SUSTAINABILITY SOLUTIONS

DALRADA
Climate Technology

AGUAPURA

WASTEWATER PURIFICATION

REDUCE WATER CONSUMPTION **BY 80%**

PROCESS **TOP-QUALITY WATER**

LIMIT LANDFILL COSTS

POWERED BY **AQUATHEA**

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WASTEWATER PURIFICATION

Oysters: A Harmony between Nature and Technology

In nature, oysters play a crucial role in water purification. Thanks to their natural filtration process, a single oyster can filter up to 190 liters of water per day, removing impurities and improving the quality of the water in its environment. This extraordinary ability is a testament to the balance and efficiency that nature has perfected over millions of years.

Our Containers: Innovation Inspired by Nature

Just like oysters, our wastewater regeneration containers are designed to purify and recover water in an efficient and sustainable way. Through an advanced purification process, our containers remove contaminants and restore water quality for reuse, relieving pressure on water resources and reducing the industry's environmental impact.

The Essential Similarity: Purification as a Pillar of Sustainability

1. **Natural Efficiency vs. Technological Efficiency:** Just as oysters filter and purify water naturally, our containers do so using the most advanced technology. Both of these solutions — one from nature and the other from human innovation show that it is possible to keep water clean and safe for reuse.
2. **Positive Environmental Impact:** Oysters contribute to the health of aquatic ecosystems by maintaining water balance. Similarly, our containers enable industries to operate more sustainably, reducing their water footprint and ensuring that water, a vital resource, can be used again and again without degrading its quality.
3. **Adaptability and Resilience:** Oysters thrive in a variety of aquatic environments and continue to purify the water even in harsh conditions. Our containers, inspired by this capability, are designed to provide reliable and efficient purification, no matter how complex the industrial challenges.

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With water no longer a stable resource in many areas of the world and prices continuing to skyrocket, water reuse makes economic and environmental sense. Especially now, with several European countries already enforcing strict wastewater regulations and other limitations. We know how to help you meet these challenges and reduce your water consumption.

CHALLENGES

1. **Water is no longer a stable resource**
   - Groundwater is becoming scarcer
   - Permits for groundwater extraction are being phased out or restricted
2. **Strict regulations on wastewater discharges**
   - Limitations on wastewater volume
   - Limitations on effluent characteristics, such as COD, heavy metals, AOX, etc.
   - Prices are constantly increasing
   - Public water is becoming more expensive
   - Wastewater discharge tax levels continue to rise

THE SOLUTION

Do you need to reduce your water-related expenses while limiting wastewater discharge?

With **AguaPura**, you can reduce your water consumption by at least **80%** thanks to a sustainable water supply with a cost-effective, ready-to-connect solution that offers the best water quality for your industrial process.

AguaPura's ready-to-connect container system recovers, treats, and recycles wastewater and converts it to the highest-quality water for your washing processes and boiler room.

The system also replaces equipment related to water treatment in your laundry. In short, it's an all-in-one water solution.

AguaPura technology is ideal for:

- **Removing iron**
- **Water softening**
- **Boiler water treatment** (reverse osmosis)
- **Heat exchangers**
- **Wastewater treatment**

