

Space technology could reduce cost of renewable energy

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Space-based radar technology could be harnessed by the renewable energy sector to drive down costs, according to academics at the University of Strathclyde.

The SAR (Synthetic Aperture Radar) technology is currently used to help protect and manage [marine environments](#), to detect [illegal logging](#) in [tropical forests](#), and to aid disaster relief efforts. However, its use in aiding the take-up of [renewable energy](#) is now also being explored.

SAR systems, which are carried on spacecraft such as Europe's Sentinel-1, can detect slight movements of as little as a few millimetres. This capability could have applications for [energy](#) companies, such as structural monitoring of offshore wind-turbines, detecting fallen pylons in remote regions, or identifying future sites for turbines. The technology could also enhance the efficiency of network monitoring at a time of growing global demand for energy, and help to reduce energy costs, as well as helping to support the cost of using the technology in future humanitarian programmes.

The potential of SAR, along with other satellite applications for energy industries, will be outlined at an event hosted by the Strathclyde-based Scottish Centre of Excellence in Satellite Applications at the University's Technology and Innovation Centre on Tuesday, 5 May. It forms part of Engage With Strathclyde, an annual week-long series of events aimed at promoting and enhancing collaborative partnerships with business, industry and the public and third sectors.

Dr Malcolm Macdonald, Director of the Scottish Centre of Excellence in Satellite Applications, said: "We're looking to open up conversation with industry about how it could use space [technology](#) in a way that may not have been traditionally thought about.

"Very small shifts in buildings and landscapes are difficult to detect but SAR can pick up on this and, with the use of 'before' and 'after' images can show where a movement has occurred, often before a ground-based observer would notice. It can also detect things that may otherwise take time to be discovered because of the remoteness of the location.

"Radar also has the advantage of not depending on the weather and being able to detect features even through cloud or rain."

Provided by University of Strathclyde, Glasgow

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