

ENERGYBIN INSIGHTS

Solutions for PV Repair, Resale and Recycling

Ep. 6 – Secondhand:

How used solar panels help
people and the planet

March 28, 2022 | 1-2 PM CST

Presented by:

*Melissa Ann Schmid, EnergyBin.com –and–
Vince Lucia, Good Sun*

Thanks to our Co-Host:



"We are committed to accelerating a robust and sustainable secondary market."

Contact:



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We bring together PV professionals who provide solutions for repair, resale, and recycling.

- **Trade**
- **Networking**
- **Education**



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Our Guest Speaker: Vince Lucia



Giving Power for Good

Vince Lucia, Executive Director

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2021 PV MODULE PRICE INDEX

Module Class	S/Wp as of December 2021	Trend since January 2020	Trend since September 2021	Trend since November 2021	Trend since January 2021	Description
All Black	\$0.624	25.30%	2.10%	0.00%	18.40%	Module types with black backsheets, black frames, and rated power between 290 Wp and 400 Wp
Bifacial	\$0.481	7.60%	8.30%	2.10%	8.60%	Solar modules with bifacial cells, transparent backsheets, or double-glass modules, framed or unframed
High Efficiency	\$0.356	-5.80%	-5.40%	-4.90%	5.00%	Crystalline modules 340 Wp and above with PERC, HJT, n-type, or back-contact cells, or combinations thereof
Mainstream	\$0.369	1.10%	4.90%	1.90%	7.20%	Standard modules, typically with 60/120 crystalline cells, aluminum frame, white backsheet and ranging from 275 Wp to 335 Wp
Low Cost	\$0.300	-5.00%	0.00%	0.00%	0.00%	Legacy module types with low output up to 270 Wp and new with full, limited or no warranty
Used	\$0.106	0.60%	-5.50%	-3.40%	-0.40%	Module types that have been installed and decommissioned, tested and appraised for resale value, including limited or no warranty

Source: EnergyBin, LLC.

Value

- Case-by-case
- Wholesale Prices:
50-75% below new modules
- Demand plays a role
- Calculating Price >>
Factors:
 - Buyer's location
 - Age of panels
 - Number of busbars
 - Number of cells
 - Labelled wattage
 - Degradation rate
- Auctions



BUYERS

A world map with a dark blue background and white outlines for continents and countries. Three yellow circles highlight specific regions: one in Central America, one in East Africa, and one in South and Central Asia. Labels for buyers are placed in grey boxes near these regions.

Puerto Rico

Guatemala

El Salvador

Haiti

#1: Afghanistan

#2: Pakistan

Djibouti

Somalia

Ethiopia

Buyer Considerations

1. Pay attention to the age and degradation rate.
2. Verify that the backsheets aren't peeling off and the glass is not damaged.
3. Buy from a reputable reseller who has inspected and tested the goods.



Landfill

Resell, Donate, or Recycle





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Recycling and Repurposing of PV Modules

Vince Lucia

Executive Director, Good Sun



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OUR VISION is to illuminate pathways to sustainability using solar power

OUR MISSION is to utilize the second-hand solar market to accelerate the transition to a clean-power economy and help underserved communities find greater opportunity.

In pursuit of this mission, we seek to solve three primary problems.



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1. **SOLAR WASTE:** Millions of solar panels are now reaching end of life (EOL) in the primary market. Good Sun works to keep still-viable panels out of landfills by repurposing them back into useful service, in a secondary market.



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2. **POVERTY:** There are lots of people in the world living without electricity, resulting in the lack of clean water and reliable food. Good Sun seeks to bridge the gap between used surplus solar panels and underserved communities through our donations to these regions.



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3. ECOLOGICAL CRISIS: We share the need to transition to a sustainable way of life. This means utilizing clean, renewable energy. Good Sun works to increase solar access to schools, low-income communities, thereby raising the standard of living for the underserved while promoting the repurposing of solar energy.



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The following are projects where repurposing and utilizing the second-hand solar market help underserved communities find greater opportunity.

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CURA Orphanage

Nairobi, Kenya, Africa

Good Sun donated solar lighting to the CURA Orphanage.

Also, helped develop the Kenya Big Picture Learning Institute





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Queen Elizabeth School

Uganda, Africa

Good Sun helped fund the building of two new classrooms

Good Sun also donated solar solutions to the school and the Buhoma Hospital. The school has now become a community place to gather in the evenings, under the lights.



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Wildlife Conservation and Anti-Poaching Project Uganda, Africa

Good Sun is provide monthly funding to prevent the poaching of Elephants and the unique tree-climbing lions in the Ishasha sector of Queen Elizabeth National Park (QENP) which face threats from growing and expanding human populations.





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Bitney Prep High School

California

Good Sun donated a 12kW PV system to help save the school ~\$6k/yr.

