

COMMERCIAL REAL ESTATE INSIGHT & NEWS

The Bowditch & Dewey Real Estate Blog

Where Do Solar Panels Go When They Die? The Answer Is a Work in Progress.

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Massachusetts' achievement of 2025 net zero greenhouse gas (GHG) emissions rests upon rapid electrification of the energy grid and substantial growth in solar electricity generation. As of 2023, nearly a quarter of the Commonwealth's electricity is solar generated.

MassDEP projects that 6,500 tons of solar panels will be retired each year beginning in 2030 as solar panels installed 20 to 25 years ago are decommissioned. By 2050, the annual maximum tonnage of solar panels retired will reach 40,000 tons.

So where do all these solar panels go when they die?

MassDEP explains that when solar panels are decommissioned, their disposal must be managed in accordance with the Massachusetts Hazardous Waste Regulations. If solar panels are determined to be hazardous solely due to the presence of metal-bearing circuit boards, or if the panels or components meet the definition of a scrap metal, the panels may be conditionally exempt from Hazardous Waste Regulations if they are destined for recycling.

By 2030, Massachusetts landfills will have no remaining capacity for municipal solid waste and construction and demolition debris, yet the Massachusetts' 2050 net zero GHG emissions goal envisions a zero-waste future with a robust waste diversion and recycling infrastructure.

As of 2023, MassDEP found that the cost to recycle solar panels is greater than the value of the reusable and marketable material. Solar photovoltaic system installers and recyclers reported that solar panels are either (i) disposed of with construction and demolition waste; (ii) returned to the manufacturers' third-party "take back" recyclers; (iii) sent to scrapyards to reclaim metal; or (iv) resold or given away to hobbyists and DIYers to repair and install small-scale systems.

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Diverting solar panels from the waste stream and creating a robust recycling infrastructure and a market for reclaimed materials requires legislative, regulatory and industry engagement and remains a work in progress.

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