

Reducing energy consumption in industrial laundries thanks to process optimization



To reduce energy consumption and CO2 emissions in its laundries, Elis has developed a program to optimize the washing process.

Starting date of the project	2010	
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	Europe	
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	Optimize washing processes to reduce energy consumption (for steam and hot water), water consumption and related CO2 emissions.	
Detailed project description	<p>Cleaning process is the biggest lever for energy reduction in laundries, especially thanks to lower water temperature and a reduction in the water to be heated:</p> <ul style="list-style-type: none"> - wash at low temperature - detergent calibration as emulsion to optimize detergent and water consumption - use of liquid detergent instead of powder, easier to rinse and thus using less water - reuse of rinse water during certain washing stages - heat exchange to pre-heat "fresh-water" <p>Process optimization and identification of best available technologies and chemical products are realized in partnership with our suppliers to ensure the best fit.</p> <p>Elis runs 260 laundries in Europe and plans to implement this project at least until 2025.</p> <p>This project is one of the actions performed in the framework of our ambitious Group 2025 CSR Commitments.</p> <p>This Commitment program covers especially Climate Change, through the below goals:</p> <ul style="list-style-type: none"> - Reducing CO2 emissions intensity in our operations by 20% compared to 2010 - Improve thermal energy efficiency by 35% compared to 2010 (perimeter Europe) - Reduce overall fleet carbon footprint - Offer at least one sustainable collection per product family and recycle 80% of the end-of-life textiles <p>Elis has a long history on energy efficiency improvement, especially thanks to its partnerships approach along the value chain: from design, supply of equipment's to daily use in laundries, always looking for the best performance.</p>	
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	Details on the aspects of the project
	<input type="checkbox"/> Energy and resource efficiency (including behaviour)	
	<input type="checkbox"/> Energy Decarbonisation	
	<input checked="" type="checkbox"/> Energy efficiency improvements	Energy consumption reduction thanks to water process optimization
	<input checked="" type="checkbox"/> Improving efficiency in non-energy resources	Water consumption reduction thanks to washing process optimization during washing stages
	<input type="checkbox"/> Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)	
	<input type="checkbox"/> Financing low-carbon producers or disinvestment from carbon assets	
	<input type="checkbox"/> Reduction of other greenhouse gases emission	

Emission scope(s) on which the project has a significant impact and quantification of GHG emission reductions per emission scope	Aspects of the project contributing to the reduction of emissions by emission category		Quantification of associated GHG emissions by emission category
			Please follow the quantification methodology used in the Afep guidelines .
	Reduction of the company's carbon dependency		
	Scope 1 <i>Direct emissions generated by the company's activity.</i>	Reduction of thermal energy consumption (natural gas and other fuels) for washing process	- 5000 tCO ₂ eq/year from 2019 to 2025
	Scope 2 <i>Indirect emissions associated with the company's electricity and heat consumption.</i>	Reduction of electricity for washing process.	- 500 tCO ₂ eq/year from 2019 to 2025
	Scope 3 <i>Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.</i>		
	Increase of carbon sinks		
	Emissions Absorption <i>Carbon sinks creation, (BECCS, CCU/S, ...)</i>		
	GHG emissions avoided by the company at third parties		
	Avoided Emissions <i>Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.</i>		
	<p>Clarification on the calculation or other remarks: This project and its implementation in Europe from 2019 to 2025 should bring in average per year: 29000MWh thermal energy reduction and 2500MWh electricity reduction.</p> <p>With hypothesis of 1% increase in volumes per year, emissions factors of 0,185tCO₂e/MWh for thermal energy (Elis Europe 2019) and 0,20tCO₂/MWh for electricity (Elis Europe 2019), the Group estimates the CO₂ emissions reduction at 5000tCO₂e for Scope 1 and 500 tCO₂e for Scope 2.</p>		
Modality of verification of the quantification.	<p>Calculation standard used (ADEME base, GHG protocol, etc.): average emissions factors on the countries where the Group is operating – source ADEME (Scope 1), average emissions factor on the countries where the Group is operating – source IEA (Scope 2)</p> <p>Verification of the calculation (internal or external): External verification</p>		
Other environmental and social benefits of the project	<p>Cleaning process optimization in laundries can lead to significative water consumption reduction. This project has already entailed since 2010 a reduction by 36% of water consumed per kg of linen delivered, aligned with our target of 50% reduction by 2025.</p> <p>Unlike traditional consumption approach, the rental and maintenance model, is based on circular economy principles and allows our customer to benefit from Elis services without having to acquire the products. This model, simplifying our customers' life, reduces pressure on the environment and on natural resources. Indeed, thanks to process optimization, the maintenance-renting approach allows:</p> <ul style="list-style-type: none"> - To reduce significantly water consumption compared to traditional internal laundry approach with product ownership. - to support an increase of the product lifespan to maximize usage, through repair, reuse or recycling and thus to reduce resource consumption. <p>This project will contribute to the following SDGs:</p> <ul style="list-style-type: none"> ● SDG 6 Cleanwater and sanitation ● SDG 7 Affordable and clean energy ● SDG 9 Industry, innovation and infrastructure ● SDG 12 Responsible Consumption and production ● SDG 17 Partnerships 		

Project maturity level	<input type="checkbox"/> Prototype laboratory test (TRL 7) <input type="checkbox"/> Real life testing (TRL 7-8) <input type="checkbox"/> Pre-commercial prototype (TRL 9) <input type="checkbox"/> Small-scale implementation <input checked="" type="checkbox"/> Medium to large scale implementation Remarks: click here to enter the level of maturity of the project
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	This project can be replicated in many of the Group's laundries.
Amount of investment made (in €)	Not disclosed
Economic profitability of the project (ROI)	<input type="checkbox"/> ST (0-3 years) <input checked="" type="checkbox"/> MT (4-10 years) <input type="checkbox"/> LT (> 10 years) Remarks: click here to enter the information
Engaged partnerships	Equipment and detergent suppliers
Open comments from the project owner	/
More about the project	
Contact the company carrying the project	claire.bottineau@elis.com
Project URL links	/
Illustrations of the project 3 photos/videos minimum (in HD format to be attached)	 

