

TPI Composites and University of Tennessee Knoxville Advance the Creation of Glass Fiber Yarns from Recycled Wind Turbine Blades

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SCOTTSDALE, Ariz., Sept. 13, 2023 (GLOBE NEWSWIRE) -- TPI Composites, Inc., (TPI) (Nasdaq: TPIC) announced today that it has moved to the second phase of development with the University of Tennessee Knoxville (UT) in creation of glass fiber yarns from end-of-life wind blades. The completion of the second phase will create new opportunities for materials reclaimed from decommissioned blades.

The recycled materials enable higher value intermediate forms of glass fiber and create a viable market that is both environmentally and economically sustainable. The current challenge of recycled glass fiber is that applications for randomly oriented discontinuous fiber are generally limited to non-structural components or thermal insulation where the value is significantly lower than the cost of recovery. Steve Nolet, TPI's Senior Director of Innovation and Technology said, "Phase I focused on using simple hand operated textile methods; after multiple trials with varying fiber length, twist rate, and mechanical testing we learned the importance of hybridization with synthetic polymer fiber."

In Phase II, the UT team will use industrial textile manufacturing methods and equipment to scale the process and focus on ideal filament length, ratio of glass to synthetic fiber, and other process variables that optimize the properties of the recycled yarn. With additional scaling of prototype yarns, downstream processing including conversion to woven and non-woven broad goods or filament wound plates will be accomplished. These materials will then be processed with commercial resins to formulate composite plates for mechanical testing. Generating material properties of different composite configurations will identify applications appropriate for the recovered materials.

"The project plays a major role at the UT Fibers and Composites Manufacturing Facility, with the collaboration on composites recycling being an area of global importance," says Dr. Uday Vaidya, UT-ORNL Governor's Chair Professor and Chief Technology Officer for IACMI-The Composites Institute. "This project is a unique opportunity for UT graduate and undergraduate students to explore the science and engineering aspects of value-added recycled glass fibers for next generation sustainable solutions."

About TPI Composites, Inc.

TPI Composites, Inc. is a global company focused on innovative and sustainable solutions to decarbonize and electrify the world. TPI delivers high-quality, cost-effective composite solutions through long-term relationships with leading OEMs in the wind and automotive markets. TPI is headquartered in Scottsdale, Arizona and operates factories in the U.S., Mexico, Türkiye and India. TPI operates additional engineering development centers in Denmark and Germany and global service training centers in the U.S. and Spain.

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Source: TPI Composites, Inc.