

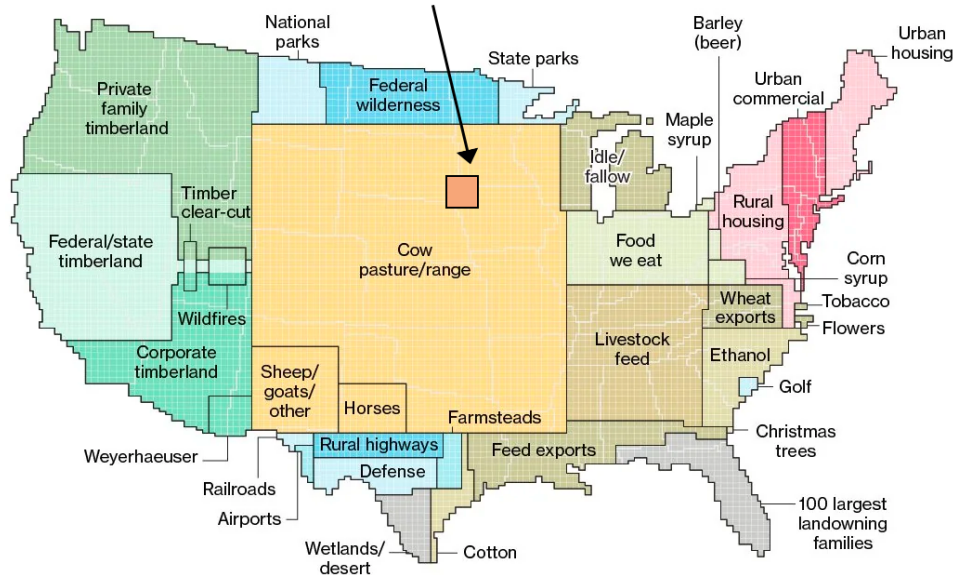
# Property Rights & Clean Energy

» Protect private property rights to site clean energy projects «

## Key Takeaways

- 1 Less than 1-2% of farmland is needed for solar.
- 2 Co-locating solar with farmland helps farmers afford to continue farming, rejuvenates over-farmed land, reduces land use competition, and provides increased tax income for rural communities.
- 3 Federal government should protect private property rights to site clean energy projects.

Acreage Estimate to Fuel 45% of the Grid Using Solar Energy



Source: bloomberg.com/graphics/2018-us-land-use

## Background

Solar is often built on farmland because it is flat and cleared—two characteristics suitable for solar energy as it reduces the need for land grading and/or tree removal. Another key factor in site selection is proximity to transmission lines and substations with available capacity to connect to the grid—often near farmlands. Plus, developing on farmland reduces conflicts about wildlife and resources that can come from development on undisturbed land.

Understandably, there is some angst that solar is growing too fast and changing the fabric of rural America. A full picture shows that solar farms not only co-exist with traditional farming, but enhance rural communities across the country.

## Very Little Farmland is Needed for Solar

In most states, less than 1-2% of existing farmland would be needed to power half the state with solar energy. Even that is an overestimate, as it presumes all solar facilities are sited on farmland, which is not necessarily the case.

Nationally, solar energy powers 5% of the grid, with 94 gigawatts of solar deployed. For solar energy to power 45% of the grid, or 900 gigawatts, **only 0.6% of existing farmland** would be required (according to DOE).

- For comparison, ~4.5 % of farmland is used to produce ethanol for vehicle fuel.



Credit: AES

## Solar Can Help Preserve Farmland

### Payments Provide Farmers Stable Income, Allowing Them to Keep Farming

Landowners choose to lease to solar developers because lease payments offer **stable, consistent revenues and long-term security** for their family over the project's lifetime.

Decreasing crop prices and increasing farm costs leave many farmers with few alternatives for increasing profits.

Many face pressures to stop farming and sell their land to commercial or residential real estate developers. But **commercial or residential development means permanent conversion** of land to non-agricultural uses.

By leasing portions of their land to solar developers, many farmers have the financial stability to continue farming their un-leased parcels.

### Soil Can Rest and Return to Agricultural Uses

Farmlands can degrade over time from intensive agricultural practices. **Siting solar on these lands allows soil to "rest."** Few land-disturbance activities occur onsite over the next 30 years. This enables soil quality benefits to accrue to the land.

Once a project is constructed, perennial vegetation is usually planted underneath the panels to stabilize soils and retain stormwater. Solar facilities can then be decommissioned at the end of their life, with localities requiring developers to post bonds guaranteeing enough finance to cover decommissioning costs. Once equipment is removed and soil de-compacted, the land can be farmed again.



*"Farmers are going to do what makes sense, and it's not always just about the money. It's about property rights and ensuring a sustainable foundation for agriculture – and ultimately about the family farm. If farmers are doing well, and new taxes are improving roads and bridges, and small-town businesses are benefiting, then that's having a positive economic impact."*

**Randy Dreher**

Farmer in Adair County, Iowa

## Solar Farms Support Rural Communities

### Solar Delivers Short- And Long- Term Benefits

**Creating Jobs:** The solar industry employs over 260,000 Americans across the U.S., and the solar manufacturing industry is increasing production capabilities at home to support the local supply chain.

**Increasing Tax Base for Rural Communities:** Tax benefits accrue to the community over the lifetime of the facility. This income can help strengthen rural communities, improve schools, build roads, and fund police & fire departments—without additional burdens on these resources (e.g. no increased traffic or water usage).

## The Solar Industry Works to Protect Adjacent Farmlands

**Solar panels pose little to no environmental risk to the soil or surrounding community** during construction, operation, removal, and disposal.

**The solar industry strives to be good stewards of the land and strongly values being good neighbors.** To protect adjacent farmlands from potential impacts, objectives for all project sites include:

- **Enhancing soil stabilization** by establishing and maintaining regionally appropriate vegetation cover for the life of the project
- **Integrating native seed mixes** where feasible and consistent with minimizing soil erosion
- **Minimizing the introduction of noxious and invasive weeds** in compliance with the state and local policies around invasive species management
- **Increasing vegetative diversity** of the site when possible
- **Reducing chemical applications** such as pesticides and herbicides
- **Maintaining vegetation** to mitigate fire risk

The local authority or relevant state agency often monitor the site until vegetative ground cover is established. A project may maintain vegetative buffers around the facility for visual screening.

Through these methods, solar projects reduce chemical applications, improve pollinator habitat, reduce nutrient runoff, and retain stormwater compared to other land uses.

Activities like sheep grazing or sustainable vegetation management practices can provide more benefits during a project's life and fencing around the facility ensures cattle can continue to graze nearby with little risk of harm.

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