



Solar Market Research and Analysis

Repair, Reuse, or Recycle? Practices for Photovoltaic Materials Reaching End-of-Life

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NREL Analysts Advance Understanding of How to Manage Retiring Equipment



With rapidly increasing photovoltaic (PV) installations, a rise in decommissioned PV modules is now on the horizon. These retired modules could become both a significant source of reused material and a large stream of e-waste. Three new NREL reports consider options for the

responsible, cost-effective PV system decommissioning and management of retired PV equipment.

In one report, researchers analyze the logistical, economic, and regulatory factors that impact early-retirement and end-of-life pathways for PV equipment in the United States and considered a multifaceted regulatory approach that could place responsibility across the value chain.

Another report surveys existing and pending legislation that relates to PV module recycling. While no federal regulations exist, several state- and industry-led policies have emerged and are detailed in the report.

In the third report, NREL researchers examined options and best practices for decommissioning or extending the period of performance of PV systems. Analysis reveals that extension of operation, refurbishment, repowering, or decommissioning could all make sense for different systems, depending on economic and other considerations of each case.

Through NREL's [Solar Market Research & Analysis](#) outreach, we're striving to keep you up to date on our latest research.

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Recent Reports:

- [The evolving energy and capacity values of utility-scale PV-plus-battery hybrid system architectures](#)
- [Solar Photovoltaic \(PV\) Manufacturing Expansions in the United States, 2017-2019: Motives, Challenges, Opportunities, and Policy Context](#)
- [The curtailment paradox in the transition to high solar power systems](#)

Upcoming Events:

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- [Download “A Circular Economy for Solar Photovoltaic System Materials: Drivers, Barriers, Enablers, and U.S. Policy Considerations”](#)
- [Download “Solar Photovoltaic Module Recycling: A Survey of U.S. Policies and Initiatives”](#)
- [Download “Best Practices at the End of the Photovoltaic System Performance Period”](#)
- Contact the studies’ lead author: [Taylor Curtis](#)

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