Welcome to the LIFE TURBINES Newsletter

Issue #01

TURBINES

Project funded by LIFE
LIFE22-CCM-ES-LIFE TURBINES

We are pleased to share the first newsletter of the LIFE TURBINES project, a European initiative focused on integrating hydropower solutions into urban drinking water networks, with the aim of advancing towards a more efficient, resilient, and decarbonised water management model.

With this publication, we launch a series of regular newsletters to showcase the project's technical progress, share relevant news, and keep stakeholders informed about upcoming milestones and activities.

In this first issue, we outline the main objectives of LIFE TURBINES, introduce the members of the project consortium, and highlight some of the most significant actions carried out in recent months, including technical meetings, outreach events, and progress at the pilot sites. At the end of the newsletter, you will find an overview of upcoming activities.

The Challenge

Drinking water supply represents one of the largest energy consumers in urban services, accounting for up to 7% of global electricity demand, and up to 30-40% in smaller municipalities. This high consumption contributes significantly to greenhouse gas emissions and hinders the transition to more sustainable urban systems.

In water distribution networks, excess pressure is a common phenomenon, caused by the topography of the terrain, fluctuations in demand or the design of the system itself. Traditionally, this excess pressure is dissipated by means of pressure reducing valves, which represents a direct loss of energy.

The LIFE TURBINES project proposes an innovative alternative: using this surplus pressure to generate renewable electricity by means of turbines integrated directly into existing urban water infrastructures.

This solution makes it possible to recover energy that was previously wasted, improve the energy efficiency of water networks and move towards more resilient cities.

The Solution

LIFE TURBINES recovers this untapped energy through microturbines installed at key pressure control points in municipal water systems. These turbines generate renewable electricity, without compromising water delivery or quality.

Over 13 pilot implementations in Spain and Italy, the project will generate nearly 1 million kWh/year, avoiding over 257 tonnes of CO_2 emissions annually. The recovered electricity will power:
- Public water fountains (refrigerated and filtered)
- Electric vehicle (EV) charging points
- Remote sensors and network devices
- Local energy communities in rural Tuscany (Scansano)

A digital decision-support tool is being developed to help municipalities and utilities identify optimal sites for turbines, dimension equipment, and optimize energy usage, further facilitating replication across Europe.

Project Objectives

LIFE TURBINES aims to:
- Decarbonize the urban water cycle
- Promote self-sufficiency and renewable energy use in cities
- Support sustainable public services
- Reduce fossil fuel dependence
- Enable clean mobility through EV charging
- Combat energy poverty by offering free clean-energy powered public utilities

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Meet the Consortium

AVSA, parent company of the Global Omnium group, is leading the consortium. With more than a century of experience in integrated water cycle management, it coordinates project activities and provides technical support through its specialised R&D&I staff.

Jointly owned by the Valencia City Council and AVSA, EMIVASA manages public water supply for the Valencia city. In LIFE TURBINES, it leads the Valencia case study and installs smart infrastructure including filtered water fountains and device-charging palm trees.

70% owned by Aguas de Valencia and 30% by the Entidad Metropolitana de Servicios Hidráulicos (EMSHI), EMIMET manages the transport of drinking water from the treatment stations to the municipal distribution points in the Metropolitan Area of Valencia. In the LIFE TURBINES project, it contributes its experience in hydraulic modelling and energy efficiency, and leads one of the pilot cases.

The municipal utility responsible for the management of drinking water supply and sanitation services in Tortosa. Within the LIFE TURBINES project, Aigües de Tortosa is in charge of the implementation of the local case study, which includes the installation of a filtered drinking water fountain for public use.

A strategic innovation consultancy based in Rome, REDINN provides expertise in sustainability, circular economy, and greentech. It supports communication, stakeholder engagement, and helps ensure scientific, technical, and policy alignment.

As the local government, it supports project deployment in Tortosa and handles public communication and engagement efforts in the municipality.

A worker-owned cooperative dedicated to the energy transition and social equity, AeioLuz leads the communication strategy and citizen participation process, ensuring the project is inclusive and community-driven.

A leading Spanish energy R&D center, ITE develops the project's decision-support tool for planning microturbine deployment, and explores how this technology can integrate into local energy communities.

A science and technology-focused university based in Ancona, UNIVPM coordinates scientific dissemination and policy engagement, and supports research on sustainable water-energy systems

Tuscany's largest territorial water utility, AdF implements the Italian pilot in Scansano, where recovered energy will be used to support a local energy community initiative.

