

Making solar panels with cleaner, greener technology

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Mention solar energy, and most people think "squeaky clean, pollution-free." The reality of making solar panels with existing technology, however, is much different, involving use of potentially toxic substances and lots of energy. That could change, according to an article in the current edition of Chemical & Engineering News (C&EN), ACS' weekly newsmagazine.

In the article, C&EN Associate Editor Sarah Everts describes the beginning of a scientific effort to manufacture [solar panels](#) in a way that better fits the public perception. Current silicon-based solar panels, which represent about 80 percent of the global market, are energy-intensive and rely on materials that pose potential health and environmental risks. To be "green," manufacturers must adopt more environmentally friendly manufacturing processes and plan for the safe end-of-service-life disposal of the panels, the article notes.

Solar panel manufacturers are already starting to make changes. Some are setting up programs that will collect and recycle panels after their 20-25 year lifespan. Many solar companies are trying to reduce the amount of energy required to produce the panels, while others are trying to change the production process in order to replace toxic materials with more eco-friendly ones. At the same time, manufacturers are faced with the challenge of developing more efficient solar cells, which could require the use of more energy-intensive processes and more materials.

"Resolving these challenges — perhaps with new manufacturing

processes altogether — will ensure that photovoltaics [solar panels] don't just produce renewable [energy](#) but are themselves renewably produced," the article states.

More information: "Making Solar Panels Greener", This story is available at pubs.acs.org/cen/science/89/8908sci2.html

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