The solar PV lab, provides hands-on opportunities for students to learn about renewable energy and principles of sustainability





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Grass Valley Charter School

California

Good Sun donated a 10kW PV system to help save the school ~\$6k/yr.

It also serves as a demonstration system for students to learn about solar.





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Yuba River Charter School

California

Good Sun donated an 11kW PV system for the preschool saving the school ~\$6k/yr.

It also serves as a demonstration system for students to learn about solar.





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Hospitality House Homeless Shelter

California

Good Sun partnered with California Solar Electric Company to donate a 14kW PV system to the local homeless shelter saving the shelter ~\$8k/yr.

Also, provided on the job training for some shelter guests to become familiar with solar energy as a trade.



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Habitat For Humanity

Nevada County

Good Sun donated solar panels to four H4H homes currently in production. This saves it's low income homeowners on utility costs.

Good Sun is planning to provide solar to 12 new Habitat homes in 2022-2023.



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South Yuba River Citizens League

Nevada County

Good Sun is donating a 30kW system to this amazing nonprofit that protects our watershed.



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Habitat For Humanity

Sacramento, California

Good Sun will be providing solar for 20 homes in this region for 2022. This saves it's low income homeowners on utility costs.
Groundbreaking just began last week!



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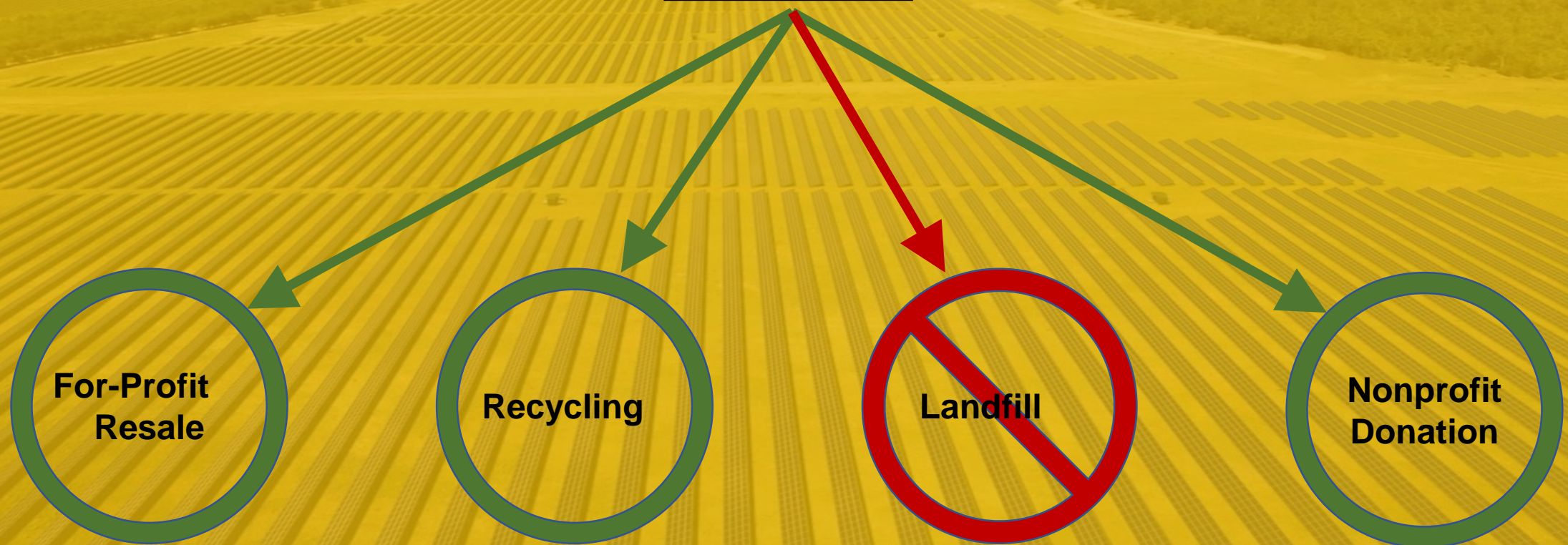
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EOL Modules





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A nonprofit donation is tax-deductible

Helps recycle and repurpose used materials for community projects

Helps the underserved communities locally and abroad

Helps teach sustainability by reducing waste while providing energy for all



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Donated materials may be reused for our projects or resold at our solar recycle store. Projects that require new material, like Habitat for Humanity's new homes, are funded with proceeds from our sales.

When thinking about what to do with your EOL PV Modules, think about our nonprofit model.

[DONATE HERE](#)



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Thank you!

Vince Lucia
Executive Director
vince@goodsun.life

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public charity and CA state-registered domestic
nonprofit.

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CA DOJ CT0262607



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