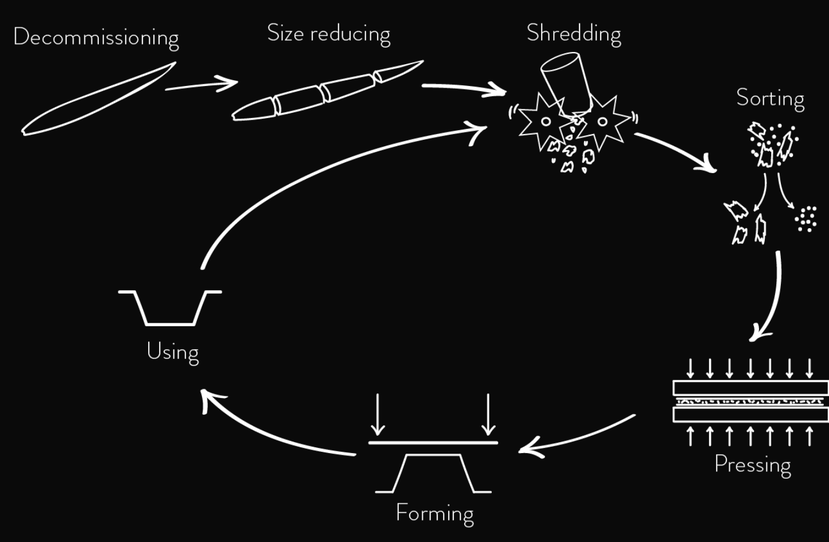
A valuable application for shredded composite material from wind turbine blades

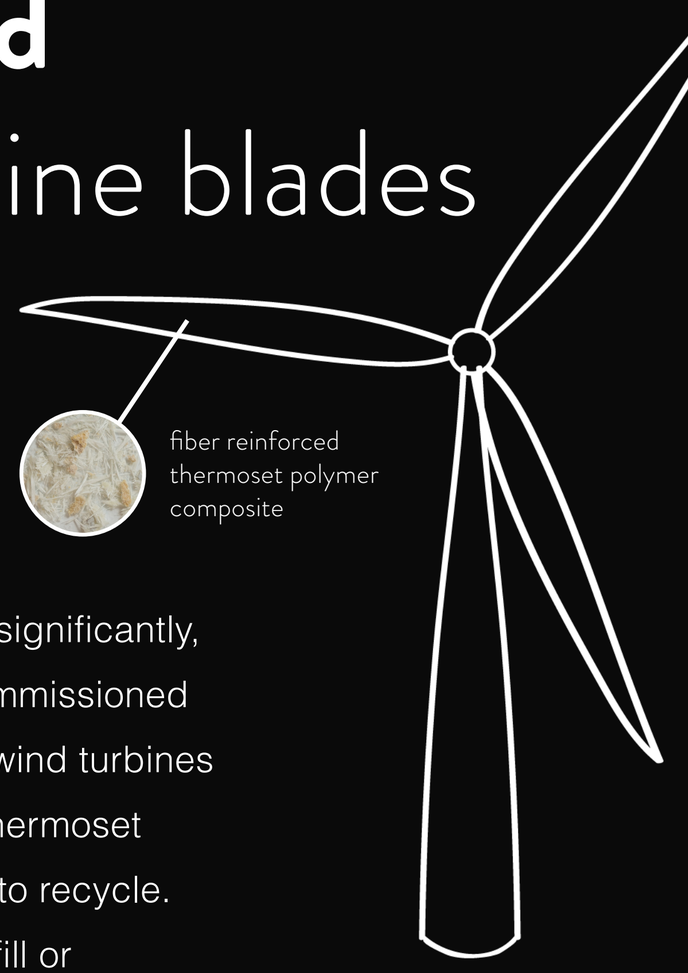
THE ELECTRICAL CAR CHARGER

The design of the electrical car charger demonstrates the possibilities of recycling the composite material in a thermoplastic housing. The product creates a symbolic link with the wind energy industry and anticipates on the energy suppliers, who own the wind turbines, by recycling the material into a product they offer.

THE RECYCLING PROCESS



THE CHALLENGE



The wind energy industry is growing significantly, which increases the number of decommissioned wind turbines as well. The blades of wind turbines are mainly made of fiber reinforced thermoset polymer composite, which is difficult to recycle. Most blades currently end up in landfill or incineration which is a waste of this high value material. In this project, a valuable application for mechanically recycled composite material is designed, which will ensure the wind turbine blades of an end-of-life situation that fits within the circular economy.

Material research into the characteristics of the shredded composite led to a design that uses the material as a wanted addition, instead of a disturbance.

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