



PRESS RELEASE

UK rare-earth-free innovator GreenSpur receives generator order from US firm Wind Harvest

The delivery of three patented 70kW rare-earth-free generators in mid-2022 will support Wind Harvest's vertical axis wind turbine design ambitions.

UK firm GreenSpur Wind has today confirmed an order for three 70kW rare-earth-free permanent magnet direct drive generators to Wind Harvest International of the United States. The transaction represents a first US sale for GreenSpur. Its unique ferrite-based generator technology eliminates the need for high cost and supply constrained rare-earth magnets. The order is subject only to the success of Wind Harvest's current funding campaign.

Davis, California based Wind Harvest has a unique vertical axis wind turbine design that operates below and around much larger propeller-type turbines, increasing the energy production of each. The scale of the opportunity for its innovative wind turbine is huge, with Wind Harvest estimating a current potential market size in existing wind farms of 140GW which, if realized, would mean a \$280+bn global opportunity.



Wind Harvester Model 3.1 on test at UL's Advanced Wind Turbine Testing Facility in Texas, November 2021

Rare-earths becoming even scarcer

An international shortage of rare-earth magnets is looming as China (which accounts for 70% of global supply) uses quotas to preserve its own strategic supplies. The price of rare-earth magnets – which are a key component in most wind turbine generators and electric vehicles – has doubled over the last year. An already tight market for rare-earth magnet production has been further hampered by China's recent power shortages, while surging commodity prices have increased generator material costs yet further.

GreenSpur is unique in that it offers a rare-earth-free generator to the wind industry. Announcing the sale on behalf of GreenSpur, Andrew Hine the company's Commercial Director stated: "We have been working with UK Government and wider supply chain support to develop a generator technology that can remove rare-earth risk. Wind Harvest has recognised a strategic advantage of eliminating this risk. In recent months, we have optimised a 70kW generator design specifically for Wind Harvest's H-type turbines and are pleased with the subsequent order that we announce today."

Start of 'enduring collaboration'

Confirming the order, Kevin Wolf, CEO of Wind Harvest, added: "We have ambitious expansion plans that benefit greatly from avoiding the use of generators that rely on Chinese rare-earth magnets. GreenSpur's larger and ultimately less costly ferrite generators work well in the base of our 10-20m tall wind turbine towers. Our engineers have worked closely with the GreenSpur team to produce an optimised design. We too are pleased with today's announcement and see this as the start of an enduring commercial and technical collaboration."

Ends.

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