

Solar Power's Toxic Footprint

Chris Clarke, KCET (Los Angeles television), 2-18-13

According to figures released by the California Department of Toxic Substances Control DTSC, solar manufacturers in the state produced over 46 million pounds of hazardous waste between 2007 and 2011. 1.4 million pounds of that waste, which included polluted water and heavy metals such as cadmium, was shipped out of state -- meaning that calculations of solar's climate benefit must account for fuel used to ship that hazardous waste.

San Jose State Environmental Studies professor Dustin Mulvaney told the Associated Press' Jason Dearen that the fuel used to transport hazardous waste for the manufacture of a typical solar panel is equivalent to the carbon emissions avoided by about two or three months' panel production.

Some of the hazardous waste production stems from younger companies failure to implement recycling programs, reports Dearen. The solar technology used also makes a difference: waste cadmium is produced during the manufacture of cadmium telluride thin-film solar panels, and not so much with other types of photovoltaic cells.

The Associated Press filed information requests on solar companies' waste reporting with the DTSC. Dearen reports that 17 of 41 California solar firms reported hazardous waste production between 2007 and 2011. One of those firms was the famously failed Solyndra, which reported production of 12.5 million pounds of hazardous waste -- one pound for every \$42.80 the firm received in federal loan guarantees. Much of Solyndra's waste was cadmium-contaminated waste water.

Almost all of California's toxic solar waste is disposed of in state: of the 1.4 million pounds shipped out of state, most went to either Arkansas or Nevada.

That's still significantly less hazardous waste than is produced per kilowatt-hour by conventional sources of power like coal and even "clean-burning" natural gas, of course, and much of the toxic stuff formed when fossil fuels are burned is dispersed throughout our air and water rather than sequestered in hazmat facilities.

Still, it does no one good to pretend this issue doesn't exist. And for that reason, solar trade groups' quotes in Dearen's article are dispiriting. The Solar Energy Industries Association (SEIA), for instance, is pushing a voluntary environmental responsibility pledge, but they're not pushing it too hard: SEIA has 81 member corporations that are solar manufacturers, and only 7 have signed.

Especially as manufacturing moves to countries like China where environmental and workplace safety laws are next to nonexistent, we can't afford to greenwash the actual impact of photovoltaic panels, lest someone else pay the environmental price for our green lifestyle.