

Solar's Opportunities and Challenges Today

Summary of Comments - June 2023

On June 28, 2023, OurEnergyPolicy hosted a discussion addressing the future of solar power in the U.S., barriers to advancement and the key economic, policy and regulatory issues. Find the recording [here](#).

SPEAKERS



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Moderator



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Summary of Key Points

- The biggest issues facing the U.S. solar industry result from urgent needs to reform permitting, resolve supply chain bottlenecks, and improve supporting infrastructure including transmission and distribution.
- The U.S. Department of Energy (DOE) estimates that nearly half of the nation's electricity needs will be met by solar power by 2035. To achieve this, the deployment rate of solar projects must triple.
- The Solar Automated Permitting (Solar AP) process is a crucial resource to streamline permitting, saving 50,000 days of waiting in 2022.
- Transmission capacity must be upgraded by 60% by 2030 to accommodate the expected growth in renewable energy generation.
- Solar projects with responsible partnership structures can create significant opportunities for workforce development in rural communities.
- 16-20% of Tribal communities lack access to an electrical grid, so solar offers an alternative source of affordable, accessible, and renewable electricity.
- Customers of the [Low-Income Home Energy Assistance Program \(LIHEAP\)](#) can now use their assistance to subsidize community solar subscriptions.

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Solar in the U.S. Energy Economy

- Tariffs and lingering supply chain impacts from the Covid-19 pandemic pose significant barriers to growth in the U.S. solar industry.
 - Currently, it can take 2-4 years to receive a 10 megawatt converter required to upgrade the renewable electric grid.
 - The U.S. currently has about 300,000 solar workers, but will need 500,000 - 1.5 million by 2035.
 - The DOE recently published a white paper on [Building a Bridge to a More Robust and Secure Solar Energy Supply Chain](#).
- The Inflation Reduction Act incentivizes domestic production for the solar supply chain, but more funding is needed to fully support this domestic supply chain.
 - [The DOE offers tax incentives for solar manufacturers](#), but less than 100 GW of manufacturing capacity currently exists across the U.S. solar supply chain.
 - Continuous R&D is critical to developing the technology that will make the U.S. a long-term leader in renewable energy manufacturing. Alternative materials for solar panels such as cadmium telluride and perovskite exist, but both face issues limiting their ability to fully replace silicon-based solar panels.
- Inconsistencies in permitting throughout the U.S. have led solar contractors to entirely avoid some municipalities due to expensive and drawn-out local permitting processes.
 - California mandates jurisdictions over a certain size adopt Solar AP or similar programs. The state offers grants of \$40-\$100 thousand to aid Solar AP adoption.
 - The U.S. Federal government supplies \$15,000 grants for Solar AP adoption.
 - Multiple states provide incentives or relaxed rules for investors interested in brownfield development, making a significant difference in costs for interested solar developers.
- Tribal land makes up 2% of U.S. land, but holds 5% of solar potential.
 - The DOE released [a guidebook addressing the challenges for tribal solar deployment](#), and the DOE Office of Indian Energy created the [Tribal Energy Atlas](#) to aid tribal communities in deploying solar projects.
- Rural communities face both challenges and opportunities for the expansion of solar projects. [Localized workforce development](#) is one way to address inequities in rural communities and increase local support of solar projects.
 - Adding more workers to the payroll than absolutely necessary or enrolling community members in apprentice programs are both effective strategies for workforce development.
- Net metering enables a solar customer to feed their renewable energy back into the grid and receive financial credits for that supply.
 - Studies show that net metering has limited impact on customer electricity rates. However, the higher the net metering rate, the higher the adoption of solar.