LIFE TURBINES Nominated at EUSEW 2025

We are thrilled to announce that LIFE TURBINES has been selected as a finalist in the Innovation category of the 2025 European Sustainable Energy Awards (EUSEW). This prestigious recognition highlights our innovative approach to generating renewable energy.

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Operational Project Installations In Valencia And Tortosa

An important milestone was reached by completing of two pilot installations in the cities of Valencia and Tortosa, which are about to be put into operation. These actions demonstrate the potential of urban drinking water networks as a source of clean and renewable energy through the recovery of overpressure by means of mini-hydraulic systems.

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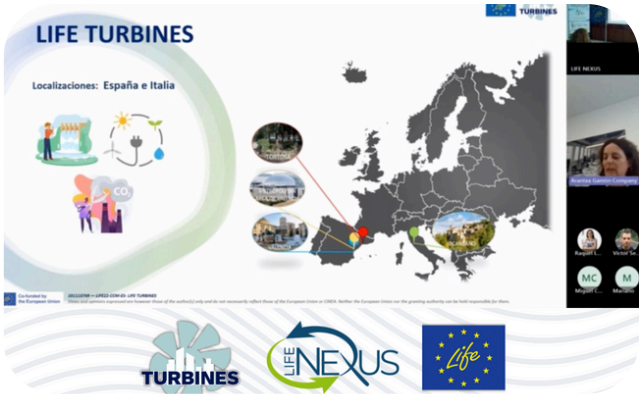
Presentation at LIFE NEXUS Final Event



On November 26, 2024, Arantxa Gamón from our partners EMIMET represented LIFE TURBINES at the final event of the LIFE NEXUS project. This event brought together experts and stakeholders to discuss sustainable water solutions and the integration of renewable energy technologies.

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Project Presentation at CONAMA 2024

At the annual CONAMA 2024 conference, a prominent forum for environmental innovation and collaboration, Arantxa Gamón from EMIMET presented the LIFE TURBINES project. This conference convenes policymakers, businesses, researchers, and NGOs to address critical sustainability challenges.

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Educational workshops by AEIOLUZ

Since November 2024, in collaboration with partner AEIOLUZ, we have conducted educational workshops aimed at schools, parents, and vulnerable communities, designed to inspire action towards energy efficiency, renewable energy adoption, and sustainable living practices.

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April Project Meeting And Monitor Visit In Tortosa

The 21st-month consortium meeting in Tortosa marked a significant milestone for LIFE TURBINES. The gathering included presentations, strategic planning, and a field visit to the site where the first microturbine will soon power a public fountain with clean, refrigerated water.

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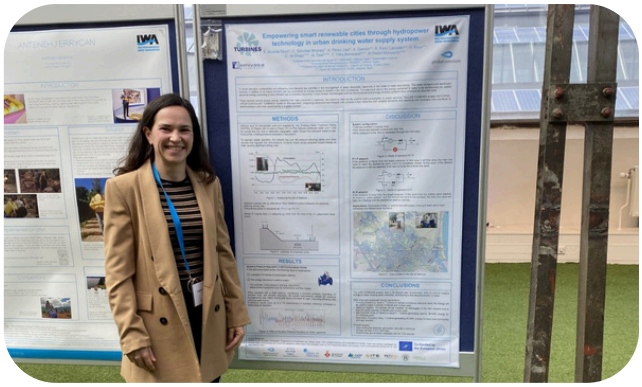
LIFE TURBINES Presented at WSES 20252



From May 25-28, 2025, Global Omnium proudly represented the LIFE TURBINES project at the Water Smart Economy & Society Congress in Rotterdam. LIFE TURBINES presented the official poster showcasing our innovative approach.

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Global Omnium To Attend EWRA 2025

Global Omnium is set to represent the LIFE TURBINES project at the 13th World Congress of the European Water Resources Association, taking place from June 24-28, 2025, in Palermo, Italy, presenting insights and focusing on innovative micro-hydropower solutions in urban drinking water networks.

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Confirmed participation at ECOMONDO 2025

We are pleased to announce our participation in ECOMONDO 2025, Europe's leading event for green and circular economy technologies, scheduled from November 4-7 in Rimini, Italy. This international fair serves as a hub for industry leaders, policymakers, researchers, and innovators.

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