Installation of solar panels

in Arevalo

Plastic Omnium launches a pilot project to reduce the carbon footprint of its Arevalo plant in Spain by installing photovoltaic panels on its roofs.

Starting date of the project	**January 2019**: Start of quotations from suppliers / start of consultation with suppliers **July 2019**: Date of choice of sourcing **March 2020**: Permission obtained from the City hall **June 2020:** Start date for delivery of the structure **17 August 2020**: Official start date for consumption of electricity generated by the panels
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	The device is installed on the roofs of the production plant in Arevalo (Spain). Several other projects of this type are operational in Belgium, Spain and England. Projects are underway in France, Spain, Thailand and India. Studies are also ongoing for the US, Mexico and Eastern Europe.
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	To contribute to Plastic Omnium's goal of reducing its scope 1 and 2 GHG emissions by 20% in 2025 compared with 2018, the Company is turning to solar energy production. Through a pilot project in Arevalo, Plastic Omnium aims to reduce its environmental impact by installing more than 6,000 m² of photovoltaic panels on the roofs of its plant, for a total of 3,000 panels installed and 1.2 MW of nominal installed power.
Detailed project description	Through the Arevalo pilot project, Plastic Omnium aims to demonstrate the initiative's added value for the Division and the Company: • An annual reduction of 400 metric tons in the site's CO2 emissions • Annual local electricity production of 1,600 MWh (approximately 8% of the site's annual electricity needs) • Energy independence in the event of a power cut or breakdown • Limit the site's exposure to the high volatility of the electricity market

Main project's drivers for reducing the greenhouse gas emissions

Reduction levers	Details on the aspects of the project
☐ Energy and resource efficiency (including behaviour)	
☒ Energy Decarbonisation	Replacement of electricity drawn from the local grid with electricity generated by the installed solar panels
☐ Energy efficiency improvements	
☐ Improving efficiency in non-energy resources	
☐ Emissions absorption: creation of carbon sinks, negative emissions (BECCS, CCU/S, ...)	
☐ Financing low-carbon producers or disinvestment from carbon assets	
☐ 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 *Direct emissions generated by the company's activity.*		

	Scope 2 *Indirect emissions associated with the company's electricity and heat consumption.*		
	Scope 3 *Emissions induced (upstream or downstream) by the company's activities, products and/or services in its value chain.*	Replacement of electricity drawn from the local grid with electricity generated by the installed solar panels	• Production estimated at 1830 MWh/year (theoretical data from EDF), i.e. a 9% reduction in CO2 emissions from the site • According to the consumption capacity between August and December 2020, the project would allow a reduction of 8.2% of the site's CO2 emissions • According to the real self-consumption between August and December 2020, the project would allow a 6% reduction of the CO2 emissions of the site. **The company will confirm in August 2021 whether its theoretical estimate of an 8% reduction in CO2 emissions from the site (400 tCO2eq/year) is correct.**
	Increase of carbon sinks		
	Emissions Absorption *Carbon sinks creation, (BECCS, CCU/S, …)*		
	GHG emissions avoided by the company at third parties		
	Avoided Emissions *Emissions avoided by the activities, products and/or services in charge of the project, or by the financing of emission reduction projects.*		

Clarification on the calculation or other remarks:

The project was finalised in July 2019 (so these are estimates).

Annual production of 1,600 MWh of electricity (or 8% of the site's electricity consumption).

The carbon intensity of the Spanish grid electricity is considered to be around 0.288 kgCO2eq/kWh, and the carbon footprint of the manufacturing, installation and end-of-life reprocessing of the solar panels is 0.055 kgCO2eq/kWh (for a lifetime of 20 years and a load factor of around 15% in Spain according to the BP stats review 2020).

This represents an annual reduction of 400 tCO2eq for the site (i.e. a reduction of about 8% of CO2 emissions from the site's electricity consumption)

$$CO2\ Gain = 160\ MWh \times (0.288\ tCO2/MWh - 0.055\ tCO2/MWh) \approx 400 tCO2eq/\text{year}$$

Modality of verification of the quantification.	**Calculation standard used (ADEME base, GHG protocol, etc.):** Use of ADEME coefficients **Verification of the calculation (internal or external):** Third-party verification: supplier's invoice and calibrated electricity meter at the output of the solar panels (continuous measurement) and verification by Mazars of the ADEME coefficients used.
Other environmental and social benefits of the project	This project contributes to the following environmental benefits: • Reduced national generation needs and lower overall demand (all else being equal) • Freeing up transmission networks to help meet national demand

Project maturity level	☐ Prototype laboratory test (TRL 7) ☐ Real life testing (TRL 7-8) ☐ Pre-commercial prototype (TRL 9) ☐ Small-scale implementation ☒ Medium to large scale implementation **Remarks**: Several plants produce 8% of their electricity consumption in 2020. Facilities are planned on at least four new plants each year.
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	The project can be replicated in all countries depending on the following conditions: energy costs, degree of sunshine, local subsidies and taxation and technical feasibility. The economic balance necessary for the profitability of the project must be respected.
Amount of investment made (in €)	PPA partnership (long-term electricity delivery contract between two parties) No investment by Plastic Omnium, €1.2m by EDF
Economic profitability of the project (ROI)	☒ ST (0-3 years) ☐ MT (4-10 years) ☐ LT (> 10 years) **Remarks:** The project stabilises energy costs for the company, promotes low-cost energy for a fraction of the consumption. The established PPA allows for lower investments.
Engaged partnerships	• Subcontracting of the installation and operation of the structure • Partnership with EDF for the implementation of the production project and submission of the file to the government agencies. • Partnership under study with Total and EDF for the other Spanish sites.
Open comments from the project owner	This project reflects the company's commitment to the environment. It is part of a global carbon neutrality project that will be in line with the trajectory of the Paris Agreements.
More about the project	
Contact the company carrying the project	benjamin.duclos@plasticomnium.com
Project URL links	For more information on the PO product impact strategy see the following link: https://www.plasticomnium.com/ra2019/fr/32/index.html
Illustrations of the project