Thermochemical recycling of CRP wind turbine blades

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With the rise of renewable energies, the issue of wind turbine blade recyclability is becoming increasingly urgent. By 2050 the carbon reinforced plastics (CRP) waste from aircraft and wind turbines is estimated to be 840,300 tonnes.[1] Right now, there exist no efficient recycling methods for such composites, that are comprised of thermosets (epoxy-resin) and carbon fibres.

To tackle this problem, AES together with companies covering the whole value chain of wind turbine blades (Altropol (resin producer), ITA (fibre and roving institute), BaltiCo (turbine blade manufacturer), S4E (windmill engineering company)) started the GReTa project. The project aims to develop a recycling solution for CRPs and, in particular, to tailor this process to generate materials suitable for reuse in wind turbine blades.

In the talk, results of the consortia will be presented, showing a path towards recyclability and adressing crucial points in the advanced recycling of such materials.

[1] The looming 840,000 ton waste problem that isn't single-use plastics. Online https://www.sciencedaily.com/releases/2023/07/230703133034.htm, accessed on 23.07.2025