



Preserving Water Resources

Our Commitment to Pharmaceutical Lactose Production

How Lactalis Ingredients Pharma reduces water consumption through innovation and responsible practices in its factory of Retiers

The environmental imperative to preserve water resource



Less than **0.03%** of the planet's water is accessible freshwater

Climate change does not just reduce water availability

Rising temperatures declines water availability

+1°C → +7% global warming Water evolution



Quantity Freshwater availability continues to decrease



+

Snow and glacier melt accelerates threatening freshwater reserves

Water scarcity intensifies across agricultural and industrial regions



Quality

Water pollution adds pressure on usable resources

Lactalis commitments what technical solutions?



Water preservation is a core pillar of our CSR strategy
Our objective in Retiers facility : Reduce total water withdrawals by 20% vs 2023 baseline

An opportunity: Producing pharmaceutical lactose and dairy ingredients powder means evaporating massive quantities of water.

Through concentration and spray drying, almost all water in liquid raw materials is removed to obtain powder



90% is evaporated during dairy solid ingredients production

For every

1kg of dairy ingredients powder produced

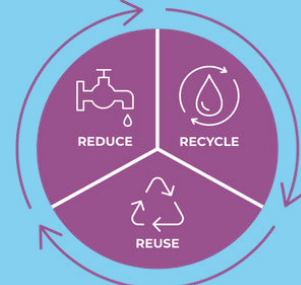


9 L of water evaporated



The question becomes obvious: Why not recover and reuse this water?

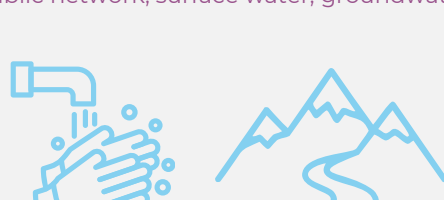
Our technological levers: The 3R framework



REDUCE

water withdrawals from the natural environment

3 water sources: public network, surface water, groundwater



Optimize our processes of production and icleaning

- Map all water uses in our processes
- Improve washing efficiency
- Requalify cleaning processes (CIP — Clean-In-Place) : Qualify final rinses through conductivity monitoring -

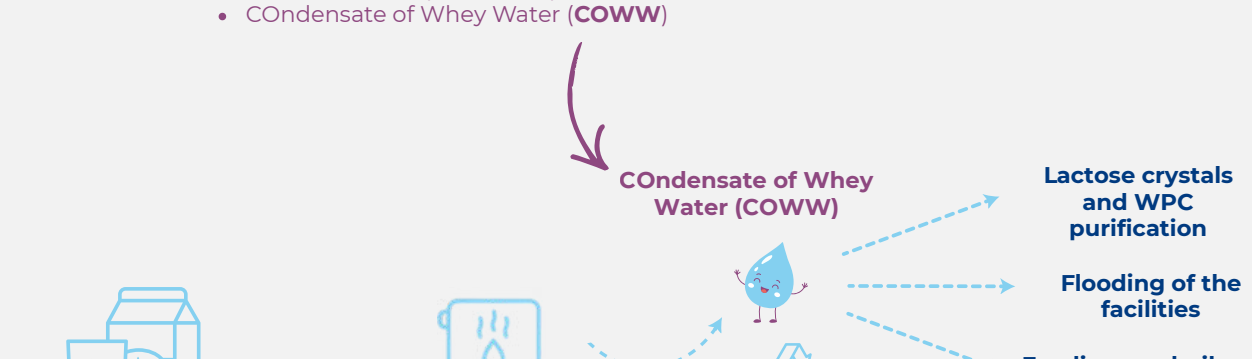
Target: 60% reduction in lactose unit CIP water consumption



REUSE

Types of water available for reuse :

- Water from the process : Sprout and rinse water
- COndensate of Whey Water (COWW)



Target: +30% increase in COWW reuse between 2022 and 2025



RECYCLE

Recycled Treated Waste water from Treatment Plant

Primary use: Water used to cool down our industrial installation (Cooling Towers...)

