

Solar Program Updates

Resource Management Commission Meeting

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PV Panel Recycling

Residential & Commercial Options

Unlike the European Union, the US does not have a federally regulated PV panel recycling program.

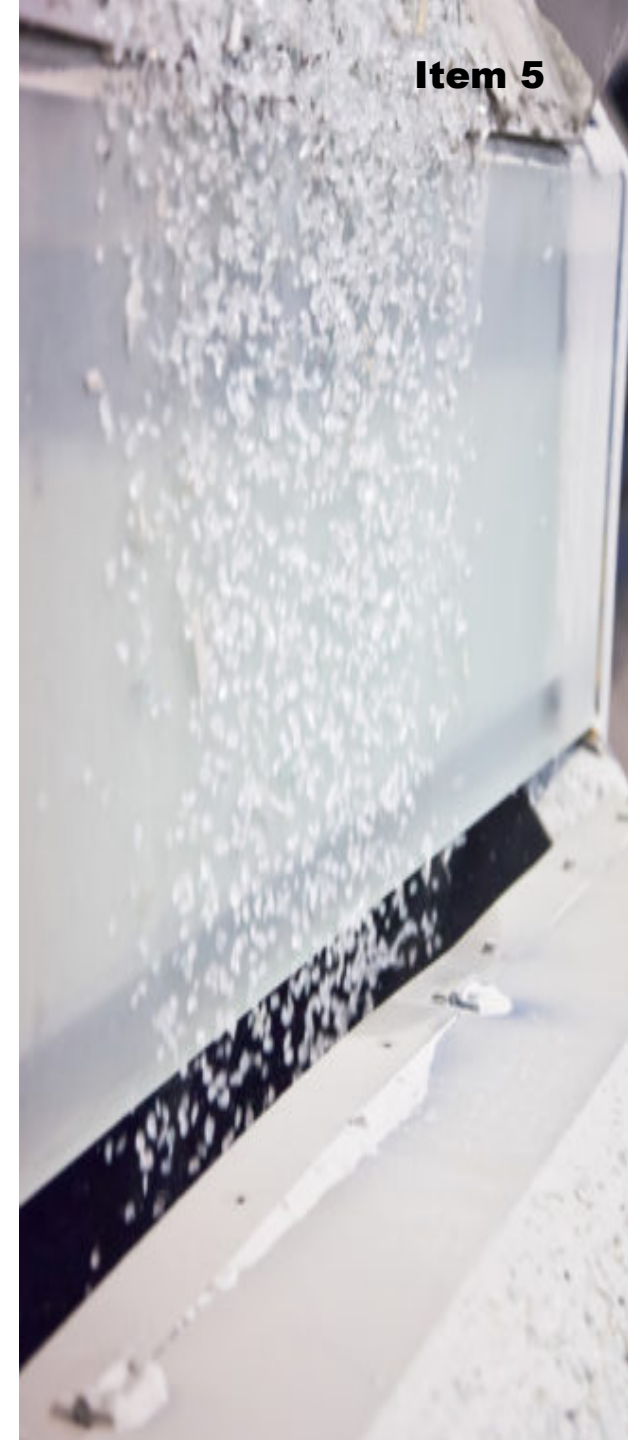
Solar panels have a lifespan of ~15-30 years, so most systems in Austin have many years of life ahead of them, but broken or damaged panels can often be recycled as follows:

1. Austin's Recycle and Reuse Center

- Broken solar panels can be dropped off at 2514 Business Center Drive.
- Free service for Austin and Travis County residents.

M-F: 9am-5pm

Sat: 7am-12pm



Item 5

Rooftop PV Panel Recycling Options



2. Recycle PV

Recycle PV Solar, LLC is a company in the photovoltaic industry that offers a comprehensive nationwide PV recycling program.

For a fee (\$25/panel), you can now send PV panels to their Arizona facility to be recycled. More facilities are being built throughout the US.

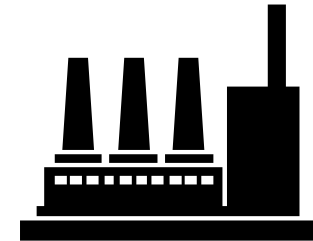
<https://recyclepv.solar>



3. Sell/Donate Used Panels

Solar panels are warrantied to perform for many years. Once the warranty expires, it can still produce energy, though not at peak performance.

- 'Energy Bin' is an exchange market where you can sell solar related products, old or new.
- Sell or 'Freecycle' them to a friend, family member, or local community.



4. Contracting Co./ Manufacturers

Contact your PV panel manufacturer or contracting company about their recycling policies.

Some manufacturers, like SunPower or First Solar, run global recycling programs for their customers.

