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# New Solar Technology Concentrates on Cost, Efficiency

Contributed by Joseph B. Verrengia

It looks like a giant funhouse mirror. But the big new dish atop South Table Mountain could be a renewable energy breakthrough that helps make concentrated solar power more affordable and appealing to utilities and their customers.

For the next several months, NREL engineers will be testing the performance of SkyTrough, an innovative parabolic trough that is coated with a gleaming reflective skin instead of mirrored glass.

NREL offers leading-edge testing and performance analysis for advanced solar technologies and other renewable energy designs.

The SkyTrough was developed by SkyFuel, an Albuquerque-based manufacturer with a research facility near NREL in Arvada, CO.

The unit's lightweight glass-free mirrors are made of sheet metal beneath ReflecTech® mirror film.

This highly-reflective, silver-metalized film is lighter and less expensive than the breakable glass mirrors that are traditionally used. The film is a joint invention of NREL and ReflecTech® and exclusively licensed from NREL. The glossy laminate is comprised of multiple layers of polymer films with an inner layer of pure silver to provide for a highly reflective surface that also protects the silver layer from oxidation.

In commercial use, a SkyTrough could measure as large as 375 feet long and 20 feet high. One SkyTrough would supply enough electricity for 125 homes. The test model is smaller, but uses the same technologies.

"It's unlike any parabolic trough design used so far," said NREL senior engineer Keith Gawlik. "Our new facility is designed to test the optical efficiency of the unit, which they can't do on their own at SkyFuel."

Full article [http://www.nrel.gov/features/20090109\\_mesa\\_solar.html](http://www.nrel.gov/features/20090109_mesa_solar.html)