

'PowerCloth 1G': Utah researchers develop ultra-light, flexible and foldable solar panel fabric

July 8 2012



Exotic Solar LLC, a Salt Lake City based renewable energy start-up

company, announced that they have developed a technique to manufacture cheap, flexible and foldable solar panel fabric that can be integrated with our day to day attire to make them a power source. Their patent pending technique converts brittle and fragile solar cells into flexible solar panels.

“Sun gives us tremendous amount of energy every day. If we can convert even a tiny part of that into useful electricity, it will fulfill all our electricity needs. This is the promise, riding on which photovoltaic industry has emerged as one of the fastest growing industry in the world” said Exotic Solar’s CEO Surabhi Pandey.

Apart from being the cleanest and the greenest source of electricity, the other fascinating aspect of solar technology is that it is an off-grid source of electricity. In other words, every home can have its own solar power station without any need for power cables spread all over the country.

“However, the electricity generated by [solar panels](#) installed in our homes cannot be used when we are away from home, biking, walking, boating or trekking on the mountains” said Exotic Solar’s Vice President and CBDO Vini Joseph. “An ultimate possibility in this regard is that if our apparels themselves become solar panel”.

Dr. Ashutosh Tiwari, Professor of Nanotechnology and CTO at Exotic Solar, said “presently, silicon is considered as the industry standard semiconductor for fabricating [solar cells](#). Silicon based solar cells give >15% efficiency, are very stable and reasonably inexpensive. However, these solar cells are brittle and very fragile. As a result these need to be protected inside metallic frames, which make them very heavy”. For the application of solar cells in apparel, these cells need to be light weight, flexible and foldable.”

In Exotic Solar’s technology, high efficiency solar cells are miniaturized and strengthened using ultra-light fiber glass and Graphene and then

embedded in a soft polymer matrix to render them flexible. Resulting solar fabric is robust, very flexible, light weight and can be used in variety of different ways.

More information: More information about Exotic Solar can be obtained by visiting: www.exoticsolar.com
www.indiegogo.com/projects/145540

Provided by Exotic Solar

Citation: 'PowerCloth 1G': Utah researchers develop ultra-light, flexible and foldable solar panel fabric (2012, July 8) retrieved 29 April 2024 from <https://phys.org/news/2012-07-powercloth-1g-utah-ultra-light-flexible.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.