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## IN FINLAND, DECORATIVE SOLAR PANELS WORK INDOORS

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**The VTT Technical Research Centre can print up to 100 metres of decorative organic, solar panelling per minute.**

So far, developments in solar energy have mainly concentrated on exterior panelling, designed to collect large amounts of energy from the natural light of the sun. However, recent research in Finland has produced another option — decorative solar panels that can be placed on interior surfaces, producing energy from indoor lighting as well as the sun's rays.

The VTT Technical Research Centre has developed a mass production printing method which can produce up to 100 metres of organic, solar panelling a minute. The flexible photovoltaic panels are approximately 0.2mm thick and can contain decorative patterns alongside the functional components, opening up the possibility of integrating solar panelling into interior design.

Organic electrodes and polymers are screen printed between plastic foils and encapsulated within a recyclable film. They are able to collect energy from interior lighting as well as sunlight and can be used to power small devices and sensors. The panels can be placed on windows and wall surfaces as well as machinery, equipment, and billboards. Colored ink can also be use to improve their appearance.

Early experiments show that organic photovoltaic panels are not as efficient at converting light as other solar panelling — one square meter of organic photovoltaic panels can generate around 10.4W of power compared to 140W produced by exterior solar panels — but the potential to integrate the

eco-friendly material into attractive interior decorating creates huge potential. Could a range of self-powering homeware be on the horizon?

3rd March 2015

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