Panels be gone

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Butte County to pilot California's new solar recycling program

green>sustainability

By Evan Tuchinsky

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Visit calpsc.org/webinars to view a webinar from the California Product Stewardship Council on the solar panel pilot program, which will go live today (June 13) at 11 a.m.

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As recycling coordinator for Butte County, Steve Rodowick appreciates steps residents take to reduce their impact on the environment. Solar-electric systems represent a significant step, reducing a household's use of fossil fuels—in fact, starting next year, California will require rooftop solar for all new homes.

Thing is, panels don't last forever. They generally have lifespans of 20 years; their effectiveness tends to diminish by 1 percent per year. They're also subject to damage.

As older systems wear out, and more systems go up, the number of panels to dispose of multiplies.

The issue: Where to take them?

Though the state in 2015 reclassified solar panels from hazardous waste to universal waste—lessening restrictions for handling and disposal, on par with electronics—the California Department of Toxic Substances Control has not finalized regulations. The closest processing facilities are in Nevada and Texas.

Landfills and recycling centers don't accept solar panels. Rodowick said installers frequently ask him, "What do we do with these?"

His answer applies to property owners, too: “What I can tell them right now is, ‘Sit on them, stockpile them, till things change.’ Currently it would be a huge expense to palletize, shrink-wrap and ship these as hazardous waste to whatever facility in the country would take them.

“These panels started to go on roofs 30-some-odd years ago; they’re coming off—so there’s a huge backlog of first-generation panels needing to be dealt with, and there’s no place to put them right now.”

Rodowick serves on the board of the California Product Stewardship Council (CPSC), an organization representing local governments and businesses seeking solutions to end-of-use problems such as this. Joanne Brasch, an industrial economist and scientist who’s special projects manager for the CPSC, said a survey recently conducted by the group found nearly 21 percent of Butte County residents plan to install solar systems in the next five years and just over 11 percent already have solar.

“Butte County is at the forefront, especially with all the houses that are going to be rebuilt [from the Camp Fire]—just so many more solar panels,” said Brasch, a Paradise native. “People want renewable energy, and it’s a great option—we just need to make sure, as we switch technological systems, we have the infrastructure and education for end-of-life management.”

Toward that end, Butte County is joining the city of Santa Monica in a pilot program for solar panel disposal.

The county, in conjunction with Oroville, received a grant from the California Department of Resources Recycling and Recovery (CalRecycle) to help the state move forward. A portion of the grant—which also promotes refillable propane cylinders—will be used to create surveys to determine the amount and types of solar panels in the county, as well as organize a take-back event where the county would accept and ship discarded panels.

Brasch anticipates the event occurring early next year. Rodowick, retiring in August after 16 years with the county, won’t be on the job at that point but plans to remain on the CPSC board.

Lance Klug, spokesman for CalRecycle, told the CN&R via email that “Butte County’s $100,000 grant project is just one example of the proactive steps California is taking to develop the infrastructure we need to safely manage solar panels and other emerging technologies. CalRecycle will continue to work alongside our state and local partners to pursue innovative solutions to [household hazardous waste] management that protect the health of Californians and their environment without creating undue burdens on local governments or ratepayers.”

Solar panels pose a disposal challenge because their components vary widely. Equipment from different manufacturers and eras contain vastly different materials. Some early models don’t even have a manufacturer’s identifier or serial number.

Opening up a panel, Rodowick said, can present “a big unknown.” Contents may include heavy metals such as chromium, selenium, lead and arsenic—“so they are indeed hazardous.”

“There’s been no tracking of what manufacturer produces what type of panel,” he added. “Some are relatively benign, some aren’t; nobody knows which are which.”

CalRecycle and the CPSC hope the pilot program sheds light on what panels are prevalent. Butte County will act as the rural, Northern California sample; Santa Monica will exemplify urban, Southern California municipalities. Brasch’s team will tally the general type of panel returned at each location’s takeback event.

“We’ll know when the time comes closer how crazy it will be,” she said. “Will we get thousands of people, [to] where we have to turn them away? Will we only get a few hundred, to where we’re trying extra hard to fill our truck?

“At this point, we’d rather fill the truck, have too many and find another way to ship the extra.”

Surveying in advance will help with the forecast. Brasch also is hosting a webinar on the program today (see infobox). Rodowick is optimistic about the prospects.

“There’s probably a tremendous amount of electronic waste recyclers currently out there who’d be more than willing to take on the task of recycling these panels; however, currently, they’re not allowed to,” he said. “If there’s money to be made, we’ll have companies out there willing to do it compliantly.”