

THE GROWING PROBLEM

Solar panels are the fastest-growing energy source in America. As it grows, so will the volume of end-of-life panels.

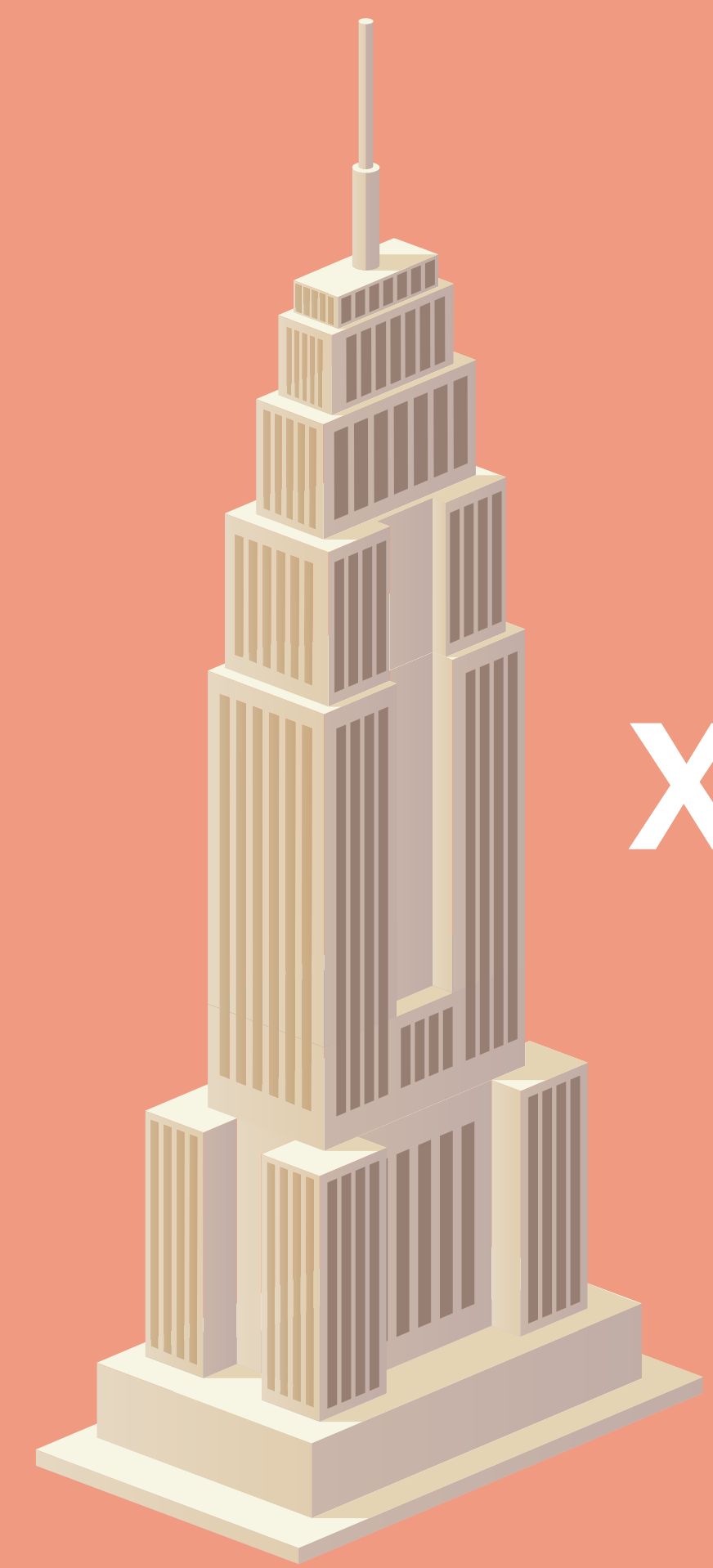


DR. JANETTE FREEMAN

SOLAR PANEL WASTE

The challenges and solutions for creating a sustainable solar panel circular economy.

FABTECH SOLAR SOLUTIONS



X240

It is projected that by 2050, around 80 million metric tons of solar panels will have reached their end of life globally- that's the equivalent of **240 Empire State Buildings**.

