



Use light-emitting tubes to generate solar power





Overview

RIKEN scientists have revealed how carbon nanotubes can emit light that's more energetic than the light they absorb, thanks to phonon interactions and the formation of dark excitons. This could pave the way for breakthroughs in solar energy and futuristic photonic devices. Solar tubes, also known as 'sun tunnels', 'sun lights', 'daylight pipes', and 'light tubes', are compact and cost-effective devices that serve as conduits for sunlight, offering an innovative alternative to traditional skylights. Despite their name, solar tubes do not generate solar electricity;. New semiconductor devices could supplement solar cells by making electricity when the Sun isn't shining. The new device catches the heat leaving Earth and turns it into power. Understand solar thermodynamics, 2. Implement conversion efficiencies. Health benefits extend far.



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[The 'solar cells in reverse' that can generate power at night](#)

To fill this gap, scientists are exploring solar-cell-like devices that could generate electricity by exploiting the conditions at night. Thermoradiative diodes are like solar cells in

[A solar tube: Efficiently converting sunlight into electricity and heat](#)

The outer surface of the tube is assembled with an organic solar cell to harvest incident light and convert partial of the energy into electricity. The inner tube is pumped with water to collect ...



Solar power generated even at night using ...

While the idea of generating solar power after the sun has set ...

Solar Tubes: All You Need to Know

In this article, we take a look at all the aspects of solar tubes and how they compare with skylights with topics like what solar tubes are, costs, installation, and considerations for using them.



Solar power generated even at night using breakthrough device

While the idea of generating solar power after the sun has set may seem impractical, researchers at the University of New South Wales have found a way to accomplish it.



A Review of Solar Tube as an Alternative to Artificial Light Sources

In our fast-growing and expanding world, securing a dependable energy supply to power our societies have become a necessity to continue forward as well as preserve the natural resources ...



How to convert solar tubes into electricity generators

To summarize the integration of solar tubes into electricity generation systems, a comprehensive multi-step approach is required to effectively transform thermal energy into electrical ...



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solar power

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What Is a Solar Tube (2026) , ConsumerAffairs®

Solar tubes (also known as light tubes, tubular skylights and tubular daylighting devices) bring natural light into your home through a covered opening on your roof. The light comes in

[New Light Trick in Carbon Nanotubes Could Boost Solar Power](#)

Three physicists from Japan's RIKEN Center for Advanced Photonics have uncovered how ultra-thin carbon tubes, known as carbon nanotubes, can emit light that carries more energy ...



What Is Solar Tube Lighting? Complete Guide 2025

Discover what solar tube lighting is, how it works, costs, benefits & installation. Complete guide to tubular skylights vs traditional options.



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