

CARBON FOOTPRINT

Energy recovery through LAIP heat exchangers



Context

In 2025, at Ricoltex Heat Exchanger Plant (Ritex Group) in La Rioja Argentina, the energy recovery system was implemented using **WeXY heat exchangers** supplied by the Italian company **LAIP**. The plant consists of 18 parallel water-to-water heat exchangers designed for a maximum flow rate of 65,000 liters per hour (65 m³/h). The system uses hot wastewater from dyeing processes to preheat clean inlet water.



Objective

Heat cold water using hot wastewater from industrial processes, thus avoiding the consumption of electricity or fossil fuels.



Technical details

Method: Indirect heat exchange between two hydraulic circuits

Thermal source: hot effluents from the industrial process

Use of heated water: e.g. preheating, technical washing, etc.



Water parameter

Clean water inlet	31° C
Recovered clean water	60° C
Wastewater inlet	65° C
Wastewater outlet	36° C
Average ΔT recovered	29° C



Environmental impact - September 2025

Treated fabric	999.531 kg
Equivalent energy	248.688 kWh
CO ₂ avoided	50.515 kg
Equivalent car distance	276.590 km
Equivalent trees	2.414



Economic savings - September 2025

Natural gas saved	25.905 m ³
Average gas cost	0,208 \$/m ³
Total economic saving	5.388 \$



Conclusion

The installed energy recovery system demonstrates high efficiency and fast economic payback, significantly reducing natural gas consumption and environmental impact. The solution is replicable in industrial dyeing or finishing plants using large volumes of hot water.