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These transparent solar cells turn windows into power generators

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Editor

Researchers have created solar cells that are so thin you can see through them. The cells could be used to generate electricity at home or in the office.

The cells are made of perovskite. This is a crystalline material that is on the rise in the solar energy world because it is cheaper and more flexible than silicon, the material from which solar cells are made today.

By vaporizing the material in a vacuum chamber and allowing it to deposit onto a surface layer by layer, the scientists succeeded in creating layers just 10 to 60 nanometers thick. For comparison, a human hair has a width of about 80,000 nanometers. The layers are a few hundred atoms thick.

The thicker, the more efficient

Logically, the thickest 60-nanometer variant also yielded the most current. Approximately 12 percent of the sunlight falling on it is converted into electricity. The 10-nanometer version came in at about 7 percent, according to [the study](#).

Such cells allow up to 65 percent of visible light to pass through. This means that, in theory, you can make solar windows that look almost normal. According to the researchers, the 30-nanometer version (with an efficiency of 11 percent) performs best when weighing transparency

against yield. It is not known when this technology will come to market. For the time being, perovskite panels have a shorter lifespan than silicon.