Life cycle assessment of laminated glass recycling into high added-value products.

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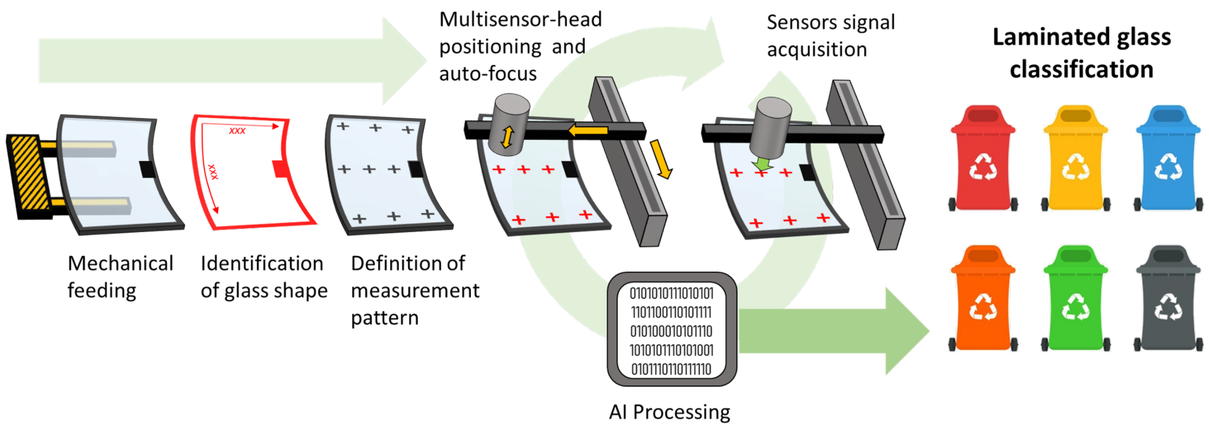
What is SUNRISE Platform?

PVB (Polyvinyl butyral) is used as interlayer in the manufacture of laminated glass for many applications (windshields, safety glass, etc.). Laminated glass consumption increased widely during last years, leading to a increase of the production of PVB to be managed.

Due to the high cost of virgin PVB, recycling of PVB is a key objective for the industry. This process must address several challenges, such the complexity associated to the interlayer interaction with glass, variability of laminated glass products, composition and degradation of PVB and impact of recycled-PVB in final products.

SUNRISE Project aims to design and construct a innovative sorting system to address current challenges in the existing laminated glass waste recycling industry.

The main objective of the project SUNRISE is to **demonstrate** at European level **within the current glass recycling business, the application of an advanced sorting platform** based on an **innovative multisensor tool** able to provide information from **PVB quality in laminated glass wastes**, allowing the **tailored mechano- chemical treatment for purification of PVB by-product**. This **will enable the post-consume PVB recycling** and reusing **as interlayer film**.

