

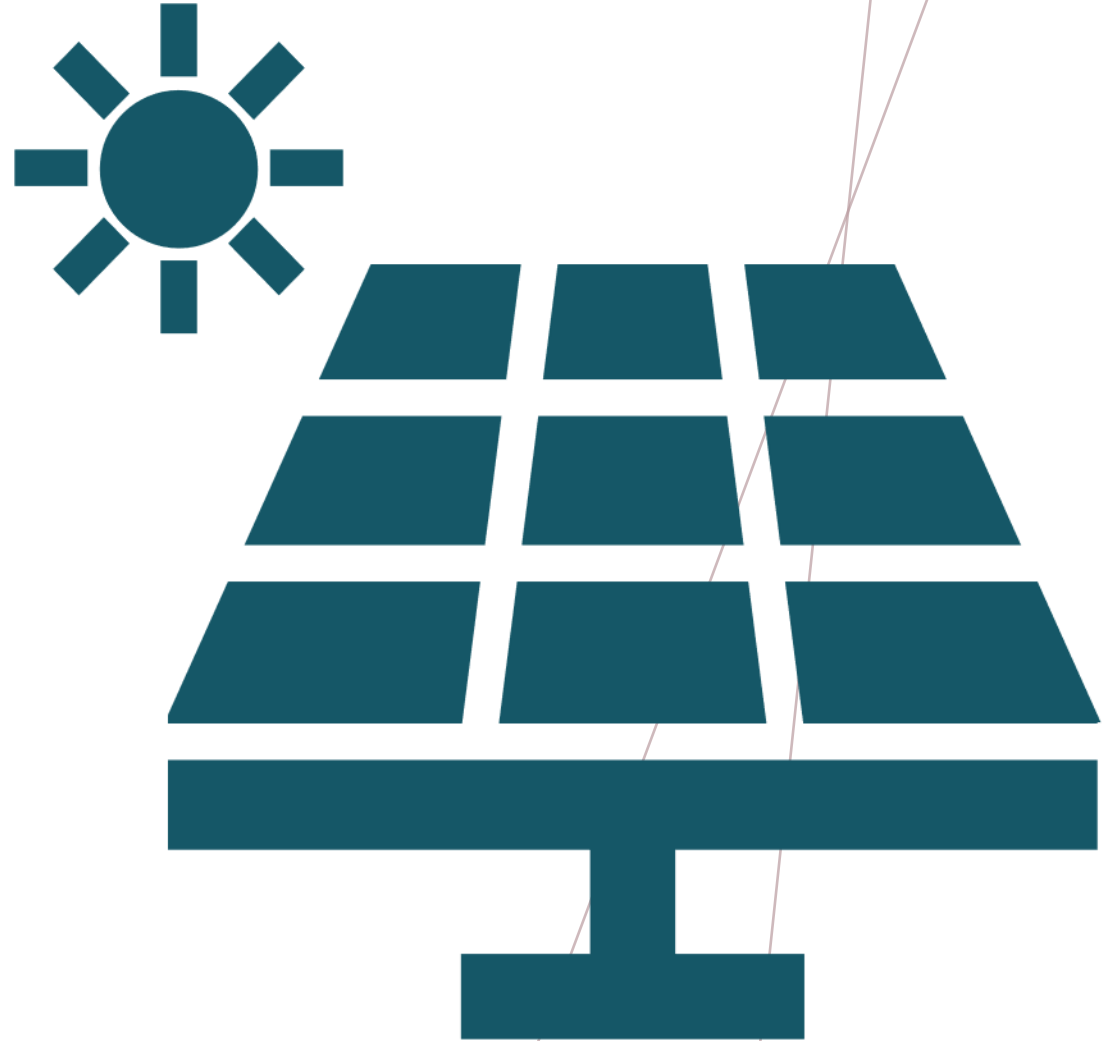
*SOLAR PANEL
RECYCLING
NJ*



NEWTECH RECYCLING
CORPORATE ELECTRONICS RECYCLING

AGENDA

1. Who is Newtech Recycling?
2. EPR program for Electronics
3. Solar Panels- NJ Solar Panel Recycling Commission
4. Result
5. Program Framework Submitted by Newtech: Part of Commission Report Start Up
6. Program Framework Submitted by Newtech: Development of a Statewide Structure
7. Program Framework Submitted by Newtech: Who will Qualify as a Depot? Utilization of the Existing Infrastructure.
8. Program Framework Submitted by Newtech: Downstream Processing of Material.
9. Where we Stand Today: NJDEP Research, Development and Demonstration Project (RD&D).
10. ANJR Solar Panel Committee Established.
11. Response Summary
12. Thoughts
13. Contact Information



WHO IS NEWTECH RECYCLING?

Owner:
Jim Entwistle
ANJR Board Member
-Solar Panel Recycling Commission
Member (only Recycler)

NJDEP Licensed-Class D Recycling
Facility

Located in Somerset NJ-Exit 12 off
Rte 287

Certifications

R2-V3: Management, Proper
Handling and Materials Recovery of
Used Electronic Equipment

ISO 45001:2018: Health and Safety
Standards-Workers

ISO 14001: 2015: Environmental
Management Systems-Operational

ISO 9001:2015: Quality
Management-Improvements



EPR PROGRAM FOR ELECTRONICS



Extended Producer Responsibility Program



Contractor/Collector/Processor



Working with Manufacturer Coops within the State



Covered Items: Computers/ Laptops/ Monitors/
TV's/ Printers



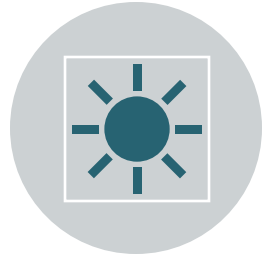
