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DIY energy: UK solar inventions could reduce bills

By Dan Simmons
BBC Click

3 days ago





| WATCH: Entrepreneurs launching alternative solar products

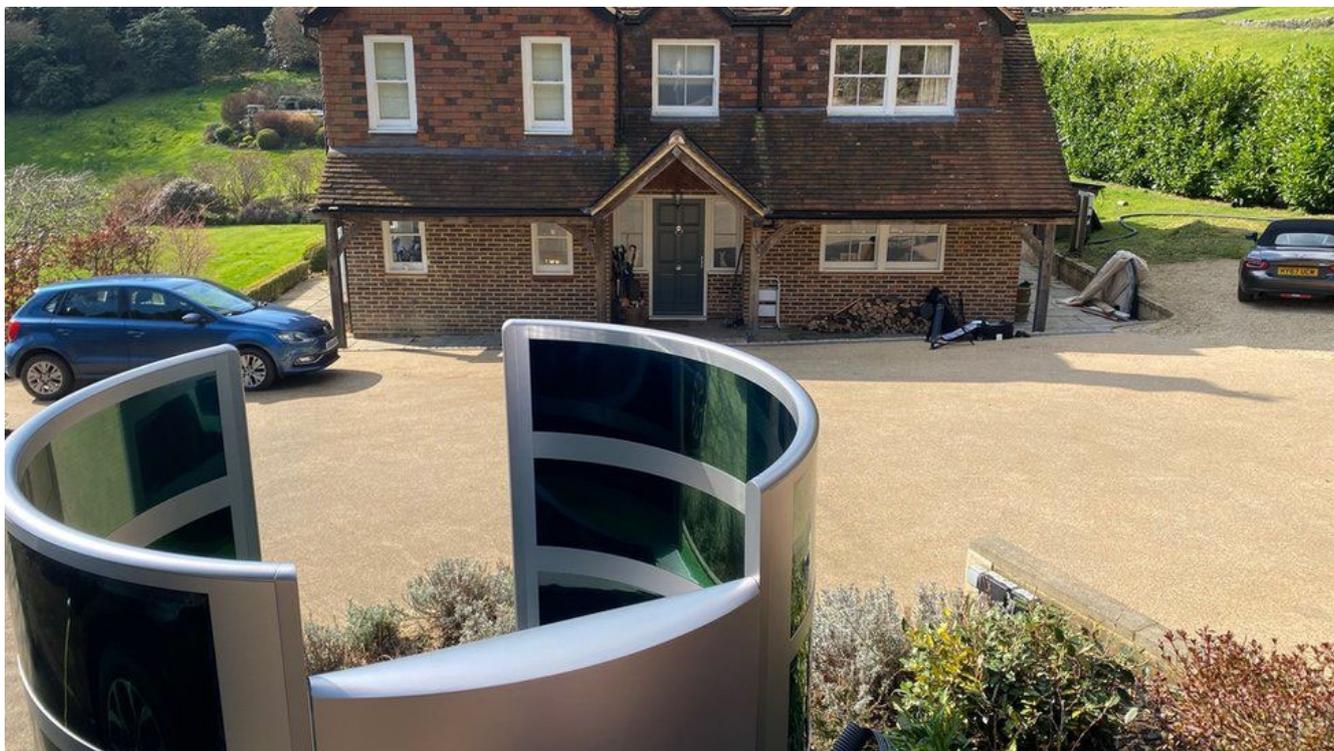
Two new solar products from British companies could cut bills for those who cannot put panels on their roof.

Solivus's solar sculpture and Filia's solar blinds could provide households an estimated 10-30% of their electricity.

The products use a new flexible thin solar film claimed to be more effective when partially shaded or in low light than traditional silicon panels.

Interest in home solar has grown as energy prices have risen by over 50%.

Eight years in the making, the barrel-shaped Solivus Arc, the first household product from the Kent-based start-up, can be set up to directly charge an electric car or help power a home.



| The Solivus Arc is expected to produce 1,000 kWh a year

Aiming to supply an average of 1,000 kWh a year in the UK, Solivus will guarantee the £3,500 Arc for 20 years and plans to let buyers pay in instalments.

The cost would be the "equivalent of 21p per kWh - and that will be locked-in for the next 20 years... then, after that, it's free, obviously". chief executive Jo Parker-Swift said.

