

Does UV Light Power Solar Panels?

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The Science Behind Solar Energy Capture

Let's cut through the haze: solar panels primarily convert visible light, not ultraviolet (UV) radiation, into electricity. While UV rays make up about 5% of sunlight reaching Earth's surface, most photovoltaic cells can't effectively use this high-energy spectrum. You know what's ironic? The same UV rays that cause sunburns largely go to waste in conventional solar systems.

Here's why it matters: Silicon-based panels, which dominate 95% of the global market, have a "bandgap energy" optimized for visible light. They sort of shrug at UV photons like an overworked barista at closing time. But wait - doesn't UV carry more energy per photon? Sure, but it's like trying to fill a water bottle with a firehose. The excess energy just converts to heat instead of electricity.

UV Light Reality Check: What Actually Powers Your Panels

Modern panels convert about 15-22% of sunlight's total energy. Break that down:

Visible light: 50% contribution

Infrared: 40%

UV:

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