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Updates from REFRESH January 2025

REFRESH PROJECT NEWSLETTER



Welcome to the newsletter of the REFRESH project. Our goal is to develop a smart, circular solution for end-of-service wind turbine blades, transforming what has been considered waste into valuable new resources and sustainable products. *Read on to discover the latest news ...*

Closing the loop: the REFRESH circular wind turbine blade



Production of the REFRESH blade prototype. (Pictures copyright Gjenkraft, CETMA, EireComposites.

REFRESH has achieved a notable advance in circularity for the wind energy sector by demonstrating that recycled glass fibres from decommissioned wind turbine blades can be used in the manufacture of a new blade.

In this study, REFRESH partners CETMA (Italy) and Gjenkraft AS (Norway) collaborated with Cormatex (Italy) and ÉireComposites (Ireland) to convert glass fibres recovered through Gjenkraft's thermal recycling process into a nonwoven mat which was then employed in a non-structural application of a section of new blade.

"This is one of the few recent examples of a wind turbine blade section that has been manufactured using recycled materials recovered from end-of-life wind turbine blades," reports Andrea Tinti of CETMA. "This result clearly highlights the strength of collaboration within the REFRESH consortium and the successful construction of a new circular value chain, bringing together partners with complementary expertise from different industrial sectors."

"This is tangible proof that full circularity for wind energy is possible," says Marcin Rusin, CEO of Gjenkraft AS. "We have now moved from laboratory testing to a real component that demonstrates how recycled fibres can be used in new blades. It demonstrates the power of

European collaboration - where technology, innovation and sustainability truly come together.”

REFRESH: advancing blade circularity

As many European wind farms approach the end of their projected operational lifetimes, the European wind industry is intensifying its circularity efforts. Sustainable strategies for managing the growing volumes of decommissioned blades - manufactured from durable, challenging-to-recycle composite materials - is critical.

The REFRESH project is building a smart, circular value chain to improve the recycling of glass fibre reinforced composites from end-of-life blades. Now entering its fourth year, REFRESH is currently scaling up the recycling processes developed in the project's initial phase and focusing on the design of products utilising the recovered materials. Led by CETMA, this design work includes demonstrating viable applications for the recycled glass fibres obtained from Gjenkraft's advanced thermal recycling process. One promising approach under investigation is the reprocessing of recycled fibres into nonwoven mats.

[Read the press release](#)

REFRESH at the Wind Blade Materials and Recycling Forum



REFRESH partners RINA, ACCIONA, and CIRCE are participating in Leadvent Group's 3rd Annual Wind Blade Materials and Recycling Forum in Amsterdam.

The three presentations are scheduled for 4th February:

- **Microwave-assisted Recycling of WTB: Challenges, Prospects, Process Scaling and Techno-economic Assessment** - Ignacio Julián, Technology Project Manager at CIRCE
- **Challenges and Strategies for Using Recycled Wind Turbine Blades in Construction** - Anurag Bansal, Head of Strategic Innovations at ACCIONA Construcción
- **REFRESH: Scaling Up Sustainable End-of-life Solutions for Blades** - REFRESH project coordinator Daniel Grisenti of RINA Consulting

Anurag Bansal will also be one of the experts participating in the panel discussion **Leading End Markets for Recycled or Repurposed Materials**.

This debate will aim to:

- Identify some of the leading end markets for repurposed or recycled blade material;
- Discuss why the leading end markets have seen more success than others;
- Examine potential forthcoming end markets and comment on what technologies or regulations may be enablers.

[Read more](#)

REFRESH at ECCA General Assembly



REFRESH was promoted during the first [General Assembly of the European Circular Composites Alliance \(ECCA\)](#) in Brussels on 4th December.

ECCA is a sectorial alliance of REFRESH partner EuCIA. It was launched in March 2025 with the aim of establishing a circular economy for composite materials in Europe. More than 190 organisations from across Europe have joined the alliance so far.

REFRESH partners and ECCA members ETAT9, Gees Recycling, and Gjenkraft joined around 100 participants at the event.

Where do blades go when they are decommissioned?

WindEurope has set up a new circularity hub to showcase creative and innovative solutions for decommissioned blades. The different examples illustrate sustainable second-life solutions that are already available today. An infographic explains the different paths blades can take at the end of their service life.

As an EU-funded project, managed by CINEA, REFRESH supports the sustainable growth of Europe's wind industry by developing innovative strategies and technologies to advance blade circularity. Now entering its fourth year, REFRESH is scaling up sustainable repurposing and recycling solutions, covering the whole value chain from end-of-life blades to new products.

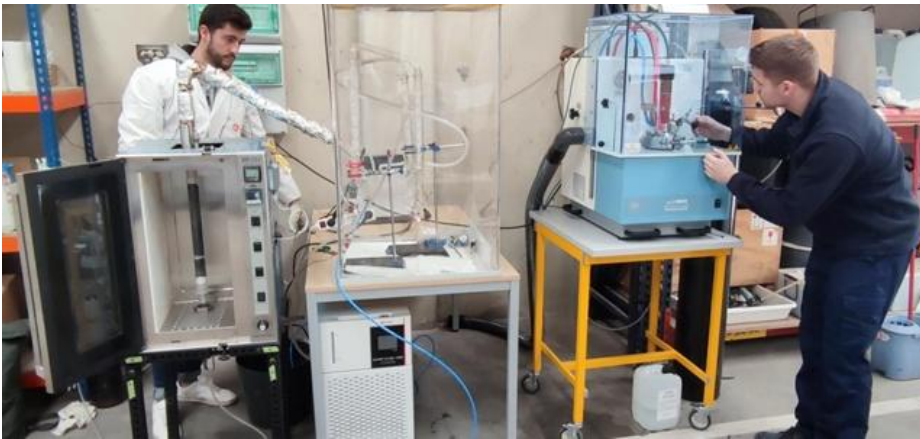
[Read more](#)

REFRESH on YouTube

Discover webinar recordings and videos of REFRESH technologies on YouTube. Visit [REFRESH project - YouTube](#).

MEET OUR PARTNERS

CIRCE



CIRCE is a Spanish technology centre focused on solutions for sustainable development. In the REFRESH project, CIRCE is assessing new microwave-assisted processes for wind blade recycling. [Read more](#)

Gjenkraft



Gjenkraft AS is a composites recycler located in Norway. In the REFRESH project the company is designing and deploying an upgrade to its pilot plant to recycle the composite materials from wind blades. [Read more](#)

About REFRESH

REFRESH (*Smart dismantling, sorting and REcycling of glass Fibre REinforced composite from wind power Sector through Holistic approach*) is a European project aiming 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 REFRESH project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement no. 101096858.

The project partners are: RINA Consulting (Italy) - project coordinator; ACCIONA Construcción (Spain); CETMA (Italy); CIRCE (Spain); Enicolab (Italy); ETAT9 (France); EuCIA (Belgium); GEES Recycling (Italy); Gjenkraft AS (Norway); MTB Manufacturing (France); TECNALIA (Spain).

For further information please visit refresh-project.eu

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