**PROJECT OBJECTIVES** 



Demonstration of a microhydraulic prototype (35 kW) in the Porma Drinking Water Treatment Plant (DWTP) in Leon (Spain), based on the **innovative** integration of a **Pump as Turbine** (PaT) coupled to a **battery storage** 

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Development of an intelligent management system and a monitoring platform to control the energy generation and use

to 30 follower facilities in

Europe



Quantification of the **energy** recovery potential along urban water cycle to achieve the first **European inventory** of the Small Hydropower potential

## WHAT IF URBAN WATER NETWORKS COULD **BECOME A SOURCE OF RENEWABLE ENERGY**



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Contribution to the targets established by the EC to become a global leader in the transition to **clean energy** in the Directive 2009/28/EC or the "Clean Energy for All Europeans"

Providing practical knowledge and tools to end users, water managers Replicating LIFE NEXUS approach

and policy makers to enable them to reduce the greenhouse gas (GHG) emissions from urban activities



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## EXPECTED RESULTS

**RENEWABLE ENERGY** Generation of 215 MWh/year of renewable electricity, harvested from the energy currently dissipated by a Pressure Reduction Valve (PRV) located at the entrance of the DWTP.

EMISSIONS REDUCTION 100% Reduction of the GHG emissions from the DWTP as the energy generated will cover the global demand on the installation. This will suppose 140 t  $CO_2$  equiv. per year of operation.

WATER LEAKAGES REDUCTION 0.5% Reduction of the water leakages in the DWTP as a consequence of the improvement of the pressure control.

FIRST EUROPEAN INVENTORY Quantification of the energy recovery potential along urban water cycle in European cities.

FEASIBLE SMALL HYDROPOWER PROJECTS. Assessment of the feasibility of European potential locations considering the specific framework conditions of each country.

**PROJECT TRANSFER Production of at least 30 replication studies in Follower facilities** (including Poland, Lithuania, Ireland and Spain).

**TRAINING** Celebration of 3 training seminars in Poland, Lithuania and Spain.

**EVENTS** Celebration of 2 LIFE NEXUS events in Poland and Spain.

**NETWORKING** Creation of a Small Hydropower network.

**SUSTAINABILITY** To allow authorities to increase the competitiveness and improve the sustainability of urban water provision services.

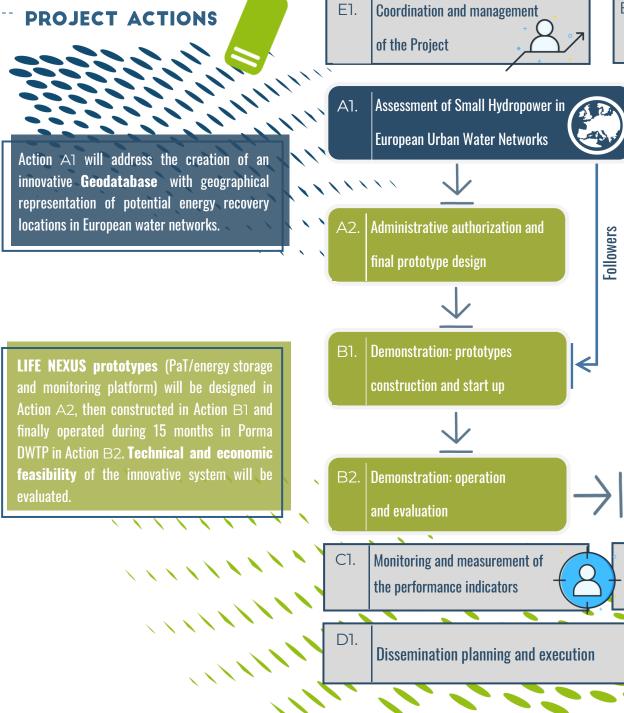
**DISSEMINATION** To disseminate Project results at national and international level through the Dissemination Plan.

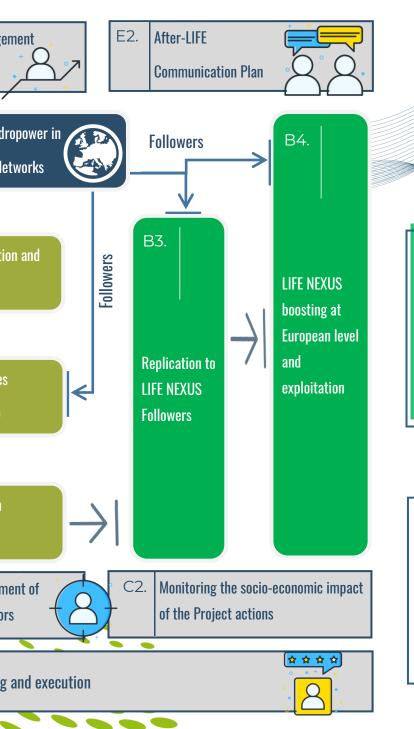


Total Project budget: 1.158.188 € EU contribution: 677.720 € **Duration**: 01/10/2018 – 31/12/2021

With the contribution of the EU LIFE financial instrument

## **PROJECT ACTIONS**





Direct replication to **30 Followers facilities**. which will receive a custom report including the most suitable energy recovery technology, storage viability, initial investment, etc. (Action B3). Potential locations identified in the geodatabase (Action A1), will be assessed to quantify the energy recovery potential along European cities (Action B4).

**Environmental** socio-economi **idicators** will be regularly monitored and compared over the baseline scenario (Actions C1 awareness and promote replication and transfer involve Project management activities.