

INTRODUCTION

The balance between drinking water demand and water availability has reached a critical level in many regions of the world. Factors such as climate change are causing more frequent and severe droughts which exacerbate these adverse conditions. With seawater making up 97.5% of the world's water resources, low energy desalination solutions will be a crucial part of providing sufficient levels of good quality drinking water for a growing world population.

THE REVIVED WATER SOLUTION

RevivED water is a European Commission funded innovation project which aims to contribute to overcoming the drinking water challenge by establishing **electrodialysis (ED)** as the new standard for desalination of seawater. Safe, affordable and cost-competitive drinking water will be produced; with significantly reduced energy consumption compared to state-of-the-art Reverse Osmosis (RO) technology.

FOCUS WILL BE ON THE FOLLOWING SYSTEMS AND APPLICATIONS:

ED system

Applications:

- Brackish water desalination in developing countries (pilot testing in Africa, Asia and Latin America)
- Tap-water softening in Europe (pilot testing in the Netherlands and Germany)

Multistage ED system

Applications:

- Industrial-scale seawater desalination (pilot testing in the Netherlands)

Multistage ED system + Reverse ED (RED)

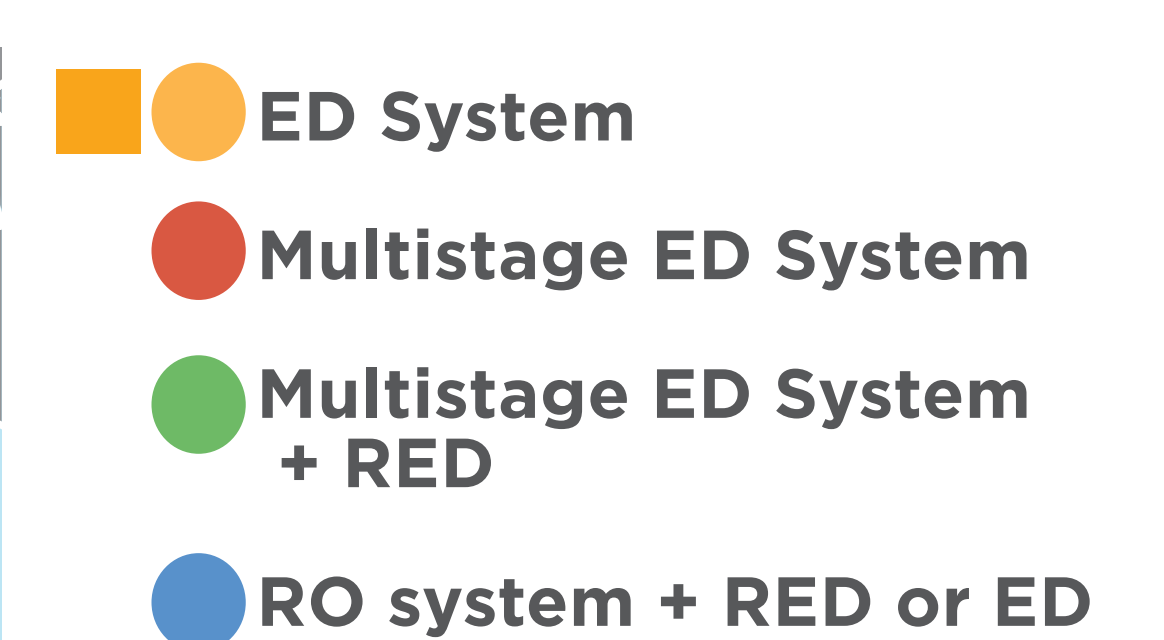
Applications:

- Further reduction of energy consumption for seawater desalination (pilot testing in the Netherlands)

RO system integrated with RED or ED

Applications:

- Market intrusion ED-RO without the need to replace the extensive RO infrastructures already developed around the world (pilot testing in Spain)



METHODOLOGY



- Development** of ED system based on RED and ED components (membrane, electrodes, stacks).
- Assessment** of pilot systems in a real environment to demonstrate improvements regarding energy consumption, water quality and cost, among others.
- Study** of the economic viability of the different ED desalination systems, their business perspectives and the market strategy to follow.

EXPECTED RESULTS



- Water desalination applications with significant **reduction of the energy consumption** compared to current state-of-the-art energy technologies.
- More **cost efficient** seawater and brackish-water desalination as well as tap-water softening.
- Contribution to the **sustainable provision** of safe and affordable drinking water all over the world, covering applications ranging from large industrialised plants to small, stand-alone systems for developing countries.

CONTACT US

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 685579. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

PARTNERS