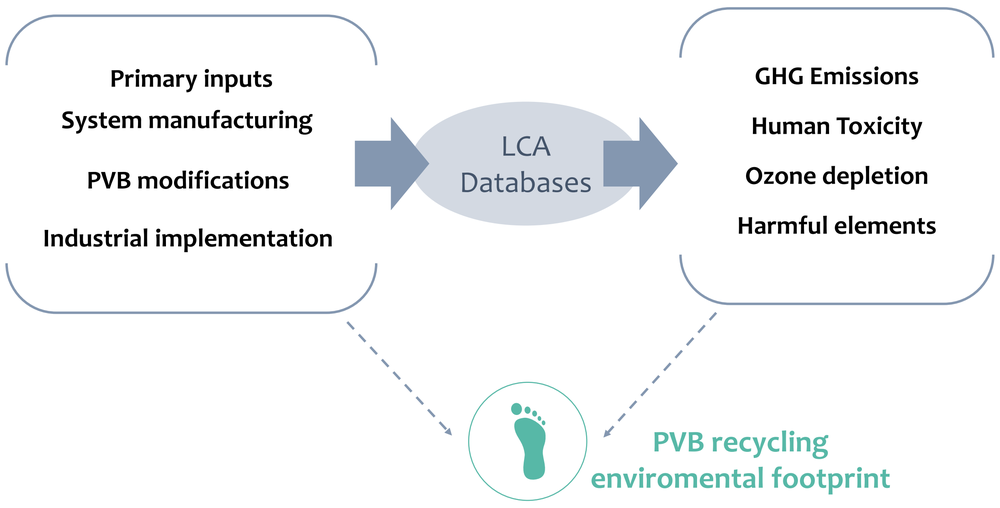


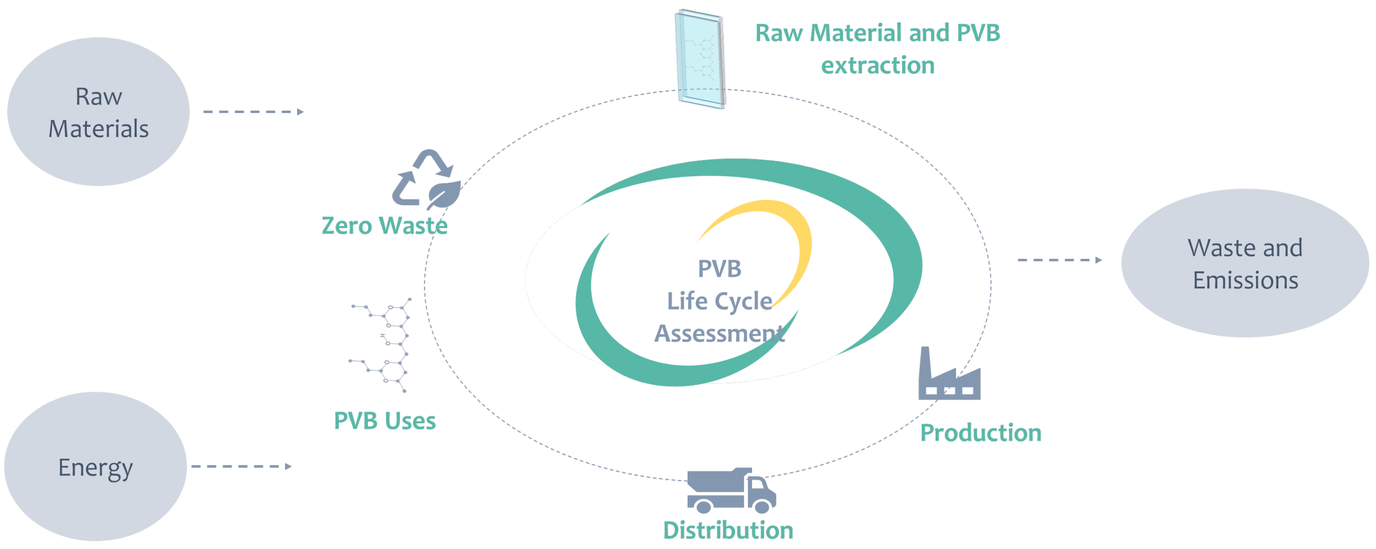
Objectives

- To assess by LCA the environmental, health and safety impact and benefits of SUNRISE solutions compared to current waste management and PVB products situation
- To assess by LCCA the economic impact and benefits of the SUNRISE solutions compared to current waste management and PVB products situation
- To assess by SLCA the social impact and benefits of the SUNRISE solutions compared to current waste management and PVB products situation
- To assess the replicability of the technology through a detailed analysis of the transferability of the technologies including equipment, methodologies and identification of new value chains
- To final decide on the global sustainability of SUNRISE solution including LCA, LCCA, SLCA and replication potential

Interactive LCA Methodology

This study will exhaustively examine every stage of the whole system developed in SUNRISE project with USEtox® model, taking into account:





What KPIs are expected?

Reduction of environmental impact:

>80 % reduction in CO_2 emissions

> 30 % in health related categories

Contribute to keep PVB high value within Circular Economy

PARTNERS:

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