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An international team of researchers led by Nanyang Technological University (Singapore), [They developed](#) A material that can be applied to panes of glass to effectively heat or cool rooms in different climatic zones around the world, thus saving energy.

“Self-adapting” glass works by exploiting the spectra of light responsible for heating and cooling. During the summer, the glass blocks solar heating, while increasing radiative cooling (a natural phenomenon where heat is emitted through surfaces in a cold universe), to cool the bedroom. In the winter, you do the opposite to warm up where you are.

An invention to reduce the energy demand of windows

The authors believe that their innovation provides a convenient way to conserve energy in buildings, as it does not rely on any moving components, electrical mechanisms, or blocking displays of action.

The window has a high energy consumption and is the most energy efficient part of the house. While sustainable innovations have been developed to mitigate this demand, neither solution has been able to modify both heating and cooling at the same time, until now.



As next steps, the research team aims to achieve higher energy-saving performance by designing a coating with nanocomposites.



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