Some contractors will take back panels if they are still functional and repurpose/reuse them. Some might recycle them for you.

PV Panel End-of-Life Management

Utility-Scale projects and Industry Efforts

Austin Energy Power Purchase Agreements

- AE purchases utility-scale solar through 10-25 year PPAs.
- Utility-scale projects are developed and financed to have a 30-40 year life, and will likely be re-contracted.
- Project owners may participate in manufacturer or industry recycling programs.

Solar Energy Industries Association (SEIA)

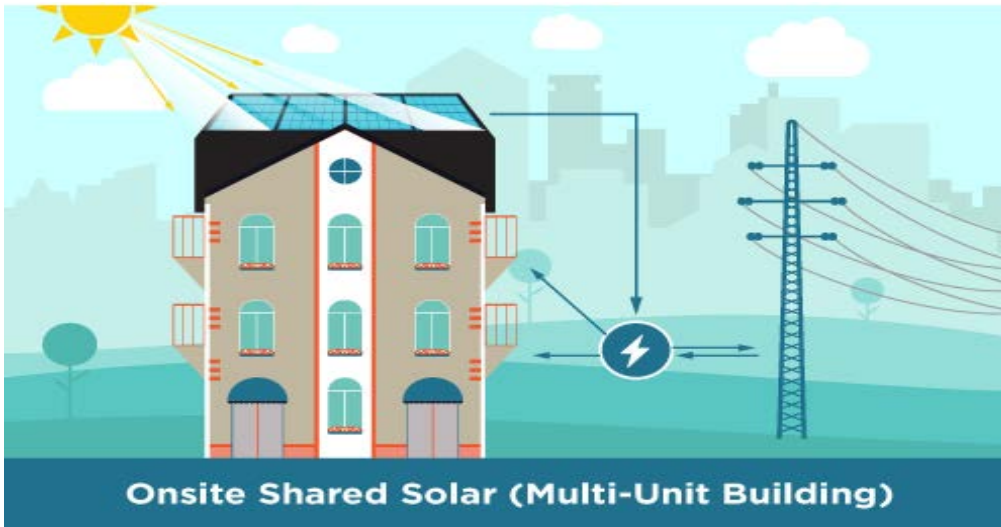
- SEIA has a PV Recycling Working Group which chooses recycling partners that offer benefits to their members.
- These partners provide special pricing to SEIA members, and in exchange, recycle their solar panels at special facilities that focus on solar equipment.



Shared Solar

• What is Shared Solar?

- Generation from single solar installation on a multifamily building is virtually allocated across individually metered tenants' bills.



• Benefits

- Enables multifamily tenants to access solar and reduce electric bills
- Reduces installed cost and complexity
- Enables a variety of ownership and financing models

• Shared Solar & Pilot Incentive for Multifamily Affordable Housing

- 2018 Call for Participants led to 3 projects
- Pilot Incentive: \$1/Watt with \$0.8/Watt adder for net-zero energy capable



Shared Solar Pilot for Multifamily Affordable Housing

- Feb 2018 Call for Participants; 3 pilot projects installed fall 2018
- Pilot Incentive: \$1/Watt with \$0.8/Watt adder for net-zero energy capable
- VOS credits issued starting November 2018
- Automated billing expected to go live in March



Participant	Location	# of Units	kW _{-DC}	Incentive
Foundation Communities	Cardinal Point	120	200	\$200,000
GNDC	Jeremiah Program*	35	57	\$102,600
GNDC	La Vista	22	97	\$ 97,000
Total		177	354	\$399,600

* Net-zero energy project

Commercial Solar Operational Leases

- **Background**

- Requests from customers and contractors to allow operational leases in the commercial solar incentive program
- Even many for-profit companies aren't able to monetize federal solar tax credits or depreciation, increasing cost, limiting uptake

- **Benefits**

- No up-front capital cost
- Lessor monetizes federal tax credits and depreciation on behalf of customers
- Asset is off the balance sheet
- Lease payments are considered an operating expense that reduces taxable profit
- Operating leases conserve capital for local businesses, so they can invest that cash in hiring workers or otherwise expanding their business
- Helps AE achieve Council objectives and Gen Plan goals



Commercial Solar Leasing Incentive Pilot

- **Commercial Leasing Pilot launched FY19:**
 - Performance Based Incentive (PBI) at \$0.02/kWh for 10 years
 - System size capped at <1MW per interconnect
 - Incentives capped at 2.8 MW per customer across properties (same as regular PBI program)
 - 8 MW allocated to the lease pilot
 - Budget impact: up to \$232k/year of incentives for 10 years (out of \$5-\$7.5M solar incentive budget set in Gen Plan)
 - No modifications to EECF or CC&B required