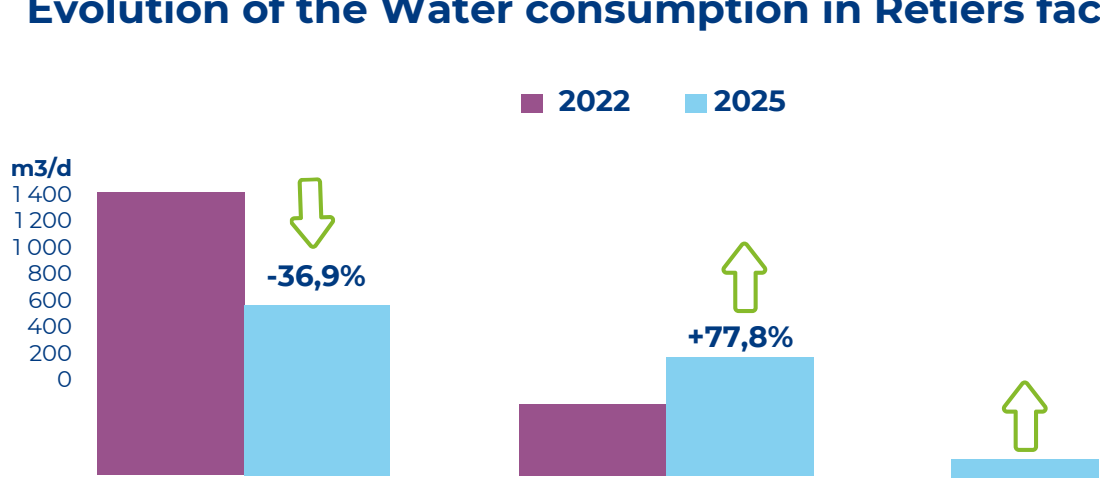


Benefit: Reduces freshwater demand for cooling operations

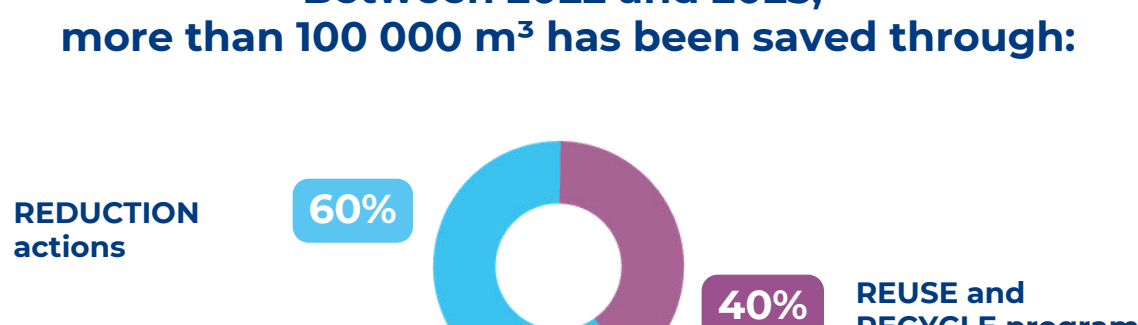
Target: 20% reduction in WWTP discharge

Our encouraging results

Evolution of the Water consumption in Retiers factory



Between 2022 and 2025, more than 100 000 m³ has been saved through:



Glossary of Acronyms

CIP: Clean-In-Place (automated cleaning system)
 COD: Chemical Oxygen Demand (water quality indicator)
 COWW : COndensate of Whey Water
 OI/RO: Osmose Inverse / Reverse Osmosis (water purification technology) REUSE: Reuse of process water within production cycles
 REUTE: Reuse of treated wastewater (WWTP effluent)
 WWTP: Wastewater Treatment Plant
 Cooling Tower: Aero-refrigeration tower for process cooling

Sources

Climate data: - IPCC (Intergovernmental Panel on Climate Change) — Sixth Assessment Report, 2021-2023 - UN Water — World Water Development Report 2024 - European Environment Agency — Water scarcity and droughts in Europe, 2023 Lactalis operational data: - Retiers Dairy Center internal monitoring (2022-2024) - Lactalis Ingredients Pharma sustainability reporting

LACTALIS INGREDIENTS PHARMA

