

Solar Glass Windows

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Although solar panels are an important product used worldwide, inventors are looking for new ways to harness energy from the sun. A new promising technology that could aid with solar energy production are solar glass windows. These windows look like normal windows, clear and transparent, but have the capability to capture ultraviolet and infrared waves and convert them to electricity.¹

Revolutionary Technology

This technology is revolutionary in several ways. First and foremost, solar glass windows allow property owners to generate more power for their buildings in a subtle, discreet manner as solar glass windows look just like regular windows. Furthermore, in the United States, “a number of cities and states have passed laws that will fine building owners for carbon emissions beyond a set threshold.”² So, by installing solar glass windows on their property, owners would have less stress in terms of adhering to the law. Finally, because solar glass windows capture heat-producing infrared waves, solar glass panels help to keep buildings cool and lower energy expenditure through air conditioning.³

Solar Glass Window Companies

One company that is working on producing these windows is Next Energy Technologies Inc, a company based in Santa Barbara, California. In an interview with the Wall Street Journal, Daniel Emmett, CEO of Next highlighted a drawback of solar panel windows; he stated that, due to their transparency, they do not not soak up all light and for this reason “they only capture about a quarter to a third as much energy as traditional panels.”⁴ Even with this downside, Next feels as though solar glass windows are an incredible new advancement in solar technology. Emmett says that the windows can be a source of 10 to 20 percent of the energy a commercial high-rise building requires. Furthermore, Emmett says that these windows would save a commercial high rise building owner 170,000 dollars each year, allowing for this owner to pay off the cost of the building in 5 years.⁵

¹ Reilly, Claire. ‘These Solar Windows Are an Invisible Alternative to Solar Panels’. CNET. January 22, 2023 Available at: <https://www.cnet.com/science/these-solar-windows-are-an-invisible-alternative-to-solar-panels/> Accessed on June 14, 2022.

² Putzier, Konrad. ‘Outdoor Retailer Patagonia Tests Solar Windows’. Wall Street Journal. December 27, 2022. Available at: <https://www.wsj.com/articles/outdoor-retailer-patagonia-tests-solar-windows-11672094574> Accessed on: June 14, 2022.

³ Ibid

⁴ Ibid

⁵ Kennedy, Ryan. “California Grants 3 million for Solar Photovoltaic Window Coating Production”. PV Magazine. April 14, 2023. Available at: <https://pv-magazine->

Another company that is working quickly to produce these windows is Ubiquitous Energy. The company, created by a group from Massachusetts Institute of Technology (MIT), has teamed up with Andersen, a glass making company, to create the best possible product. Ubiquitous hopes to make their windows last up to 25 years and is trying to make it so their windows can collect energy even when the sun is not directly on them.⁶

Patagonia, the environmentally minded clothing company, teamed up with Next and installed solar glass windows into their headquarters in California. Next installed 22 solar glass windows into the office in Ventura, California. Cables were attached to the windows, allowing people to charge their phones from the energy collected by the glass.⁷ Michigan State University has also opened itself to the future of solar energy and has incorporated these windows onto their campus.⁸

The Future of Solar Glass Windows

In April of 2023, the State of California gave 3 million dollars to Next Energy Technologies Inc. to aid them in continuing the research and production of solar glass windows. Next hopes to use this money to continue to make more windows and start installing more of them on the West coast. As companies like Next and Ubiquitous continue to grow, the future looks bright for solar glass windows. One day, potentially, there could be entire cities using these windows, reducing carbon emissions in the world with this new solar technology.⁹

[usa.com/2023/04/14/california-grants-3-million-for-solar-photovoltaic-window-coating-production/](https://www.usa.com/2023/04/14/california-grants-3-million-for-solar-photovoltaic-window-coating-production/). Accessed on June 14, 2023.

⁶ Castenson, Jennifer. 'Solar Innovators Imagine Energy Produced with Invisible Technology'. Forbes. May 15, 2023. Available at:

<https://www.forbes.com/sites/jennifercastenson/2023/03/15/solar-innovators-imagine-energy-produced-from-an-invisible-source/?sh=574ca65751d9>. Accessed on June 14, 2023.

⁷ Putzier.

⁸ Castenson

⁹ Kennedy