



Legislation to Advance Smart Solar Policy in the Next Farm Bill

According to a 2021 [U.S. Department of Energy study](#), decarbonizing the electric grid will require an increase in solar from 4% of our nation’s energy production to 45% by 2050, with rapid near-term acceleration. This increase in solar is projected to require nearly 10.4 million acres by 2050, 90% of which would be in rural communities. **American Farmland Trust’s (AFT) [Farms Under Threat: 2040](#) modeling further projects that, without policy intervention, 83% of new solar development will take place on agricultural land, with almost half on our most productive land for growing food and other crops.** This new solar development will be concentrated in communities with favorable siting characteristics—flat, open, and sunny land with grid interconnection opportunities—many of which already face high rates of farmland conversion to urban and residential development. And much of it will be utility-scale projects that offer economies of scale at hundreds or thousands of acres in size.

This solar growth is expected to reshape many rural communities. It can provide financial benefits in the form of long-term leases for landowners and tax revenue for municipalities. But it is also raising local concerns about the large-scale conversion of productive farmland and displacement of farmer-renters outcompeted by solar developers. Important questions are also being raised about the impacts on the local farm economy of taking large percentages of land out of production for 25-40 years or more. While agrivoltaic projects that pair solar energy generation with agricultural production could help keep land in farming, more research and incentives are needed for this pairing to be recognized as commercially viable at scale and available for more production systems beyond sheep grazing. All of this is [slowing or halting proposed solar projects](#) and threatening the timely achievement of critical climate goals.

American Farmland Trust has developed four Smart Solar Principles that, when followed, will help ensure that solar development strengthens farm viability and rural vitality to get smart projects built. These principles are:

- Prioritize siting on the built environment and contaminated (*e.g.*, landfills, brownfields) and marginal land;
- Safeguard the ability to use land put into solar for farming by protecting soil health (and water access where applicable), especially during high disturbance times of construction and decommissioning;
- Expand development of diverse agrivoltaics projects through incentives, standards, and research; and
- Promote farm viability and equity by ensuring farmer engagement and shared benefits.

Congress now has an opportunity to include language in the next Farm Bill that will empower USDA to take timely action to advance these principles by funding research, providing trusted information to state and local governments, and modeling Smart Solar project awards. Five marker bills have been introduced to that end to:

	Protecting Future Farmland Act (S.2931)	Agrivoltaic Research & Demonstration Act (S. 1778)	SUNRAY Act (H.R. 7391)	Solar Study (H.R. 8277)	SOLAR Act (H.R. 7923)
Direct NRCS to develop guidance for best practices (BMPs) to protect soil health in solar projects	✓		✓	✓	
Require utility-scale solar projects receiving funding from USDA to follow best practices					✓
Direct USDA to define and study agrivoltaics	✓	✓	✓		
Authorize appropriations for agrivoltaics research		✓	✓		
Direct USDA to study solar impacts on the farm economy, conversion of farmland, land access, etc.				✓	

DETAILED SUMMARY OF FARM BILL SOLAR MARKER BILLS

Protecting Future Farmland Act ([S.2931](#)) is a cost-neutral bipartisan bill introduced by Senator Baldwin (D-WI) and Senator Grassley (R-IA) that is endorsed by AFT, the American Soybean Association, the Nature Conservancy, the Wisconsin Farm Bureau, Wisconsin Farmers Union, and Wisconsin Soybean Growers. This bill would enable USDA to:

- Consider environmental benefits and impacts of Renewable Energy for America Program (REAP) projects and collect data, such as soil types, within proposed larger Tier 2 projects;
- Direct NRCS to develop guidance on Best Management Practices for protecting soil health and productivity during construction, siting, and decommissioning of solar on farmland; and
- Define, and advance the study of, agrivoltaics, and provide support for those farming within solar arrays.

Agrivoltaic Research and Demonstration Act ([S. 1778](#)) is a bipartisan bill introduced by Senator Heinrich (D-NM) and Senator Braun (R-IN) that is endorsed by AFT, the National Sustainable Agriculture Coalition, Lightstar Renewables, New Mexico State University, and Purdue University. This bill would:

- Define, and advance the study of, agrivoltaics, and provide support for those farming within solar arrays; and
- Authorize appropriations of funding to support additional agrivoltaic research across the country.

