



The Ecoswing Project | Photo source ecoswing.eu

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SUPERCONDUCTOR MAKES WIND TURBINES MORE POWERFUL AND EFFICIENT

 AGRICULTURE & ENERGY

Supercooled liquids transport more energy with less waste, making the generator smaller and easier to maintain

Spotted: A consortium of nine partners from industry and academia, in five different countries, have recently tested a wind turbine with a superconductor generator. Named the EcoSwing project, the superconducting drivetrain was attached to a turbine already at work in situ off the west coast of Denmark near Thyborøn.

Superconductors are supercooled materials that cause little to no friction when a force moves through them. In the wind turbine, they increase the efficiency and power density of the generator. The superconducting generator is one and a half metres smaller than the ones currently used on large-scale turbines and weighs much less. As well as using fewer and less costly materials, it should also require less maintenance.

As a replacement for rare earth materials such as copper, superconductors could help rapidly reduce costs, for both consumers and producers. The project team also notes that the rotor containing the superconductors was assembled using standard manufacturing equipment.

Improving the accessibility and efficiency of renewable energy devices is an ongoing challenge in the race against devastatingly permanent climate change. Springwise has also spotted a solar panel that works in **the rain**, thanks to a coating of wonder material graphene, and a solar panel that works **indoors** in ambient lighting.

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Takeaway:

Sometimes, substantial improvements in processes and materials in one industry, prove valuable to others. However, it is often challenging for brands to commit to searching for potentially game-changing innovations that, at first glance, may not appear relevant. A creative mindset is needed to be able to see the potential in these innovations, EcoSwing project is an example of this type of perseverance.