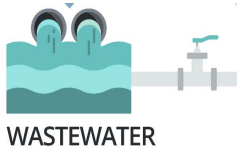




Production



230,000 m³ 66 Ton 77 Ton



Long-term validation

2 Demo Sites

 Mediterranean



Atlantic 



Energy



26% (BW)

50% (SW)

80% (WW)



cost of water vs conventional solutions

€/m³



0.5 → 0.3 (BW)



0.5 → 0.3 (WW)



0.6 → 0.4 (SW)

Atlantic Demo Site

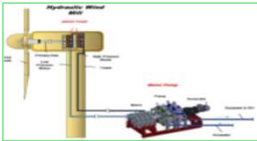
NX FILTRATION



Hollow Fiber Nanofiltration

Validation in the treatment of seawater brine. Hollow fiber nanofiltration membranes are capable of removing a wide range of contaminants, including divalent ions, organic matter, and some monovalent ions. The hollow fiber configuration provides a large filtration surface area in a compact space and also requires less energy.

WIND - RO



Wind-Powered Reverse Osmosis

Initial power studies and preliminary designs of the hydraulic pressure system. The goal is to develop a pressure-generation system using mechanical wind energy, through a motor pump coupled to the wind turbine's rotation shaft.

MINERAL EXTRACTION



Compound Recovery Plant

Validation in the treatment of brine to recover $Mg(OH)_2$ and $CaCO_3$. Selective recovery technology based on chemical precipitation processes. The goal is to reduce and valorize the brine stream produced by SWRO desalination plants (EDAMs) in order to obtain products of relevance in the global market, as well as to produce basic resources needed for the operation of the desalination plant itself, such as calcite for remineralization processes.



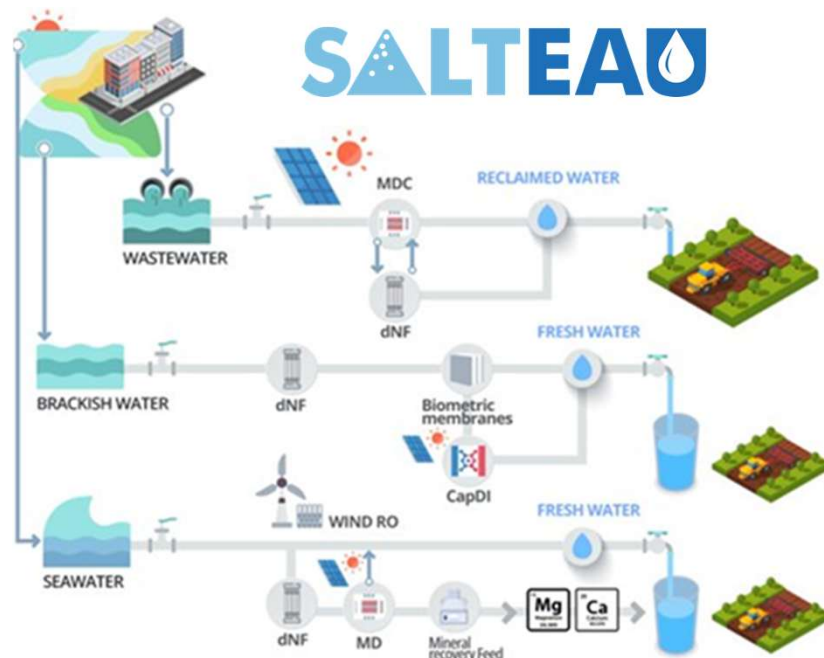
WAVE, La Caleta, Tenerife

MEMBRANE DISTILLATION



Membrane Distillation

Membrane distillation is a thermal process in which vapor molecules can pass through the membranes, with vapor pressure acting as the driving force. The process produces a concentrated stream of compounds that can later be recovered, and another stream of potable water for supply to the population. This MD system is coupled to a field of solar collectors that provides the energy required for its operation.



CID, Denia, Alicante



Co-funded by the European Union

Mediterranean Demo Site

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MICROBIAL DESALINATION CELL



Microbial Desalination Cell (MDC) Recovery and Reuse Valorization

The Microbial Desalination Cell (MDC) is a system that enables desalination processes by harnessing the energy generated during wastewater treatment, eliminating the need for external energy input. This system results from combining a bioelectrochemical system with an electro dialysis setup, allowing the reduction of salt content in one stream while simultaneously decreasing organic matter in another.

CAPACITIVE DEIONIZATION



Capacitive Deionization

Treatment of saline and brackish streams.

Capacitive deionization is an electrochemical process that removes ions from water by temporarily storing them in capacitive electrodes. When an electric potential is applied, charged species migrate toward the oppositely charged electrodes. Once the electrodes become saturated, the stored ions are released by reversing the polarity, enabling their removal and allowing the system to regenerate.

BIOMIMETIC MEMBRANES RO



Biomimetic Membranes

Treatment of inland saline streams.

Biomimetic membranes are based on the incorporation of aquaporin proteins—highly efficient water channels—into synthetic membranes. They allow a much higher water flux compared to conventional reverse osmosis membranes.