

## European Solar and Energy Storage Solutions

# Space solar power advances the agenda



## Overview

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Space-based solar power involves collecting solar energy in space and transferring it to Earth. While the idea itself is not new, recent technological advances have made this prospect more achievable. Can NASA engage with global interest in space-based solar power (SBSP)?

This study evaluates the potential benefits, challenges, and options for NASA to engage with growing global interest in space-based solar power (SBSP).

Who financed a space-based solar power project?

The Northrop Grumman Corporation provided funding for initial feasibility studies. Atwater, Hajimiri, and Pellegrino discussed their progress—and the transformational potential of space-based solar power—as the project nears a significant milestone: a test launch of prototypes into space in December 2022.

Can space-based solar power be used for special needs?

Proponents of space-based solar power say that for now, they see it as best used for specialty needs, such as remote outposts, places recovering from disasters, or even other space vehicles.

Is space-based solar power a viable solution?

Credit: ESA WASHINGTON — NASA is starting a study to reexamine the viability of space-based solar power, a long-touted solution to providing power from space that may be getting new interest thanks to technological advances and pushes for clean energy.

What is space-based solar power?

The idea of space-based solar power dates back to as early as 1923 when Russian theorist Konstantin Tsiolkovsky proposed using mirrors in space to concentrate a strong beam of sunlight down to Earth.

Could SSPD-1 be a future solar station?

The Caltech team is waiting for a go-ahead from the operators of a small space tug to which it is attached, providing guidance and attitude control. If all goes well, SSPD-1 will spend at least five to six months testing prototype components of possible future solar stations in space.

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### **A solar power station in space? Here's how it would work - and ...**

The UK government is reportedly considering a £16 billion proposal to build a solar power station in space.. Yes, you read that right. Space-based solar power is one of the technologies to ...

### **Bi-level multi-objective optimization of the structure and attitude ...**

Glaser (1968) first proposed the concept of the space solar power station (SSPS), which aims to convert clean and renewable solar energy into electricity in space and transmit it ...



### **Caltech researchers are bringing space-based solar ...**

Through the Space-based Solar Power Project (SSPP), a team of Caltech researchers is working to deploy a constellation of modular spacecraft that collect sunlight, transform it into electricity, then wirelessly transmit that electricity ...

### **The Conversation: A solar power station in space? Here's how it ...**

The UK government is reportedly considering a £16 billion proposal to build a solar power station in space. Yes, you read that right. Space-based solar power is one of the ...



## Space Power Workshop (SPW) , The Aerospace ...

The Space Power Workshop (SPW) provides an informal, unclassified, international forum for the exchange of ideas and information on space power. Technical presentations on advances in both components and system ...

## Advances in Flexible and Lightweight 3J Space Solar Cells for ...

We are developing flexible and lightweight III-V multijunction solar cells for space applications fulfilling different power density requirements. High efficiency designs such as the 3J inverted ...



## In a First, Caltech's Space Solar Power Demonstrator Wirelessly

Space solar power provides a way to tap into the practically unlimited supply of solar energy in outer space, where the energy is constantly available without being subjected ...

## Space Energy: Will Space-Based Solar Power Be the Wave of the ...

The April 1941 issue of Astounding Science Fiction included "Reason," a story by Isaac Asimov later published in the collection I, Robot. The story in Asimov's Robot series ...



## In a First, Caltech's Space Solar Power Demonstrator ...

Wireless power transfer was demonstrated on March 3 by MAPLE, one of three key technologies being tested by the Space Solar Power Demonstrator (SSPD-1), the first space-borne prototype from Caltech's Space ...



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