De-mixing of white cullet

Verallia is developing a de-mixing capacity for white cullet at the Everglass Rozet Saint Albin site, which will increase cullet rates in the white glass furnaces. This project will reduce energy consumption (natural gas) of the white glass furnaces and the associated CO2 emissions. emissions.

Starting date of the project	Q1 2022
Project Localisation Places of implementation of the project at this stage and targeted geography if replicable.	The project involves an investment in Everglass Rozet Saint Albin (Haut De France); the white cullet produced is used in the French Verallia plants in Chalon sur Saône and Lagnieu. Everglass is a wholly-owned subsidiary of Verallia, dedicated to the processing of household glass, and supplies Verallia's plants with cullet.
Project objectives Type of climate innovation of the project with a description of the problem/issue addressed	The project consists in increasing the capacity of the white cullet "de-mixing" of the Everglass Rozet Saint Albin (Haut de France), in order to increase the cullet rates in the white glass furnaces, which allows a reduction in energy consumption and CO2 emissions.
Detailed project description	Cullet is glass that is recycled. Cullet can be made from coloured glass or white glass. In a glass furnace, cullet replaces new mineral material (sand, soda, limestone + various other materials...). The introduction of cullet into glass furnaces reduces the consumption of natural gas and raw materials in the furnace and therefore the raw materials in the furnace and therefore the associated CO2 emissions. Verallia's coloured glass furnaces Verallia's coloured glass furnaces are saturated with cullet. To increase the cullet content in the white glass furnaces, it is necessary to increase the capacity of the furnaces, it is necessary to increase the white glass removal capacity of cullet processing sites. New generations of optical sorting machines can achieve a white glass purity of 99,8%. To achieve this, it is necessary to modify the existing installations to include new optical sorting machines in cascade. This also leads to the implementation of new means related to bulk handling: conveyors, lifts, vibrating distributors, silos, etc. Translated with www.DeepL.com/Translator (free version)
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	
☒ Energy efficiency improvements	Reduction of natural gas and raw material consumption raw material consumption in the area under by replacing new material with cullet.
☒ Improving efficiency in non-energy resources	Cullet is infinitely recyclable; the use of the use of cullet avoids drawing on natural natural 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.*	Reduction of natural gas and natural gas and raw material	8150 T CO2
	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.*		
	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: Before the project was launched, the natural gas consumption of the 4 furnaces concerned in Chalon sur Saône and Lagnieu was around 619 GWh PCI/year. Saône and Lagnieu was around 619 GWh PCI/year. The completion of this project will reduce this consumption by 2.4%. reduce this consumption by 2.4%. Using an emission factor of 187 kgCO2/MWh PCI, this represents a CO2 saving of represents a CO2 saving of around 2748 tCO2/year. In addition, the use of 30,000 T of white cullet instead of "new" material saves 36,000 T of new material. Considering an emission factor of 180 Kg CO2/t of new material melted, this represents a CO2 saving of about 5400 tCO2/year.

Modality of verification of the quantification.	**Calculation standard used (ADEME base, GHG protocol, etc.):** Emission factors used in the framework of ETS reporting **Verification of the calculation (internal or external): External verification by ADEME if the requested grant is granted**
Other environmental and social benefits of the project	This project strengthens the circular economy by developing the recycling of household glass.
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**: Implementation of mature technologies, whose performance has been recently improved. improved. Mainly optical sorting with 99.8% purity.
Capacity and conditions of the project reproducibility, with associated climate impact mitigation potential	This project can be replicated in all household cullet processing sites in any country
Amount of investment made (in €)	Forecasted investment = 3,66 M€.
Economic profitability of the project (ROI)	☐ ST (0-3 years) ☒ MT (4-10 years) ☐ LT (> 10 years) **Remarks:** Excluding subsidy
Engaged partnerships	A partnership with ADEME is awaiting validation in the framework of the call for projects for the decarbonisation of Industry...
Open comments from the project owner	/
More about the project	
Contact the company carrying the project	corporate.communication@verallia.com
Project URL links	/

Illustrations of the project