



PicoGlaze – Intelligent Glazing for buildings temperature

Next generation glazing that controls the thermal transfer in and out of buildings



Opportunity

The largescale use of glass in the external building structure has made controlling natural light and heat transmission an increasing challenge in the field of energy-efficient building design. There is a growing need for systems capable of adapting to fluctuating environmental conditions while minimizing dependence on bulky mechanical controls.

Technology Overview

PicoGlaze is a transparent coating technology integrated into the glass during manufacturing creating a smart window for thermal control. By using layered electrodes and a gel containing rod-like molecules, the device adjusts voltages to reorient the molecules, selectively blocking heat and light. This nearly invisible technology offers a cost-effective scalable solution for controlling the internal environment, thereby reducing reliance on heating and cooling systems.

Key Features/Advantages:

- Reduces heating/cooling requirements in buildings
- Dynamic control of light and heat transmission for improved indoor comfort.
- Compatible with BIMS/BEMS systems in large buildings
- Selective blocking of specific polarizations of light, enabling tailored light filtering.
- Control over transparency and reflectivity through multilayer electrode configurations.

Value Proposition:

A novel way to control the temperature within buildings using a smart glass technology that lowers the buildings energy consumption.

Markets:

- Glass Companies
- Energy-saving facades
- Automotive dynamic sunroofs
- Reducing environmental footprint for operating buildings

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