



#### What do we hope to achieve with the Life ecoGRANULARWATER?

1. To remove 90 % organic and inorganic pollutants (nitrates, phosphates and pesticides) from the groundwater supplying inhabitants of small towns, **by means of biological methods** which do not generate waste.
2. To release nitrogen as  $N_2$  and to guarantee that the emission of the greenhouse gas  $N_2O$  will be zero.
3. To reach the goal zero for the Plant carbon footprint through the use of photovoltaic solar panels and batteries installed in situ, which will provide 100 % of the energy required by the groundwater treatment plant.
4. To produce drinking water with total biosafety from a chemical and biological point of view.
5. To attain more favourable cost-effectiveness ratio for the biological plant in comparison with other existing systems.
6. To draft a business plan and the commitment of 15 entities at European level, to the installation of the demonstrated purification plant in other territories with the same environmental problem.

#### Project Partners:

##### Coordinator:



##### Associated:



#### More information:

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**Innovative technology based on biological methods to remove nitrates, pesticides and other pollutants from groundwater supplying human consumption.**



**Project co-funded by the EU LIFE Programme.**

**Life eCOGRANULARWATER** is a **project of the "Drinking water"** topic approved within the priority area "Environment and Resource Efficiency" of the LIFE Programme, Call 2016.

**WHAT?** To demonstrate the effectiveness of a **technology for the removal of pollutants** from groundwater supplying human consumption (nitrates, phosphates, pesticides, etc.) in small towns.

**HOW?** Using technology based on **biological methods** to remove pollutants from water under biosafety conditions.

**WHY?** Water from aquifers supplying small towns has shown **nitrate levels above the limit** approved by the Drinking Water Directive. Likewise, water may be polluted by **pesticides and other organic and inorganic nutrients**, mainly released by agricultural activity.

**WHERE?** Technology will be **installed in Torre Cardela** (Granada Province, Spain), a municipality in the "Montes Orientales" area. It is an agricultural area with a population of 813 inhabitants.

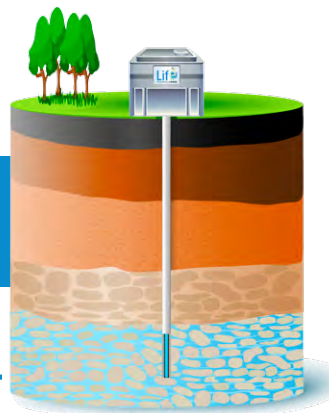
**WHEN?** The Project will be undertaken between the **1<sup>st</sup> September 2017 and the 31<sup>st</sup> October 2020**.

**WHO?** The **Provincial Council of Granada** coordinates the Project and the **University of Granada** (Spain), **Aalto University** (Finland) and **Construcciones Otero Company** (Spain) are associated beneficiaries.

### 1. PROBLEM

**Polluted groundwater**

- Nitrates
- Pesticides
- Phosphates



### 3. RESULT

**Drinking water**



In compliance with the European legislation regarding drinking water quality (Directive 98/83/EU).

### 2. SOLUTION

**Biological processes for the removal of pollutants**

In comparison with other water purification systems used, **it implies:**

- Lower energy cost.
- Lower waste generation.
- Lower greenhouse gas emissions.
- Lower economic cost.

