

<b>Company Name</b>	Veolia		<b>Challenge Code</b>	02.1
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<b>Challenge Type</b>	<b>Process</b>	<b>Technology</b>	Business	Product
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<b>Specific Challenge</b>	Positive Energy Balance in the Water Cycle: Transforming WWTPs into Net Energy Generators			
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Description
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The water sector is responsible for 2-3% of global energy consumption, with WWTPs being highly energy-intensive facilities. Wastewater treatment consumes between 0.3-0.6 kWh/m<sup>3</sup>, with aeration accounting for 50-60% of total consumption.

- Energy dependence: WWTPs are net consumers of energy from the electricity grid
- High carbon footprint: Direct emissions (N<sub>2</sub>O, CH<sub>4</sub>) and indirect emissions (electricity consumption)
- Underutilized resources: The energy potential of wastewater (organic, thermal, hydraulic content) is not fully exploited
- Rising operating costs: Energy accounts for 30-40% of operating costs

How could we
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Development of solutions, based in whole or in part on enabling technologies, to convert WWTPs into net energy producers through:

- Energy recovery from sludge and by-products
- And the development of energy storage technologies adapted to the water cycle

Specific restrictions or requirements
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- High TRL (real-world piloting capability: TRL >= 7)
- Availability to pilot in facilities (WWTPs) in the Valencian Community
- Testing time: <= 12 months
- Possibility of integration into pre-existing management systems
- Content Required Budget

Profile of the collaborator we are looking for
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- Demonstrable technical ability (valuable references)
- Financial and organizational strength (stability of the technical team)
- Need for real-world testing
- Possible profiles
  - SMEs
  - Startups
  - Universities / Research Groups

<b>Keywords</b>	#Water #Energy #Efficiency #Storage #Renewables		
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<b>Key indicators</b>	KPI #1 % Reduction in Consumption	KPI #2 % Carbon footprint reduction	KPI #3 % Reduction of by-products
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# SPIN OFFS EMPRESARIALES

## FORMULACIÓN DE RETOS