

TURBINES

EMPOWERING SMART RENEWABLE CITIES THROUGH HYDROPOWER TECHNOLOGY IN URBAN DRINKING WATER SUPPLY SYSTEMS



AIM

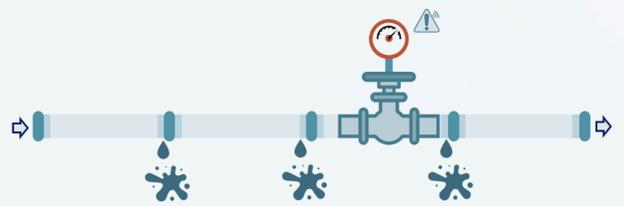
The LIFE TURBINES project aims to integrate hydropower technology into urban drinking water systems to generate renewable electricity from excess pressure in the water supply networks. This initiative seeks to promote decarbonization, enhance energy efficiency, and reduce greenhouse gas emissions. By leveraging existing water infrastructure, the project will demonstrate the feasibility and benefits of using hydropower technology to create sustainable and smart renewable cities.

SPECIFIC OBJECTIVES & KEY FIGURES

SPECIFIC OBJECTIVES

<p>Maximise energy efficiency of drinking water supply networks.</p>	<p>Sustainable consumption, clean mobility and reduce emissions.</p>
<p>Free services, support energy communities and combat energy poverty.</p>	<p>Digital tools for turbine and PAT selection in water supply networks.</p>

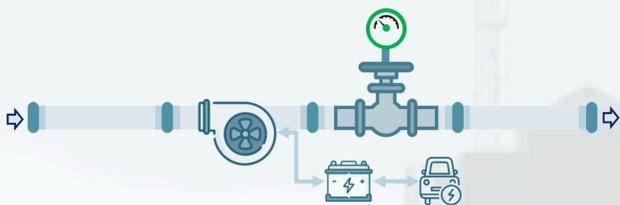
CURRENT SITUATION



KEY FIGURES

9.373,2 kWh/year Tortosa	43.099,2 kWh/year València
655.686 kWh/year València Met. Area	287.328 kWh/year Scansano
Total energy: 995.486 kWh/year Reduction of emissions: 258 tn CO₂ eq/year	

PROPOSED SOLUTION



CASE STUDIES

TORTOSA

A pressure reducing valve will be replaced by a microgeneration system. A participatory process will be carried out in schools to decide on the use of the energy generated. At the location where the turbine will be installed, it will be possible to generate enough electricity to power, e.g., an ornamental fountain and its LED lighting and a source of filtered and cooled drinking water.

VALÈNCIA

The energy produced will improve the city's public services, providing filtered and cooled water fountains and charging stations for electronic devices. In addition, there will be points where the energy will be used for self-consumption from the supply network.



SCANSANO

A pressure maintenance control valve will be replaced by a turbine located in a rural area surrounded by farms, farms and wineries. The energy generated by this turbine will be used to consolidate an energy community that will supply rural establishments and agri-tourism businesses in the surrounding area.

VALÈNCIA MET. AREA

The Valencia Metropolitan Area is made up of 48 municipalities. In the vicinity of the Valencia International Trade Fair there is the possibility of generating enough energy to install electric vehicle charging points to meet the high demand of visitors to the fair.

PARTNERSHIP



101113749 — LIFE22-CCM-ES- LIFE TURBINES.

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EU contribution: 1,510,799 €.
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End date: 31/03/2027

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