



Innovative Window Technologies Are Slashing Energy Use and Carbon Emissions

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Earlier this year, the U.S. Department of Energy (DOE) launched a competition aimed at advancing energy-efficient window technology. The DOE competition is looking for entries with the most innovative secondary glazing system for windows and is offering a \$2 million prize. In a time when the terms sustainability and energy efficiency are constantly thrown around, this latest initiative from a federal government agency doesn't come as a surprise. But the focus on windows in particular is notable, as most of the attention toward greener buildings has been put on technology around heating and cooling systems. But windows are a major part of a building's facade and are key to increasing energy efficiency, and new innovations in the space could be a big opportunity for owners looking to increase building performance.

Windows play an important role in curbing energy use in one of the country's most energy-efficient office buildings, which recently opened in Boston. Winthrop Center, developed by Millennium Partners, is the world's largest Passive House office building and is estimated by the developer to use 65 percent less energy than a typical office building and 65 percent less carbon. Aside from the building's airtight envelope, the 53-story tower's floor-to-ceiling windows have three layers. The triple-glazed insulated glass window units are coupled with glass spandrel panels and have a very high R-value, a thermal rating that measures the insulating properties of windows.



— Windows in Boston's new Winthrop Center help it use 65% less energy and carbon with triple-glazed, high R-value insulated glass. (Image: Millennium Partners)