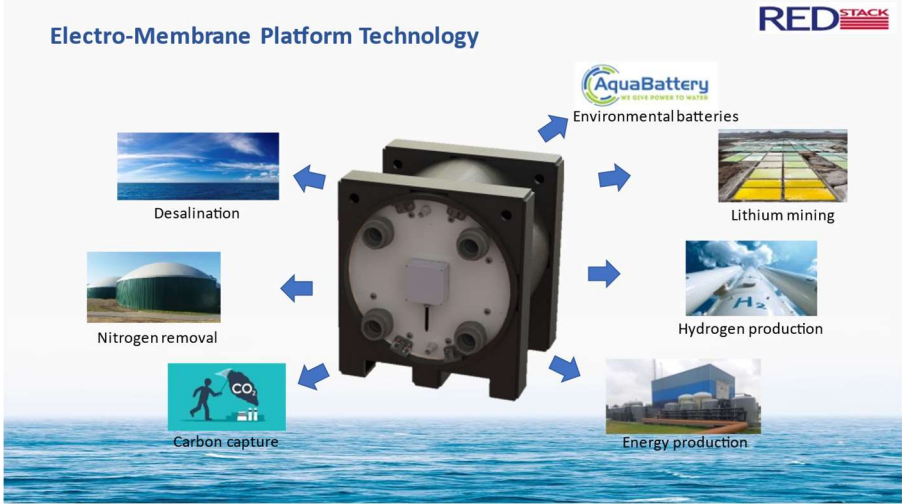


Abstract Title	<p>title</p> <p>Osmotic Energy application in industrial applications</p>
Topic	<p>O Improving water quality</p> <p>O Resilient water systems</p> <ul style="list-style-type: none"> ● Circular solutions: Reuse, Recover and Recycle ● Transitions in water, agro/food and energy
Challenges and Solutions	<p>Challenges and solutions</p> <p>The challenge of the energy transition in combination with the shortage of freshwater is addressed by REDstack's solution contributing to the clean energy and/or clean water demand.</p>
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Abstract	<p>1- Osmotic Energy generation from freshwater and seawater. Utilizing the salinity gradient between saltwater and freshwater and selective membrane technology to produce emission free energy, sustainable and circular maximizing the use of river water before it is discharged into the sea.</p> <p>In the presentation REDstack will demonstrate the state of the development and provide an insight in an innovative addition to the energy transition with clean renewable energy, emission free and environmental friendly and minimum impact on surroundings with water as the energy source.</p> <p>RED technology can also be used in hybrid systems in combination with SWRO and WWTP to reduce the energy demand and increase the water recovery. REDstack is involved in three European projects with three pilots commencing in 2023, running for multiple years. When proven, it will be rolled out to large scale SWRO plants.</p> <p>2- DESALT-ED stacks are ED technology stacks for desalination of brackish water. Currently the technology is running at a pilot</p>

	<p>in Zeeland, to verify the re-use of the freshwater in agricultural drip irrigation.</p> <p>3- The development of Electrodialysis stacks has also led to suitable electromembrane stacks suitable for Nitrogen removal or carbon capture solutions. Teaming-up with industrial partners to test these technologies, REDstack technologies are utilized in various pilots.</p>
<p>Figures/diagrams/illustrations</p>	<p>Up to 2 (in abstract)</p>  <p>The diagram, titled "Electro-Membrane Platform Technology" and "RED STACK", features a central image of a black and white electro-membrane stack. Six blue arrows radiate from this central stack to various application areas, each represented by a small image and text: <ul style="list-style-type: none"> Desalination: Represented by an image of a blue sky and water. Nitrogen removal: Represented by an image of a large green industrial tank. Carbon capture: Represented by an image of a person carrying a CO₂ gas cylinder. Environmental batteries: Represented by the "AquaBattery" logo with the tagline "WE GIVE POWER TO WATER". Lithium mining: Represented by an image of a large-scale mining operation with yellow machinery. Hydrogen production: Represented by an image of a blue sky with "H₂" text. Energy production: Represented by an image of a large industrial power plant. </p>