## 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

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"



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

Replicating LIFE NEXUS approach

to 30 follower facilities in

Europe



















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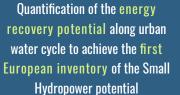


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Providing practical knowledge and

tools to end users, water managers

and policy makers to enable them

to reduce the greenhouse gas

(GHG) emissions from urban

activities







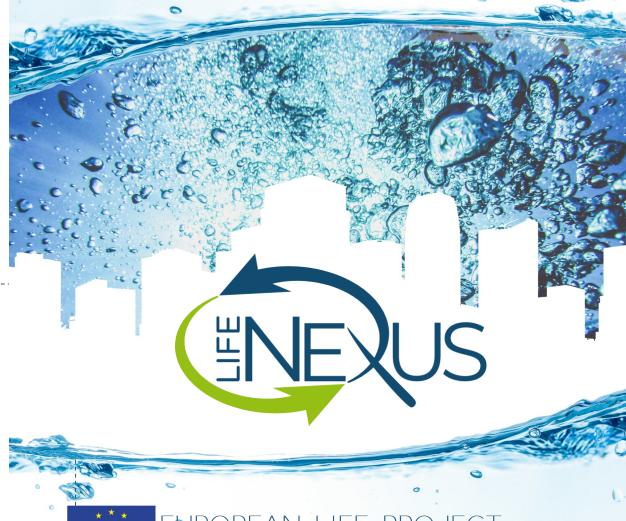












LIFE17 ENV/ES/000252









RENEWABLE ENERGY Generation of 215 MWh/year of renewable electricity, harvested from the enercy urrently 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<sub>2</sub> 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.

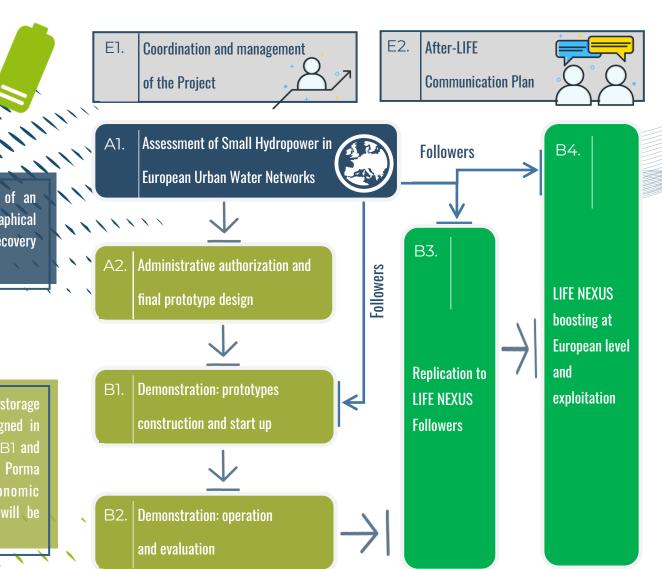




## **PROJECT ACTIONS**

Action Al will address the creation of an innovative Geodatabase with geographical representation of potential energy recovery locations in European water networks.

LIFE NEXUS prototypes (PaT/energy storage and monitoring platform) will be designed in Action A2, then constructed in Action B1 and finally operated during 15 months in Porma DWTP in Action B2. Technical and economic feasibility of the innovative system will be



Monitoring and measurement of

Dissemination planning and execution

the performance indicators

C2. Monitoring the socio-economic impact

☆ ☆ ☆ ☆

of the 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

socio-economic ndicators will be regularly monitored and compared over the baseline scenario (Actions C1 awareness and promote replication and transfer involve project management activities.