Working with Counties/ Municipalities/ Schools
and Universities/ Businesses



SOLAR PANELS- NJ SOLAR PANEL RECYCLING COMMISSION

- Created through Appointment by the Governor in January 2021.
- Participants Included:
 - NJDEP staff/ Manufacturers/Solar Distributor/ Educational experts/ PSE&G representative/ Attorney/ and a Recycler.
- Goal:
 - Investigate Opportunities for recycling and other end of life management methods for Solar Panels.
 - Develop recommendations for legislative, administrative, or private sector.

RESULTS



REPORT OF INVESTIGATION OF RECYCLING AND
OTHER MANAGEMENT METHODS FOR SOLAR
PANELS AND RECOMMENDATIONS BY THE NJ
SOLAR PANEL COMMISSION-NOVEMBER 29,
2023.(36 PAGE REPORT)



LINK:NJDEP-SOLAR-PANEL-
COMMISSION-RECOMMENDATIONS-
20231129.PDF



WEALTH OF KNOWLEDGE OF SOLAR
PANELS: COMPONENTS AND
FUNCTIONALITY



CHALLENGES IN RECYCLING AND
HANDLING



CURRENT RECYCLING METHODS &
RECYCLERS WHICH WERE
RESEARCHED



OTHER STATE ACTIVITY ETC.

PROGRAM FRAMEWORK SUBMITTED BY NEWTECH:

PART OF COMMISSION REPORT START-UP:

Establish a Landfill Ban on Solar
Panels-(Being worked on)

Designation of Solar Panels as a
Universal Waste-(Being worked
on)

*PROGRAM
FRAMEWORK
SUBMITTED BY
NEWTECH:*

*DEVELOPMENT
OF A STATEWIDE
STRUCTURE:*



SETTING UP A
NETWORK OF DEPOTS/
AGGREGATORS FOR
THE COLLECTION OF
THE PANELS.



CONVENIENTLY
LOCATED/
CENTRALIZED
LOCATIONS
(RECYCLERS OR
MUNICIPAL SITES).



COLLECTION
CAPABILITIES/ PICK-UP
SERVICES OFFERED TO
CLIENTS/HOMEOWNE
RS/MANUFACTURERS/
INSTALLERS.



