

High-tech renewable energy storage 'wheel' to be built in Offaly

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The flywheels are buried in the ground to reduce visual impact and run silently

Ireland is to become the first country in Europe to get a new type of system, which stores energy generated by renewable sources and feeds it back into the smart grid when required.

The new hybrid flywheel energy storage plant is to be built at a site in Rhode, Co Offaly, with 50 jobs to be created during construction and commissioning.

Flywheel systems consist of an advanced carbon fibre tube, which is floated on magnets inside a vacuum.

Electricity from renewable sources like wind turbines or solar panels is used to spin the tube or flywheel at very high speeds.

Because the flywheel is in a near frictionless environment, it continues to spin until such time as the energy is required back in the electricity grid.

At this point, the kinetic energy stored in the flywheel is used to generate power, which is fed back out into grid. Each flywheel is around two metres in height, and they are buried in the ground to reduce visual impact.

The plant is to be built by Irish company Schwungrad Energie Limited, based in Rhode, in collaboration with the Department of Physics and Energy at University of Limerick.

US-based Beacon Power, which develops flywheel energy storage technology, will invest \$1m in the plant.

Further funding is also coming from the European Commission's Horizon 2020 research fund, while Offaly based company RR Projects and Enterprise Ireland are also investors in the project.

More than 30 jobs will be created during construction, with 10-15 further staff required on a permanent basis into the future to run it.

Flywheel technology has an added advantage of being silent, clean and uses no water or extra fuel other than what is used in the generation of the electricity in the first place.

Schwungrad Energie says it chose the Rhode brownfield site because of the historical tradition of electricity generation in the area.

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