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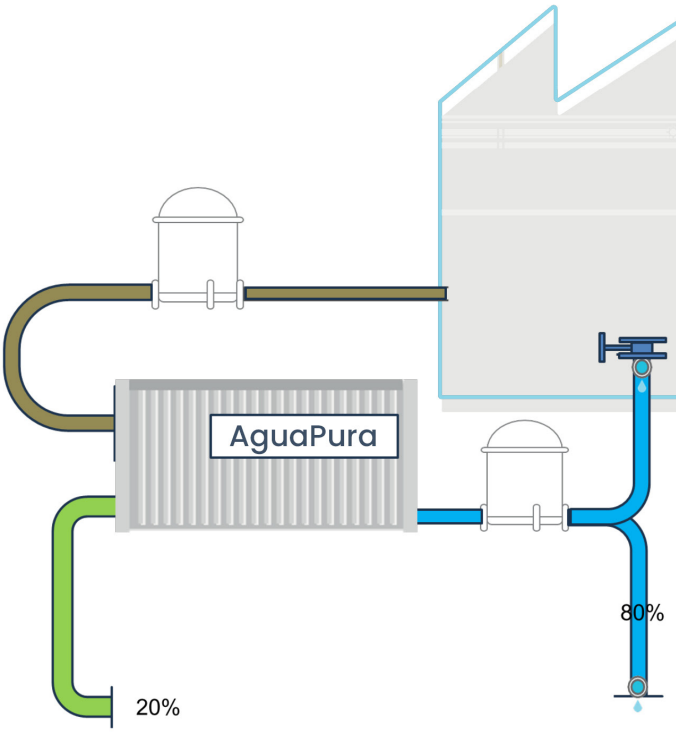
Without AguaPura	With AguaPura
• Investment in multiple water treatment facilities (iron remover, water softener, heat exchanger, etc.) • High maintenance and lifecycle costs of different water treatment devices • Numerous hours of supervision and maintenance for the different installations • Large volume of wastewater • Contaminated effluent	• Investment in a single installation • Limited maintenance and operating costs • 1 supervisor for 1 installation • Limited volume of wastewater • Effluent free of components such as microplastics, heavy metals and bacteria • Excellent water quality

CLOSED-LOOP WATER SUPPLY



1 Water Consumption:
during the entire process, water consumption is reduced by at least 80%.

2 Water Treatment and Purification:
no additional treatment (like water softener or reverse osmosis) is needed. The hydro unit generates high-quality water for the washing process and boiler room.

3 Discharge:
less than 20% of the process water is discharged. The wastewater does NOT contain substances such as microplastics, heavy metals, and bacteria.

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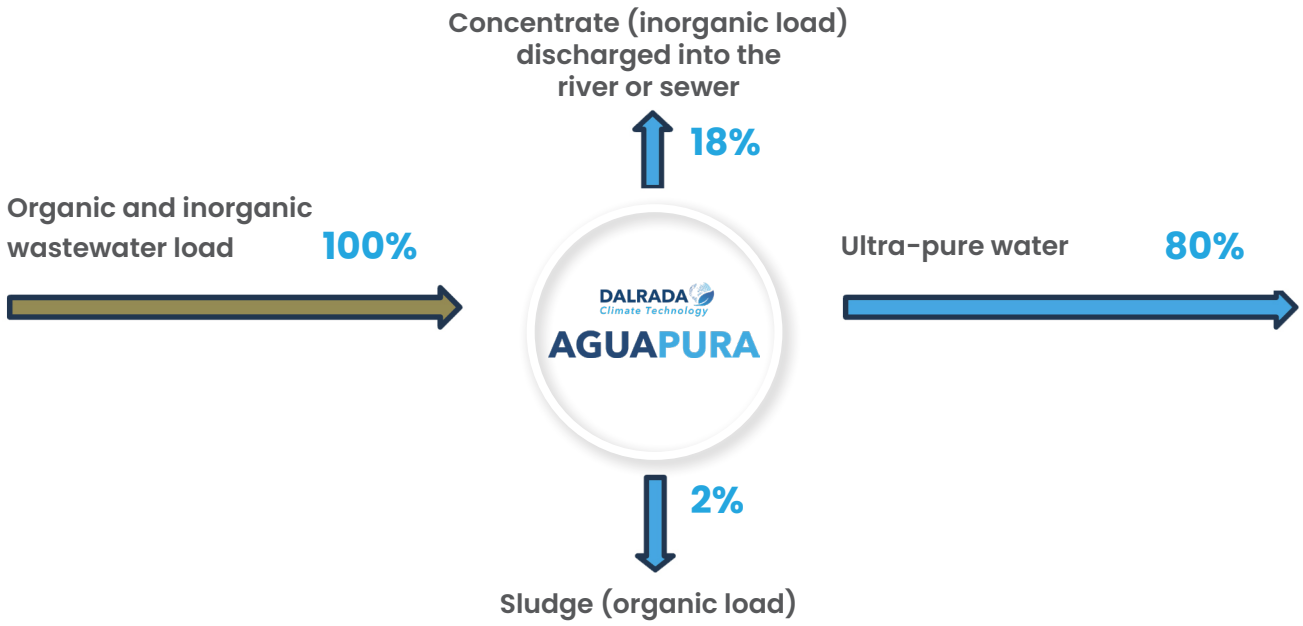