SUNRAY Act ([H.R. 7391](#)) is a bill introduced by Representative Sorenson (D-IL), Representative Pingree (D-ME), and Representative Crockett (D-TX) that is endorsed by AFT and others. This bill would:

- Define, and advance the study of, agrivoltaics, and provide support for those farming within solar arrays;
- Authorize appropriations of funding to support additional agrivoltaic research across the country; and
- Direct NRCS to develop guidance on Best Management Practices for protecting soil health and productivity during construction, siting, and decommissioning of solar on farmland.

Preserving America's Farmland Act ([H.R. 8277](#)) is a cost-neutral bill introduced by Representative Miller (R-IL) endorsed by AFT and others that would:

- Direct USDA to study the impacts of solar development on conversion of important classifications of farmland, farm viability, land access, and more; and
- Determine the Best Management Practices needed to protect soil health during construction, operation, and decommissioning.

SOLAR Act ([H.R. 7923](#)) is a bill introduced by Representative Bost (R-IL), Representative Finstad (R-MN), Representative Langworthy (R-NY), Representative Scott (R-GA), and Representative Van Orden (R-WI) that would:

- Require USDA-funded solar projects to develop a plan and provide up-front funding to protect soil health during construction, operation, decommissioning and restoration; and
- Restrict USDA's ability to fund solar projects that convert prime, unique, and statewide or locally important farmland out of production—unless local governments provide approval.¹

¹ **Note:** While AFT seeks to minimize the conversion of productive farmland out of production and strongly supports the legislation's goals and the language requiring USDA-funded projects to protect soil health, AFT has not yet endorsed the SOLAR act. USDA's Rural Development programs are one of the main sources of funding to support renewable energy development in rural areas. Providing incentives for agrivoltaic projects and for siting solar on marginal farmland in these essential USDA programs would better align with AFT's Smart Solar principles while supporting rural development.

COMPARING SOLAR POLICY IN CURRENT FARM BILL DRAFTS, JULY 2024

Chairwoman Stabenow's Summary of the [Rural Prosperity and Future Food Security Act of 2024](#)

Conservation Title:

Section 2404:

- Clarifies that **NRCS will provide technical assistance to solar grazers.**

Section 2504:

- Directs NRCS to develop guidance on **Best Management Practices for protecting soil health** and productivity during construction, siting, and decommissioning of solar on farmland.

Research Title:

Section 7517:

- Requires USDA to **conduct a study on agrivoltaic systems** and develop a plan for USDA to support the growth of these projects.

Energy Title:

Section 9010:

- **Defines agrivoltaic systems;**
- Requires **outreach and education on agrivoltaics** in REAP and other programs administered by the Rural Utilities Service and reporting to Congress; and
- Requires USDA, in coordination with DOE, to **issue guidance on best practices for agrivoltaics.**

House [Farm, Food, and National Security Act of 2024 \(H.R. 8467\)](#)

Energy Title:

Section 9011:

- Directs USDA to **study the impacts of solar development** on conversion of productive farmland, farm viability, land access, and more;
- Directs USDA to determine the **Best Management Practices** needed for protecting soil health during construction, operation, and decommissioning; and
- Directs USDA to **study “shared solar energy and agricultural production”** (*a.k.a.* agrivoltaics) to assess best practices, best soil types, and compatibility of livestock and crop types.

Section 9012:

- **Restricts USDA's ability to fund solar projects that convert** prime, unique, and statewide or locally important farmland out of production except for smaller projects, projects under 50 acres that generate a majority of their energy for on-farm use, and projects that receive local permission; and
- Requires any solar project on productive farmland that receives local permission and USDA funding to have a **conservation plan to implement best practices** to protect future soil health and productivity during construction, operation, and decommissioning and to provide up-front funding for decommissioning, restoration, and remediation.



AFT's solar policy goals are to keep land in farming and support farm viability while accelerating the buildout of renewable energy projects across the nation. For more information on Smart Solar policy, visit [this website](#) or contact AFT's Conservation and Climate Policy Manager, Samantha Levy, at slevy@farmland.org.