

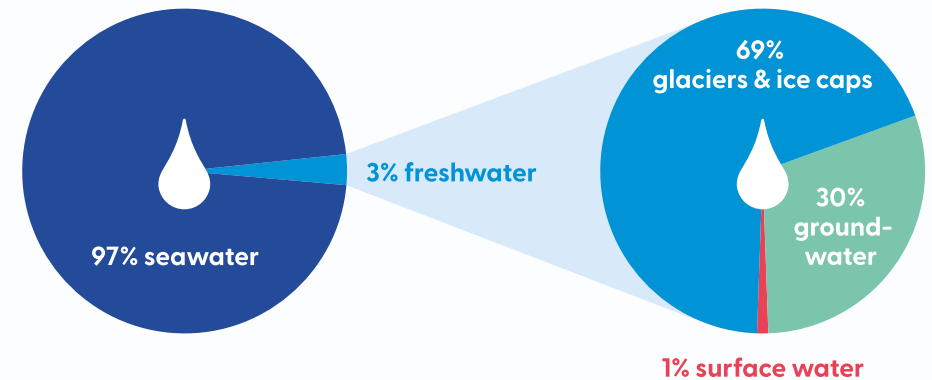
# Industry Overview

## INDUSTRY

Water scarcity impacts 40% of the world's population, hindering sustainability and threatening the health of ecosystems around the world. In Europe, water stress already impacts 1/3 of the continent, with climate change impacts threatening future water quality and quantity across the EU and leaving the continent more vulnerable to water shortages.

Seawater (SW) desalination offers an alternative water resource with an abundant supply. The cost of desalinated water has been declining since the 1960s, with reverse osmosis (RO) emerging as the leading technology.

It is estimated that energy costs make up 50-60% of the total cost of producing desalinated water from SW. In this context, energy efficient technologies provide an opportunity to further reduce costs and incentivise desalinated water use.



## FACTS



1/3 of Europe's territory is already suffering from water stress



Energy makes up roughly 50-60% of total costs for desalination



The demand for desalinated water is growing at a pace of approximately 15% per year



An estimated 20% of the world's groundwater resources being over-exploited

## RESOURCES

- [Desalination at a glance \(IDA\)](#)
- [5 things to know about Desalination \(UNEP\)](#)
- [Water resources across Europe - confronting water stress \(EEA\)](#)

# Project Overview

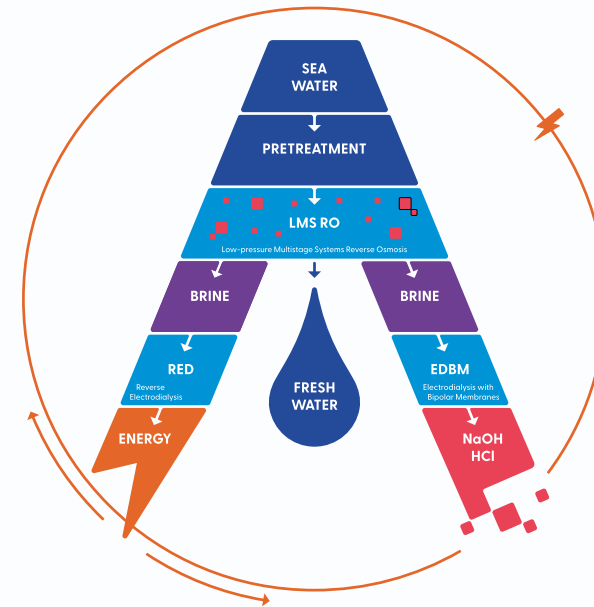


## ABOUT

LIFE INDESAL tackles the challenge of supplying safe freshwater from seawater, contributing to fight climate change and to the shift to the circular economy. The project aims to develop and demonstrate a novel integrated and circular seawater desalination system with a low carbon footprint that produces multi-purpose desalinated water, renewable energy, and resources simultaneously.

Through the integration of three technologies, INDESAL's innovative system will allow for energy savings of up to 10.5% and self sufficiency in terms of NaOH and HCl required for cleaning and pH adjustment for SWRO. INDESAL's novel system combines the highly efficient low-pressure multistage reverse osmosis (LMS RO) for SW desalination with reverse electrodialysis (RED) and electrodialysis with bipolar membranes (EDBM) for energy and resource recovery respectively.

[indesal.revolve.media](https://indesal.revolve.media)  



## PARTNERS



## KEYWORDS

- Desalination
- Circular economy
- Reverse osmosis
- Freshwater
- Seawater
- LMS RO
- EDBM
- RED
- Renewable energy
- Resource efficiency
- Energy recovery

## BUDGET

Total budget: € 3,117,233.14

European Commission financing:  
€ 1,870,339.87



Co-funded by the European Union.

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