RESULTS

Qualitative Process

- Excellent water quality for industrial processes
- Lower conductivity

Increased Efficiency

- 80% water consumption reduction
- Significant savings in landfill costs
- Savings in CO2 emissions plus carbon credits

Sustainable Operations

- Less than 20% wastewater
- No substances in the wastewater (heavy metals, microplastics, and bacteria)
- Reduction of COD, BOD, AOX, suspended solids
- Limited eco-toxicity

Flexible Concept

- Ready-to-connect container system
- Customizable solution
- All-in-one unit (no additional water treatment required)
- Simple technical installation

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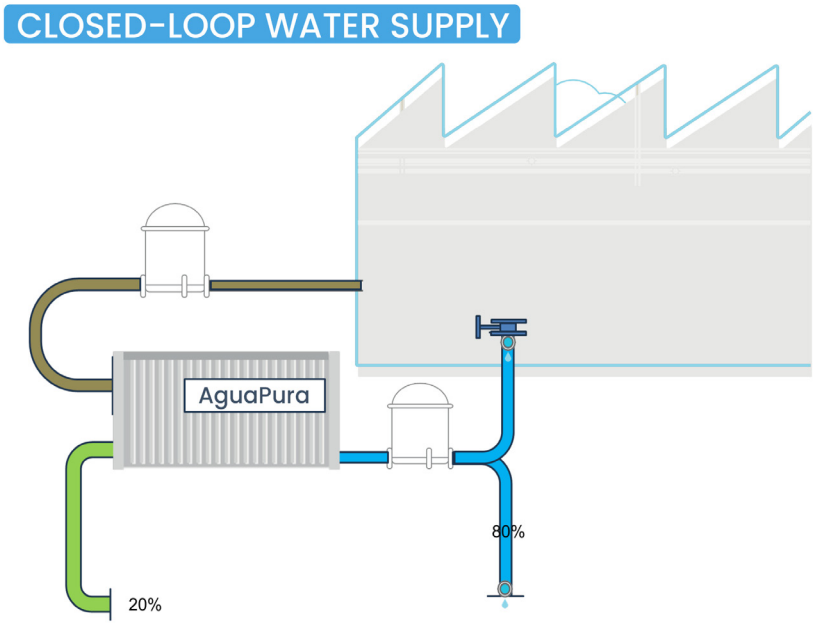
AGUAPURA TECHNOLOGY:
Efficiency and Sustainability in Industrial Water Treatment

We have developed an innovative and efficient technology for the treatment of industrial water and wastewater. Our solution is essentially plug and play, presented in an all-in-one container that facilitates integration into any industrial process. AguaPura can be installed quickly and easily, allowing for immediate onsite treatment of contaminated water.



Inside the **all-in-one container**, our technology relies on an **advanced distillation process**, recognized as one of the most effective methods for purifying wastewater. However, during the distillation process, there is a significant drawback: high energy consumption.

Fortunately, we have reinvented the thermodynamic cycle of distillation to make it much more environmentally friendly while significantly reducing its energy consumption. This process has been validated after **more than a decade of research and development**, during which we have tested and perfected our technology in various industries and under extreme conditions.

One of the major advantages of our technology is that it does not clog, unlike other methods, like nanofiltration or reverse osmosis, which can quickly become ineffective when the water is heavily loaded with contaminants. Thanks to our unique approach, we are able to recover up to 80% of high-quality water, ready to be reused in your industrial processes.

Our AguaPura technology represents an effective and sustainable water treatment solution, specifically designed to address today's environmental and energy challenges. It's an ideal option for industries seeking to improve their water management while reducing their ecological impact.

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