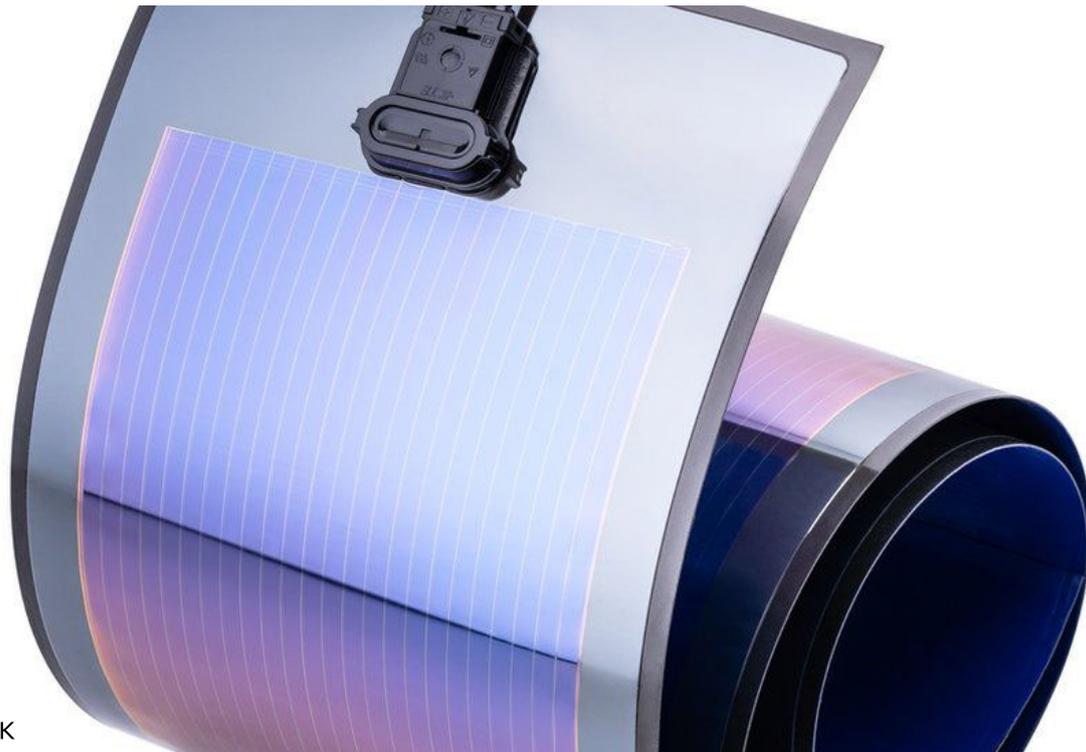
But unless buyers also invest in battery-management systems to store the solar electricity - typically during the brightest hours of the day - any unused will have to be, at best, sold back to the grid - at a fraction of the savings they would have made using the power themselves.

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Unlike many other solar products, the Arc is made without using any toxic or rare earth materials.

Wrapped in an upgradeable lightweight film, multiple layers capture different parts of the light spectrum.

The film, made by German company Heliatek, can also be attached to most roofs, unlike conventional heavier panels, which require supported roofs.



HELIATEK

Heliatek expects its solar film to become more efficient every year

And although efficiency today is only about half that of traditional solar panels, Solivus says, the technology has the potential to surpass their efficiency by the end of this decade.

Solivus has just finished fitting 606 of them to the roofs of the north and west stands at Northampton Saints' rugby stadium.

They will provide about 53,000 kWh per year, at 15.5p per kWh, less than half of most fixed-rate tariffs, it says.



| Filia's prototype solar roller blind could be fitted to flats and garages

Filia founder David Wharton wants the new advances in solar film to give everyone a chance to harvest the Sun's energy.

"To date solar has been just for the rich," he said.

