3M shows photovoltaic film for windows

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(PhysOrg.com) -- 3M drew press and viewer interest earlier this week at CEATEC with its show of special film that the company has developed to coat ordinary, existing windows and convert them into solar panels. The product was shown on curved and regular glass surfaces. This “windows-transformative” film is to debut next year. Not only does the panel generate energy in sunlight, but it also serves as a heat-blocking layer.

The film is made from an organic photovoltaic material and fits on windows easily to generate power and cut heat.

What is interesting about 3M's technology is its versatility. Claims are that it can generate power, behave as a coolant (absorbing over 90 percent of infrared light) and also protect windows from shattering.

The film's narrow, translucent green strips have gaps between them and are glued to windows in large patches.

Unlike solar paneling, the films are easy to install. An average person can install the films with no outside assistance, according to a 3M senior manager, Yasuhiro Aoyagi.

While the 3M film for windows appears to be an easy answer to complex and costly solar panel alternatives, the 3M product is not as effective as solar paneling.

The film generates only 20 percent of the energy of a regular panel. A factoid frequently included in the CEATEC reports from Tokyo about the 3M product has been that a square meter of the film can generate roughly enough electricity to charge an iPhone under peak sunlight.

No pricing details were available but expectations are that the film will be half to two-thirds the cost of solar panels.

When the film for windows does hit the Japan market next year, the 3M target user base will be government structures, commercial buildings, and fast-food restaurants.

3M is no stranger to state-of-the-art development efforts in film. The company snagged the world's first patent for window films in 1966. 3M has recognized expertise in both adhesives and multi-layer optical films.

Earlier this year, 3M was awarded $4.4 million from the U.S. Department of Energy (DOE). The award, according to the company press release, was made under an initiative to reduce the total costs of photovoltaic solar energy systems by about 75 percent, so that they are cost-competitive with other forms of energy without subsidies.

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