



SaltGae

algae to treat saline wastewater

www.saltgae.eu

SaltGae will develop and demonstrate a techno-economically viable solution for the treatment of saline wastewater from Food & Beverage industry. SaltGae will be a case study to overcome the cross-cutting barriers to innovation identified in the EIP Water.

CONTEXT

The treatment of saline wastewater in presence of organic content represents a challenge for many industrial sectors, such as food processing, leather, and land-based aquaculture industries. Saline wastewater is extremely difficult and expensive to treat, and its discharge represents a major threat to the environment, due to the presence of organic content suspended solids, nutrients (mainly nitrogen and phosphorus) and salt (concentrations up to 15%). Conventional wastewater treatments have proven ineffective for this kind of wastewater, as the bacterial processes typically used for the elimination of organic matter and nutrients are inhibited under high salinity contents. Therefore, generally combinations of biological and physicochemical methods are used which greatly increase the costs of the treatment, making it unaffordable for SMEs, who voluntarily decide not to comply with EU directives and discharge without prior treatment, causing severe damage to the environment.

OBJECTIVES

SaltGae project aims to develop and demonstrate:

- 1) a techno-economically viable solution for the treatment of saline wastewaters, by establishing three DEMO sites for the real scale demonstration of the sustainable and eco-innovative modular-based technology platform. DEMOs will take place in Slovenia (treatment of tannery WW) Italy (whey WW) and Israel (aquaculture WW).
- 2) an innovation framework for the mobilization and networking of stakeholders from all the different sectors related to wastewater. It will provide a platform for their communication and for the dissemination of results.

EXPECTED IMPACTS

- 1) Contribution to the implementation of the EIP Water across a number of key areas:
 - Water and wastewater treatment, including recovery of resources enabling a reduction in treatment costs.
 - Water Reuse and Recycling as SaltGae process implies wastewater desalination.
 - Water Energy Nexus recovering energy from the wastewater enabling reuse onsite to off-set the system energy demand
 - Cross Cutting Challenges
 - Creation of new market opportunities, based on the valorisation of sludge, effluents and biomass.
- 2) Resource efficiency and environmental performance.
- 3) Development and uptake of water efficiency standards and promotion of interoperability between water information systems.
- 4) Support to the EU Environmental Technology Verification Pilot (ETV) programme.



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