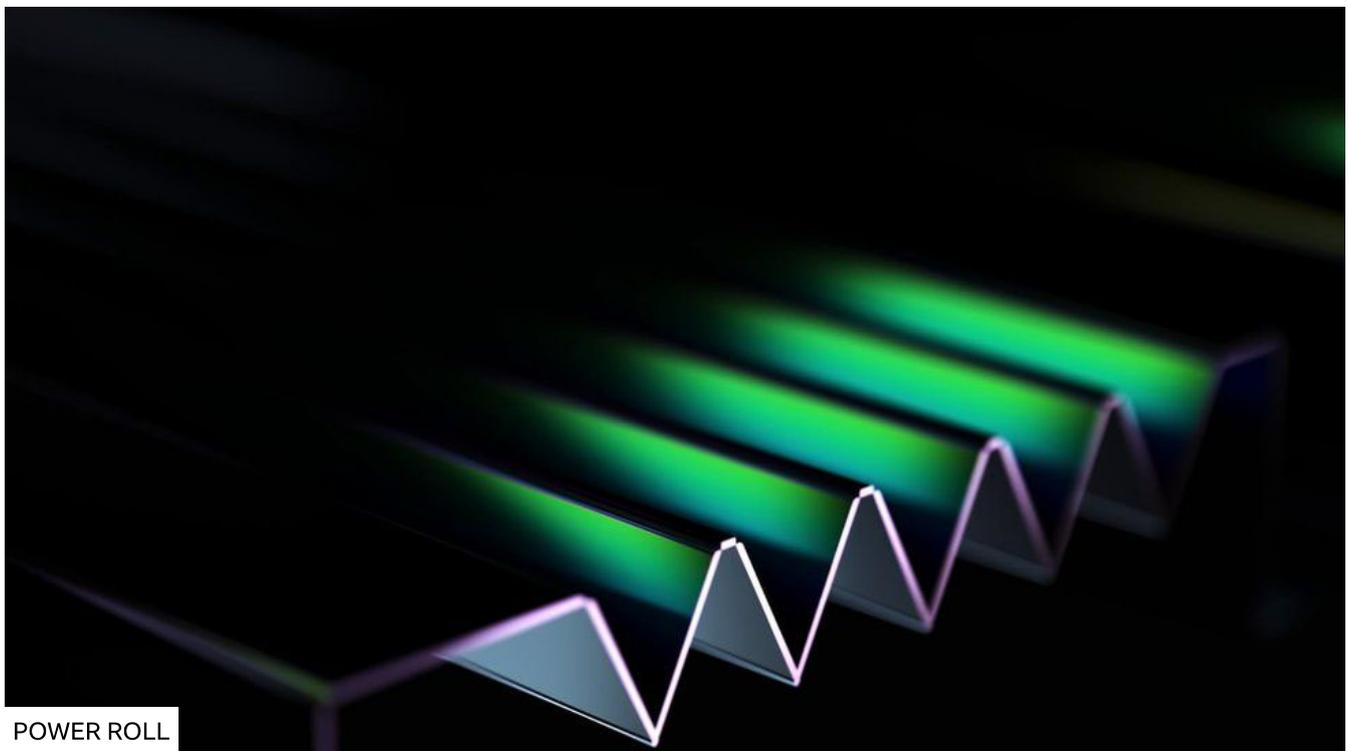
"My company's aim is all around the democratisation of solar, so any window can now become a solar panel.

"It means people in flats and apartments can now generate their own energy."

Mr Wharton has created a new way to attach solar film from a continuous roll securely to external roller blinds - and applied for a patent.

Installations begin in Spain shortly and, he says, a London authority is looking to see if they will be suitable for its council flats.

The real cost savings come with the price of the film Filia is using, from English company PowerRoll.



POWER ROLL

Power Roll's unique film design promises low-cost solar power

PowerRoll opened its pilot manufacturing plant in the North East, in February.

"We have created a lightweight photo-voltaic (PV) film at a minimum of 10% efficiency, with a manufactured cost of about £8 per sq m [10 sq ft]," chief commercial officer Don Scott says.

But work remained to be done into how to recycle the traces of lead in the product at the end of its expected 10-year lifecycle.

Mr Scott estimates retail prices from partners who use the product to be as low as 10-12p per kWh over 10 years, which, he added, provided a big challenge to existing energy suppliers.

These advances in solar film are no longer just offering new products that could help address the climate crisis - they are now potentially helping people save money over the long-term too.

BBC Click's Could Solar Solve the Energy Crisis? is on the BBC iPlayer.

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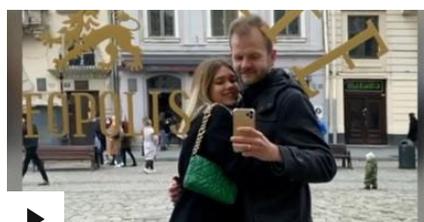
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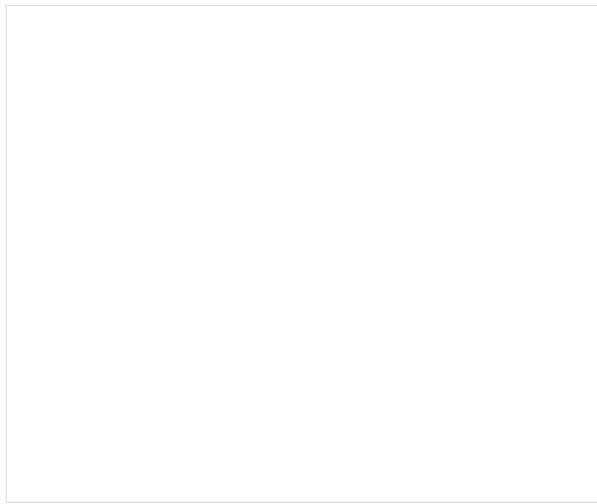
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