REQUIREMENTS ESTABLISHED FOR
INSTALLERS/CONTRACTORS/
HOMEOWNERS TO UTILIZE THE DEPOT
NETWORK FOR THE PROPER
PROCESSING OF THE EOL PANELS.

PROGRAM FRAMEWORK SUBMITTED BY NEWTECH:

DOWNSTREAM PROCESSING OF MATERIAL

- Each Depot will designate an approved downstream processing facility to handle the panels.
- The downstream facility will need to possess the infrastructure to process the panels and residual materials responsibly and according to legislative guidelines.

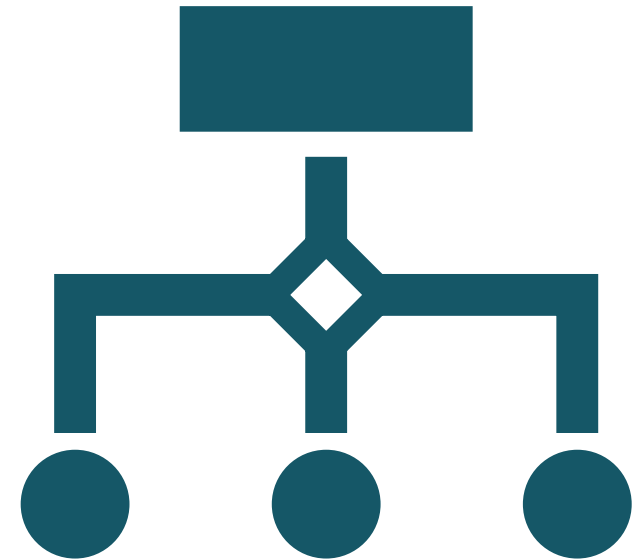


WHERE WE STAND TODAY:

NJDEP RESEARCH, DEVELOPMENT AND DEMONSTRATION PROJECT (RD&D)

Guidelines established within the RD&D:

- Reporting and tracking of material
- Downstream processor reporting
 - Application process in place (Newtech IS APPROVED)
 - Does not need to be a Class D facility
 - 5 Facilities are currently Approved:
 - Decision on type of facility submitted with application
- Ex. Newtech will be a collector/aggregator vs. de-manufacturer.
- Downstream for Newtech: Commercial Solar Panel Recycling in Phillipsburg



ANJR SOLAR PANEL COMMITTEE ESTABLISHED

Direct communication
with the NJDEP for
clarification of RD&D
and Rules.

Submitted October
22nd by Ann Moore
on our behalf.

Response from Nick
Nadar-NJDEP
Supervising Engineer.

RESPONSE SUMMARY

NJDEP's Bureau of Hazardous Waste Compliance & Enforcement is leading the process for waste rule changes

Working on the Classification of EOL solar panels as Class D Universal Waste (Likely adoption late 2025)

Counties may accept EOL solar panels from residents only-at a County operated landfill convenience center, or household hazardous waste collection center.

The NJDEP is currently viewing that "convenience centers" operated by the Counties should be accepting EOL solar panels as most Municipal sites are smaller and have limited budgets. The NJDEP is willing to listen to arguments regarding this point.

RESPONSE SUMMARY- CONTINUED

Counties may collect Residential EOL solar panels for transport to RD&D facilities until the rules classify EOL solar panels as Class D recyclable material and Universal Waste. Collected panels may be transported to authorized Class D recycling centers.

County landfills with public convenience centers may collect residential EOL solar panels for transport to out-of-state recyclers.

