Solar power generation and heating in rural Japan

As a Fulbright-National Geographic Fellow, I am investigating what a Just Energy Transition - one that builds social resilience, lowers emissions, and preserves traditional culture - ...

While energy innovation can benefit rural Japan, right now Japan"s lack of energy independence puts rural communities at risk. Key industries like agriculture and manufacturing ...

In recent years, "agricultural solar power generation" has been expected to be one of the solutions to the issues facing agriculture and renewable energy in Japan.

Agrivoltaic systems (AVSs) can help solve this problem by increasing land use efficiency through the co-production of electricity and food. However, in Japan, where more than 2000 AVSs ...

Its 7th Strategic Energy Plan, released in February 2025, projects solar to rise from its current 10% share of electricity generation to between 23% and 29% by 2040, more than any other ...

In this study, we have designed a renewable energy system focusing on a rural area in Japan. It shows a combination of renewable and conventional energy technologies. This study optimizes the design ...

In a nation where arable land is scarce and the need for both food security and renewable energy is paramount, this innovative dual-use system offers a compelling solution, proving that power ...

This study uses optimization modeling to study efficient ways to integrate renewable energy systems to provide electricity and heat in rural Japan. The model provides minimum cost ...

Also known as agrivoltaic farming, solar sharing is a system of placing elevated photo-voltaic (PV) panels over agricultural land, making it possible to simultaneously produce energy and crops by ...

"Solar sharing" was the concept initially invented by Akira Nagashima Light Saturation Point (Source: Fraunhofer Institute for Solar Energy Systems ISE, 2024) (Source: Japan Solar Sharing Federation)

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