance. To achieve this, it pursues an active approach characterized by interventions, contributions and suggestions, alongside initiatives and events that it both initiates and supports.	√			√

Entity Name	Entity Description	Main Responsibilities			
		Promotion	Sharing technical content	Revision	Workshop Participation
 EMBASSY OF DENMARK <i>Embassy of Denmark, Lisbon (*)</i>	It comprises a task group focused on the water sector, which has an advisor, responsible for providing specialized guidance, advice and insights related to the water sector.		√		√
 BCSD Conselho Empresarial para o Desenvolvimento Sustentável <i>Business Council for Sustainable Development (BCSD Portugal)</i>	Its mission is to support member companies in their sustainability efforts, aiming for positive impacts on stakeholders, society and the environment. Another organization's mission is to ensure water supply for human consumption and wastewater treatment at the highest quality and reliability standards, within economic, social and environmental sustainability frameworks.	√	√	√	√
 LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL <i>Laboratório Nacional de Engenharia Civil (LNEC)</i>	Its goal is to conduct, coordinate and advance scientific research and technological innovation in the field of Civil Engineering. It strives for ongoing improvement and adherence to best practices within the discipline. Additionally, it is tasked with serving the public interest by providing Science and Technology services to a diverse range of public and private entities, nationally and internationally. Through these endeavors, it fosters innovation, knowledge dissemination and the transfer of technology.	√	√	√	√
 lis water <i>Lisbon International Centre for Water (LIS-Water)</i>	It concentrates on shaping public policies, regulations and the management of water services, including water supply, wastewater and stormwater management, in alignment with sustainable development objectives. It places a strong emphasis on advancing knowledge and fostering innovation, especially through thoughtful initiatives aimed at transferring insights to policymakers, water experts, industry players, startups and the broader society. Comprising key stakeholders from Portugal's water sector, it fosters collaboration among governments, entities, and professionals within the sector, as well as support agencies, educational institutions, industry players, startups and society.		√	√	√

Entity Name	Entity Description	Main Responsibilities			
		Promotion	Sharing technical content	Revision	Workshop Participation
 <i>Parceria Portuguesa para a Água (PPA)</i>	It forms a network with the goal of fostering synergies and maximizing the potential for advancement within the global water sector. It works to build and strengthen alliances and partnerships between national institutions and all nations dedicated to the sustainable management of water and the appreciation of water resources.	√	√		√

(*) The entity has been invited to integrate the WENexus CoP, but formal confirmation of its participation is still pending.

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