

Mare's Eat Oats and Doe's Eat Oats, but Little Lambs Eat... Cadmium?

Picture this... a pastoral scene of sheep grazing serenely in a meadow. But instead of rolling green hills, the backdrop is a forest of solar panels humming with electricity and throwing shadows across the land. It's a bizarre image, but one that's being sold as a "win-win" for agriculture and renewable energy. However, this idyllic vision hides a darker reality for the sheep tasked with "solar grazing."

Far from being a sustainable solution, herding sheep into utility-scale solar farms exposes them to a host of dangers. Let's pull back the curtain on this supposed green energy marvel and see why it's more a case of "greenwashing" than actual harmony.



The Heat Is On

Imagine wearing a wool coat in July while standing next to a heat lamp. That's the life of sheep in a solar facility. Solar panels absorb sunlight and radiate heat, creating microclimates that roast the ground-level environment. Sheep, with their thick wool, are particularly vulnerable to heat stress. A study by Amponsah, Trolborg, and

Kington, published in *Renewable and Sustainable Energy Reviews* in 2014, explains how solar facilities can significantly increase ground temperatures.

A Symphony of Stress

If you've ever stood near an inverter or heard the clatter of a maintenance crew at work, you know that solar farms are anything but quiet. Chronic noise exposure stresses livestock, impairing their immune systems and even their ability to reproduce. Williams and Bell's 2021 study in *Animal Production Science* explores these effects in depth.

Lost in the Shadows

Sheep are creatures of habit, and when their grazing patterns are disrupted, chaos ensues. Shading from solar panels creates patchy vegetation, forcing sheep to navigate an uneven and nutritionally deficient landscape. Provenza's 1995 research in *Journal of Range Management* illustrates how such disruptions impact grazing behavior.

Sparks and Sharp Edges

Sheep are curious—sometimes dangerously so. In solar facilities, exposed wiring and sharp hardware become hazards. Occupational Safety and Health Administration (OSHA)'s 2019 guidelines highlight the risks of electrocution in agricultural settings. Visit for more details. Meanwhile, the Royal Society for the Prevention of Cruelty to Animals (RSPCA) emphasizes the dangers of sharp edges and loose bolts causing injuries.

Predator's Paradise

The shady nooks under solar panels might look cozy to sheep, but they're prime ambush spots for predators like coyotes. Research by Gehring and VerCauteren, published in *Rangeland Ecology & Management* in 2011, underscores the importance of predator deterrents in grazing systems.

Toxic Consequences

Solar panels aren't indestructible. When damaged, they can leach toxic materials like cadmium and lead into the soil. Grazing sheep on contaminated forage risks heavy metal poisoning, as detailed in Fthenakis and Wang's 2006 study in *Renewable and Sustainable Energy Reviews*.

Thirsty Work

Despite their idyllic reputation, solar farms often fail to provide adequate water sources for livestock. Sheep, like all living creatures, need consistent access to fresh water. The National Research Council's 2007 publication, *Nutrient Requirements of Small Ruminants*, highlights these hydration needs.

Behavioral Disruptions

Reflective surfaces, moving shadows, and human activity create a chaotic environment for sheep. These stressors disrupt their normal behavior, making them jittery and less effective grazers. Boissy and Le Neindre's 1997 study in *Applied Animal Behaviour Science* delves into these impacts.

The Overcrowding Conundrum

Confined grazing areas under solar panels often lead to overstocking, where competition for resources breeds stress and poor health. Provenza's 1995 study in *Journal of Range Management* also covers these effects.

Conclusion - Little Lambs Deserve Better

While the idea of solar grazing might seem like a sustainable partnership, the evidence tells a different story. From heat stress to toxic exposure and behavioral disruptions, solar facilities pose serious risks to the well-being of sheep. Rural communities and farmers have always prioritized the health of their livestock, and it's crucial to separate greenwashing from genuine sustainability.

I want to be transparent: I am neither a shepherd, nor do I raise livestock, nor am I an expert in any related field (or pasture). I've simply been asked about this topic often enough that I thought it worthwhile to share a laundry list of possible and probable scenarios that, according to "*The Science*," are more than valid concerns regarding the use of sheep to maintain solar facilities. Oddly, I'm sure renewable energy developers will claim they will pay professionals to tend to the sheep's health and nutritional well-being. However, if and when they do state this, ask why the same amount of concern and attention isn't being given to the taxpayers funding their developments.

Before you let your sheep roam under solar panels, ask yourself: Is this really a win-win, or just another marketing ploy? **The science is clear, and now, so are you.**