LANDFILL DIVERSION OPTIONS

"Reuse and recycling strategies can be developed in concert. Understanding this interplay is important to move toward solutions that avoid landfilling while maximizing renewable energy generation." -NREL

REUSE

GET PAID FOR SOLAR PANELS THAT ARE REFURBISHABLE



RECYCLE

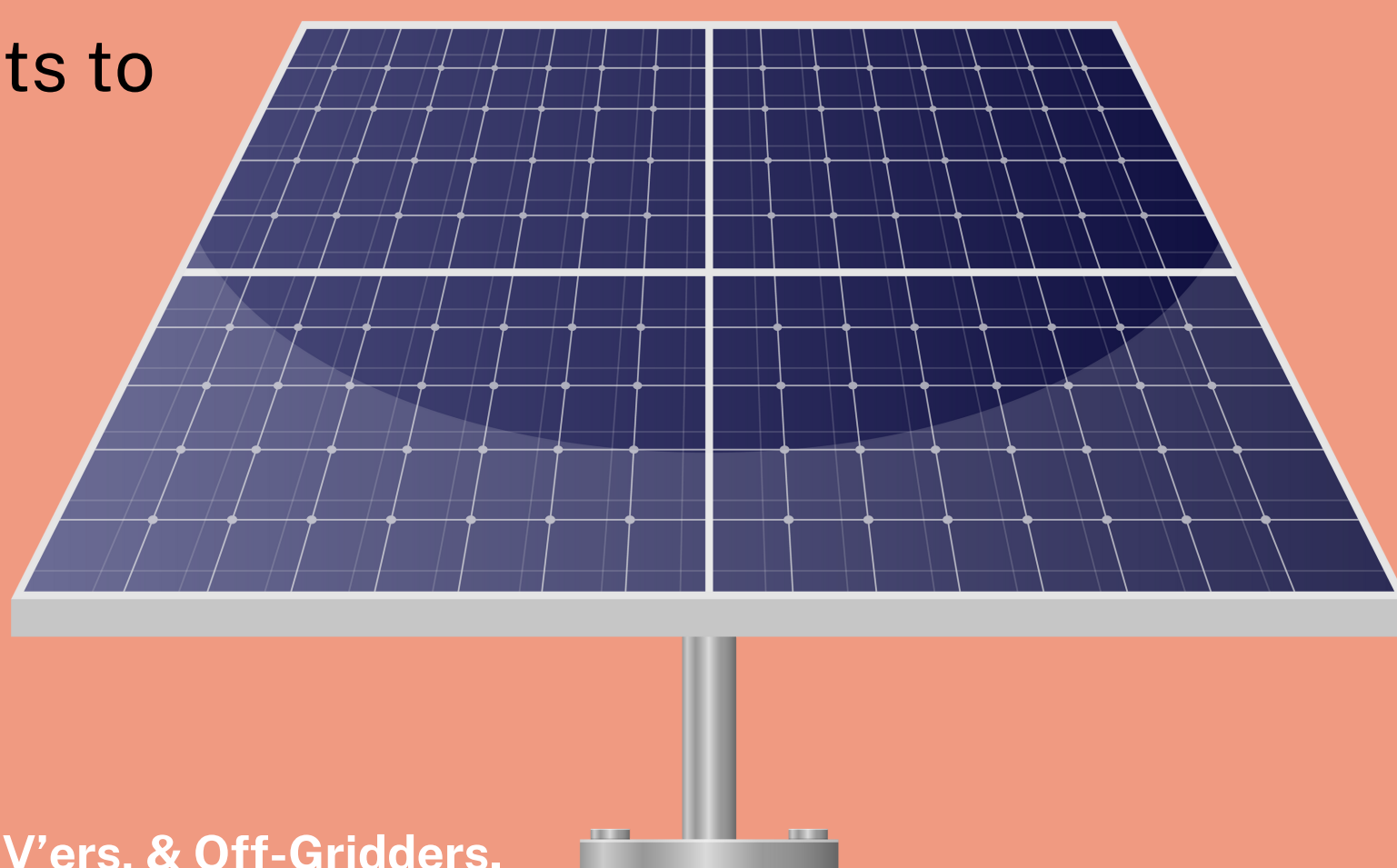
THE SOLAR PANELS THAT CAN'T BE REUSED

REUSE BENEFITS: Recover asset value for used or slightly damaged panels. Makes recycling more affordable, offsets freight costs, provides replacement modules for aging systems, and creates a sustainable energy solution.

A solar panel has reuse possibility if it does not have cracked or broken glass.

\$ Valued on its age, condition and costs to refurbish.

- From **\$.04/ppw** - **\$.08/ppw** for older, but useable, decent condition panels
- From **\$.08/ppw** - **\$.15/ppw** used, but not aged, and in good condition panels.



Used solar panels are resold very inexpensively to DIY'ers, RV'ers, & Off-Gridders.

