

Installation of light columns to limit energy consumption



Because plastic injection is the most electricity-intensive phase of production, Plastic Omnium has implemented visual management systems (light columns) to optimize its electricity consumption.

Starting date of the project	March 2017		
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	The visual management system (light boxes) is used in Plastic Omnium's plants, particularly in Fontaine, in the Belfort region. The project is currently being deployed in other French plants.		
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	Implementation of visual management systems such as light boxes in its injection production areas to optimise energy consumption and avoid wastage.		
Detailed project description	<p>To contribute to Plastic Omnium's objective of reducing its scope 1 and 2 GHG emissions by 20% in 2025 compared with 2018, the Company is seeking to reduce its energy consumption and environmental footprint.</p> <p>The plastic injection moulding machines are the most energy-intensive areas (in terms of electricity from the national grid) of the production sites.</p> <p>The purpose of the light columns is to make the users of the injection moulding production areas responsible for switching the presses on and off correctly. A lighted aid on each machine lights up differently depending on the data from the electricity meters:</p> <ul style="list-style-type: none"> • In green: the press is working correctly, it is switched off or in nominal operation; • In red: the press is incorrectly stopped or consumes too much energy for its cycle. In this case, it is necessary to investigate the cause. <p>A last glass case is located at the exit of the site, if it is red, it means that one of the presses is incorrectly stopped.</p> <p>Following initial feedback (from the Ruitz factory, Pas de Calais), it is planned to move these lighted aids to the communication and work area of the injection production unit (in addition to the lighted aid next to each press).</p>		
Main project's drivers for reducing the greenhouse gas emissions	Reduction levers	Details on the aspects of the project	
	<input checked="" type="checkbox"/> Energy and resource efficiency (including behaviour)	Improvement of operators' practices and behaviour	
	<input type="checkbox"/> Energy Decarbonisation		
	<input type="checkbox"/> Energy efficiency improvements		
	<input type="checkbox"/> Improving efficiency in non-energy resources		
	<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>		
	Scope 2 <i>Indirect emissions associated with the company's electricity and heat consumption.</i>	Better use of energy-using equipment	- 12 tCO2eq/year
	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: The Fontaine plant estimates a gain of 200MWh of electricity per year (i.e. approximately 3% of its total annual electricity consumption). An emission factor of 0.06 tCO2/MWh is considered for the electricity consumed on the French grid.</p>		
Modality of verification of the quantification.	<p>Calculation standard used (ADEME base, GHG protocol, etc.): ADEME database, with verification by Mazars Verification of the calculation (internal or external): Follow-up at the Executive Committee</p>		
Other environmental and social benefits of the project	<p>This project will :</p> <ul style="list-style-type: none"> - Increase the life span of the equipment - Reduce maintenance requirements - Reduce HSE risks (noise, fire, etc.) 		
Project maturity level	<p> <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 </p> <p>Remarks: Best practices are being rolled out to all sites in the division. The light columns case project is operational and is shared as a best practice with the other sites and is being deployed at other sites, particularly in France (deployed at the Ruitz site, Pas de Calais, and under study at the Guichen, Ille et Vilaine, and Amiens, Somme sites).</p>		
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	<p>The project has strong replication potential across the division and the Plastic Omnium Group. It requires many actions to control the start-up and shutdown of equipment. This project requires:</p> <ul style="list-style-type: none"> • The involvement of all management • Regular monitoring and promotion of good practices at the sites • An effective communication and sharing network within the division 		
Amount of investment made (in €)	<p>For the good practice of the luminous glassware of Fontaine, it was necessary to invest 3 000€ (purchase of the glassware and the wiring and programming of the glassware/electrical counters interface).</p>		
Economic profitability of the project (ROI)	<p> <input checked="" type="checkbox"/> ST (0-3 years) <input type="checkbox"/> MT (4-10 years) <input type="checkbox"/> LT (> 10 years) </p> <p>Remarks:</p> <ul style="list-style-type: none"> - ST: An annual saving on the bill estimated by the site at €16k - LT: Cumulative effect of the benefits of control and verification of the switching on and off of the presses 		
Engaged partnerships	<p>A partnership with Schneider Electric (IRIO platform) has been initiated to implement energy monitoring solutions.</p>		
Open comments from the project owner	<ul style="list-style-type: none"> • The human element is key to the success of this project, because a good practice applied at the time is not necessarily applied afterwards without effective monitoring and control and The involvement of all employees is necessary to identify deviations. 		

	<ul style="list-style-type: none">• The approach depends on the maturity of the sites and regions (cultural and economic context).• It is a structuring initiative that is part of the ISO 50001 certification program and Plastic Omnium's Top Planet program.
More about the project	
Contact the company carrying the project	shr-fon.hse@plasticomnium.com
Project URL links	To learn more about Plastic Omnium's environmental strategy, visit the following link : https://www.plasticomnium.com/ra2019/fr/32/index.html
Illustrations of the project	

