FACT SHEET

EU-FUNDED PROJECT

REFRESH

Smart dismantling, sorting and REcycling of glass Fibre REinforced composite from wind power Sector through Holistic approach

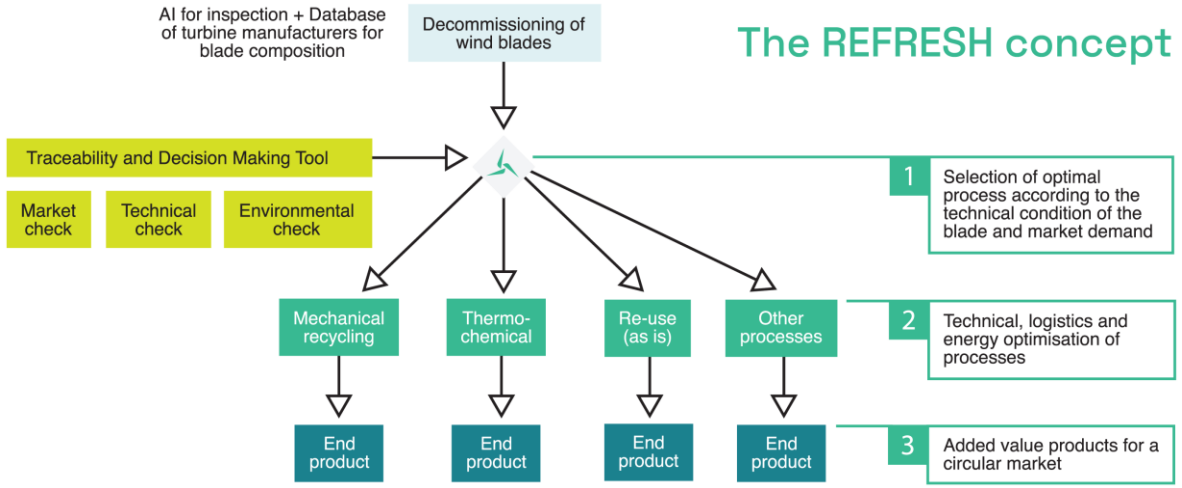
Project coordinator: RINA Consulting (Italy)

Partners: ACCIONA (Spain), CETMA (Italy), CIRCE (Spain), Enecolab (Italy), ETAT9 (France), EuCIA (Belgium), Gees Recycling (Italy), Gjenkraft (Norway), MTB Manufacturing (France), TECNALIA (Spain)

Duration: 1 January 2023-31 December 2026 (48 months)

Budget: €15,520,627.85 (EU contribution €11,462,602)

Description: REFRESH aims to develop and demonstrate a novel circular, smart system enabling improved recycling of glass fibre reinforced composites derived from wind turbine dismantling or reblading. The project will focus on the mechanical and thermal treatment of waste, but it will strongly involve the entire reverse circular value chain: from end-of-life blades to a wide range of remanufactured products.



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REFRESH proposes a flexible remanufacturing line. When a wind blade is decommissioned, the optimal recycling process will be selected according to the technical condition of that blade and current market demand. This will be achieved by using a dedicated tracing tool for collecting, protecting and sharing information and an embedded decision-making software for selecting the most sustainable approach to recycling at that time. The project will focus on the mechanical and thermo-chemical treatment of waste but will also explore further processing and re-use options. A range of new products resulting from the outputs of the different processes will be designed. The approach developed within the project will be validated by means of LCA and LCC analyses

New developments elaborated during the project will push technologies to maximise the volume and quality of the materials recovered. REFRESH will seek to reintroduce secondary raw materials into the value chains of the energy sector as well as other markets. This will result in potential savings of 52,000,000 tons in virgin raw materials eight years after project completion. The REFRESH concept also has significant potential for replication in other large markets where use of composite materials is increasing.

Highlights

- Design of portable dismantling, shredding & sorting technologies
- Development & customisation of recycling processes
- A new circular business model
- A novel digital blockchain traceability platform covering the whole supply chain

Website: www.refresh-project.eu

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