PROPER SOLAR PANEL RECYCLING REQUIRES A SPECIALIZED SERVICE. EACH PANEL COMPRISES A VARIETY OF DIFFERENT MATERIALS.

Commercial Module Recycling Processes

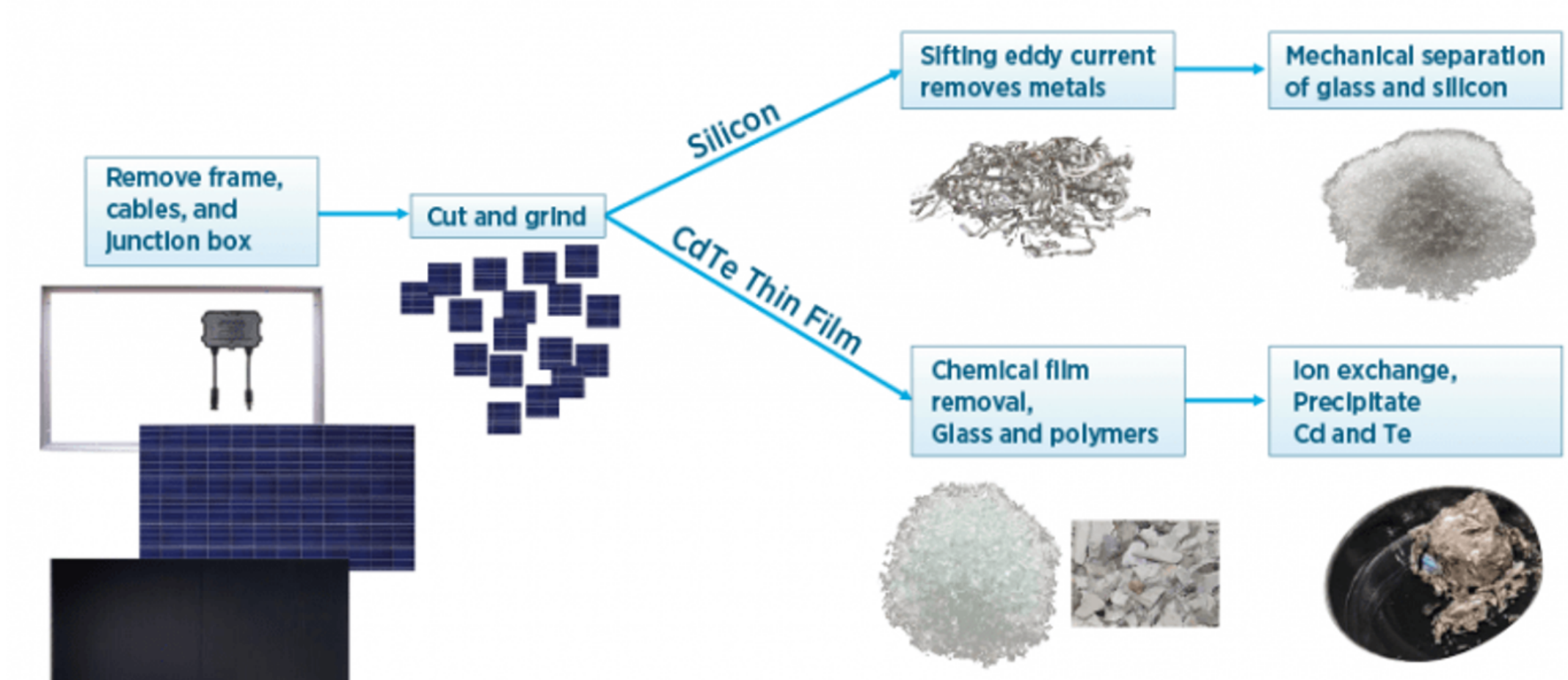


Photo courtesy of NREL

Economics of Recycling: The cost for proper recycling may run anywhere from \$.35-\$.65/lb. as the value of the materials do not exceed the cost to process them.

WHY NOT LANDFILL?

"The solar industry cannot claim to be a clean energy source if it leaves a trail of hazardous waste."

-PV Magazine by Becky Beetz and Eric Wesoff



Would you like to see a news story on your company dumping thousands of solar panels in a landfill? **If it isn't good PR, then don't do it.**

Benefit instead from incorporating a recycling initiative and **tell everyone you're doing it.** Reuse will help make it more affordable.

Early adopters help set the trend for others to follow. When PV owners know fellow PV owners who recycle and there is general positive attitude toward recycling, the rate increases.

