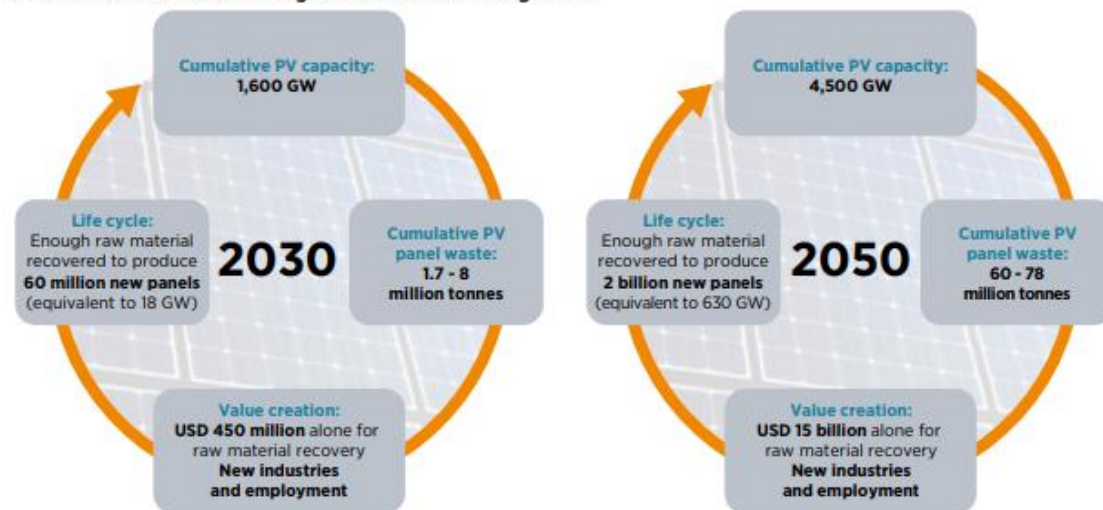


## Solar Panel Recycling

With the exponential growth of solar energy, recycling of solar panels will become increasingly important and a significant business opportunity for recycling entrepreneurs. The National Renewable Energy Laboratory (NREL) predicts that solar panels deployed today will have a 30-year life span.<sup>1</sup> This means that while a limited number of solar panels need recycling today, future capacity for recycling must increase as more panels meet the end of their serviceable life.

The International Renewable Energy Agency estimates that between 60 and 78 million tons of material will be generated globally by 2050 from solar panels at the end of their serviceable life.<sup>2</sup> Most of this material will be glass and most of it will be recyclable and reusable. In fact, the solar waste stream is comprised of components valued at upwards of \$15 billion by 2050. The International Renewable Energy Association projects that the recycling and repurposing of solar panels will yield a continued supply of materials that can be remanufactured into as many as 2 billion new panels, helping to assure continuity of supply as solar energy deployment grows world-wide.<sup>3</sup>

Potential value creation through PV end-of-life management



Source: International Renewable Energy Agency

<sup>1</sup> National Renewable Energy Laboratory. June 27, 2016. *Solar PV Recycling Identified as Untapped Business Opportunity*. <https://www.nrel.gov/news/program/2016/33703.html>.

<sup>2</sup> International Renewable Energy Association. 2016. *End-of-Life Management of Solar Photovoltaic Panels*. [http://www.irena.org/-/media/Files/IRENA/Agency/Publication/2016/IRENA\\_IEAPVPS\\_End-of-Life\\_Solar\\_PV\\_Panels\\_2016.pdf](http://www.irena.org/-/media/Files/IRENA/Agency/Publication/2016/IRENA_IEAPVPS_End-of-Life_Solar_PV_Panels_2016.pdf).

<sup>3</sup> *Ibid.*

Solar panel manufacturers are committed to developing efficient, environmentally responsible recycling practices that will benefit both solar panel users and the industry. The Solar Energy Industries Association (SEIA) is working to establish new systems and protocols in anticipation of the future retirement of solar panels. SEIA's efforts include establishing uniform, cost-effective recycling practices including identifying vendors and service providers, aggregating end-of-life solar components, and streamlining and improving recycling processes.<sup>4</sup>

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<sup>4</sup> Solar Energy Industries Association. *SEIA National PV Recycling Program*. <https://www.seia.org/initiatives/seia-national-pv-recycling-program>.