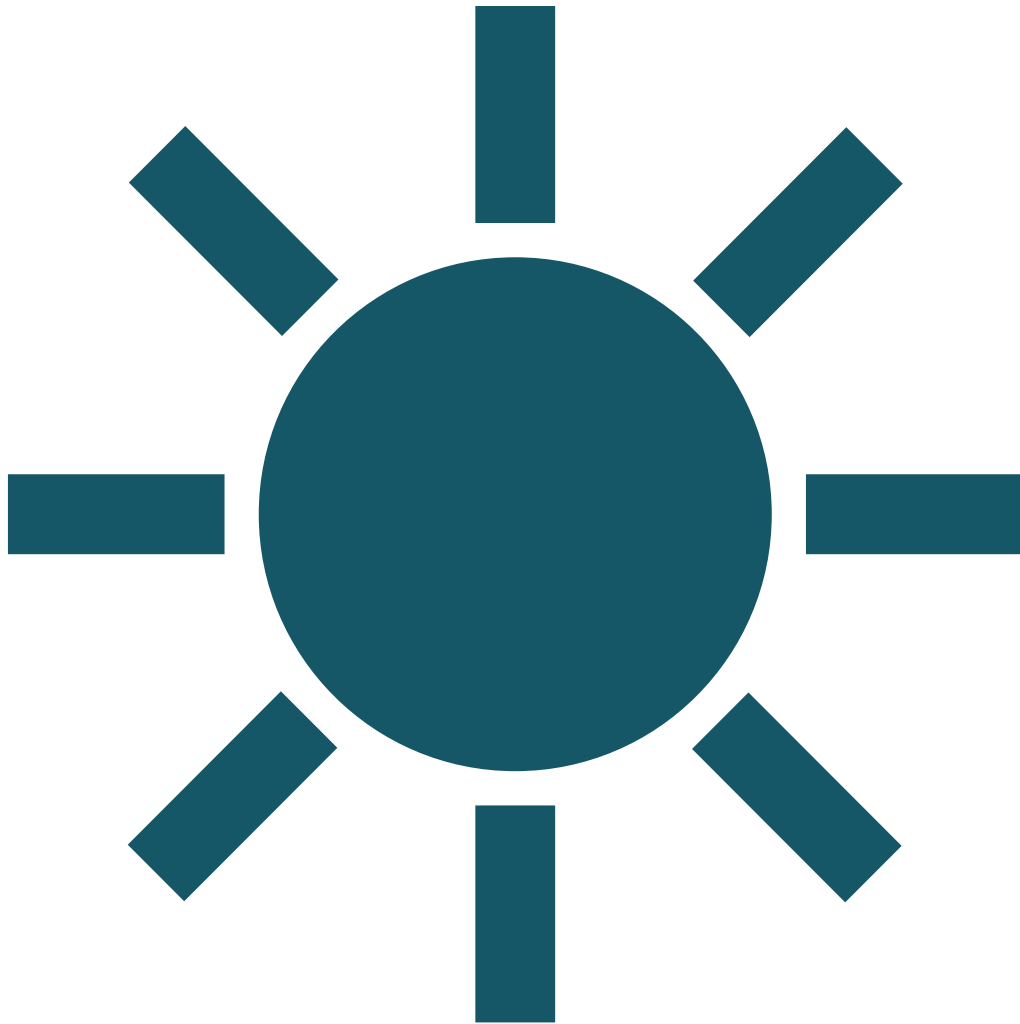
Maximum weight limits for EOL solar panels being collected and stored has not been established as it is currently not a Universal Waste. Currently The NJDEP instead will be limiting the maximum storage time to be no more than 6 months.

Operational Requirements to avoid NOV's/Issues:

Must record each panel received: who is making the delivery-company or resident/make/model/serial number/date received/ storage time on-site/destination for end of life

Maintain onsite copies of contracts/agreements with RD&D facilities and out of State Recyclers

Implement measures to make sure EOL solar panels are strictly from Residential sources.



THOUGHTS

- Understanding Lead Content in Solar Panels: Source-Article Commercial Solar Panel Recycling Blog
- There will be costs to manage the EOL panels: Average \$25/panel (small quantities)
- Discounts on volume/ Pick-up fees
- Will there ever be an EPR program for EOL Solar Panels?
- Highly unlikely/ Advanced Recovery Fee possible
- Average life is 25 years-why is this a potential problem?
- Real Estate return on Investment
- 200-watt panel to an 800-watt panel



THANK YOU

- Jim Entwistle
- jim@newtechrecycling.com
- 732-558-0151
- Booth #200