SOLAR'S ROLE IN POWER GENERATION

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Are there bigger sunshine enthusiasts than our pets? They follow sunbeams streaming through windows like solar panels tracking the sun. Except, they don't appear to gain much energy from the sun, as they lie in the same spot until it's in a shadow; then they move as little as possible to scoot back into the warm sun.

If you have one or two sunshine enthusiasts — or consider yourself one — mark your calendar for the second Friday in March: Solar Appreciation Day.

Even the littlest sunshine enthusiasts enjoy tracking their warm spot in the sun throughout the day.

This day offers an opportunity to acknowledge the economic and environmental benefits that solar energy brings, while recognizing the challenges that prevent it from being an omnipresent source of power. Solar is part of the energy resource portfolio in Colorado. It pairs well with baseload and dispatchable generation resources to provide the energy we need to power our lives.

Solar energy is growing in prominence as a low-cost solution at a utility scale. The days of solar panels dotting only a few neighborhood rooftops are gone. Utility-scale solar farms are turning sunbeams into megawatts at competitive prices. Governments, businesses, and communities around the world are progressively turning to solar power as a key component of their energy portfolios, driven by both environmental consciousness and financial prudence.

While governments race to be 100% carbon free, solar energy still casts a shadow of its own. It still falls short of being a consistently reliable source of "always on" power. When darkness falls, so does solar power generation. The intermittent and variability associated with solar power, such as weather conditions and the day-night cycle, pose challenges for meeting our constant demand for electricity.

Power lines require a consistent voltage to ensure the reliable functioning of electrical devices. Fluctuations in voltage — whether dips or spikes — can disrupt the normal operation of electronic equipment. To achieve "always on" power, utilities need a baseload: a constant and steady power supply. With the demand for electricity increasing due to the adoption of electric vehicles, the beneficial electrification movement, and humans becoming more and more reliant on technology, carbon-based fuel sources must be used to power our lives. Until significant advancements are made in energy storage technology, renewable-sourced energy alone cannot make up the majority of our power mix.

As we celebrate Solar Appreciation Day, it is crucial to recognize the interconnected nature of our energy landscape. While solar power is not a standalone solution, it is a component of a diverse and resilient energy mix. This isn't a reason to turn our backs on the sun, but rather a call for balance.

LAS ANIMAS COUNTY SOLAR FARM ONLINE THIS YEAR

The 140-megawatt solar farm located about 20 miles north of Trinidad — known as Spanish Peaks Solar— is expected to come online this year.

The project was recently acquired from Germany-based renewable energy company JUWI, by Deriva, a renewable energy company operating out of Charlotte, North Carolina. Deriva will own the plant, sharing maintenance and operations with JUWI.

When the project is complete, more than 300,000 photovoltaic solar panels will span 660 acres on single-axis tracking arrays that follow the sun.

The project broke ground in 2022 and is expected to provide about 250 jobs from commencement to completion.

San Isabel Electric's power supplier, Tri-State Generation and Transmission, has entered into a 19-year agreement to purchase all the power generated by the plant, enough to serve about 38,000 homes annually.

By 2025, 50% of the electricity San Isabel Electric members use — supplied by Tri-State — will come from renewable sources. Currently, about 1/3 of Tri-State's energy portfolio comes from renewable sources.