Texas Smart Solar℠ Survey Report

As we continue to develop our Smart Solar Initiative in Texas, American Farmland Trust (AFT) wanted to hear directly from Texas farmers, ranchers, and landowners to understand their perspectives on solar development and farmland. Our goal in conducting this survey is to inform our future work by better understanding and then addressing the interests, needs, and concerns of these land stewards. This survey targeted agricultural producers and landowners across Texas with a variety of outreach methods (e.g., partner support, emails, social media, newsletters, etc.) in both English and Spanish and was open for a six-week period in the Fall of 2024, receiving nearly 200 responses from all parts of the state. In addition, we conducted follow-up interviews in the Spring of 2025 with a diverse group of eight respondents to further explore and bring context to the survey results.

Participants shared their views on support for and the impacts of solar development, agrivoltaics (dual-use), solar leasing, off-farm solar, and financial incentives. The survey also explored preferences for siting practices and locations, trusted sources of information, and impacts of solar development on land access. By highlighting these perspectives, the findings provide a critical foundation for facilitating thoughtful solar expansion that benefits rural communities, supports farm viability, and safeguards land well-suited for farming.

Here are some terms used throughout this survey:

Off-farm solar - solar projects built on the farm that generate income through landowner lease payments and produce power for off-site use.

Solar projects - ground-mounted solar panels on farm or ranchland in Texas.

Agrivoltaics (dual use) - projects that sustain agricultural production underneath and/or between rows of solar panels throughout the life of the project.

Key Findings

Overview of respondents:

89 counties represented

73% are under 65 years of age

64% have 10+ years farming experience

Most are either landowners (36%) or farm/ranch owner-operators (36%)

Majority of operations under 500 acres

Primary production led by beef (55%) and hay (31%)

- Support for solar development on agricultural land is nearly evenly split, with 49% in favor, 41% opposed, and 9% conditionally supportive—often contingent on maintaining agricultural production and focusing development on marginal land.
- Farmers are concerned about impacts on agricultural productivity (57%), land access for tenant farmers (55%), and long-term farmland preservation (49%), but also see agrivoltaics as a way to keep land in agricultural production.
- Impacts and challenges for tenant farmers were geographically dependent, with some identifying the reduction in land availability and increased rents near solar projects, while others see land fragmentation, development, and generational succession as greater challenges.

- Many farmers see solar leasing as a means for supplemental income and a way to support their ability to continue operating, but lack information and trusted resources to understand those opportunities. Specific information respondents lack regarding solar leasing includes:
    - *financial costs and benefits*
    - *agrivoltaics options*
    - *legal advice on lease agreements and landowner options*
    - *end of project decommissioning and site restoration*
    - *impacts on farmland soils over time*
- While there is considerable interest in services and information to help make decisions about solar leasing and agrivoltaics, traditional farming organizations and government agencies (e.g., USDA, Extension, Texas Department of Agriculture, etc.) are not seen as trusted sources of information on this issue.

Recommendations

1. **Prioritize siting solar development on low-conflict land:** Guide solar development to marginal or non-prime agricultural land using data and mapping tools (e.g., AFT, TNC, TPWD, etc.) to minimize conflicts with farming and conservation goals.
2. **Support tenant farmers through agrivoltaics:** Promote agrivoltaics that allow for continued agricultural use of the land, helping tenant farmers maintain access and reducing disruption to rural farm economies.
3. **Incentivize agrivoltaic project design:** Encourage solar developers and policymakers to design projects from the beginning that integrate agricultural infrastructure and practices into site designs, using incentives and clear definitions to support adoption.
4. **Improve agrivoltaics education for agricultural producers and landowners:** Develop resources and guidance for those interested in pursuing agrivoltaics opportunities.
5. **Improve solar lease education for landowners:** Provide clear, accessible resources on the legal, financial, and land-use implications of solar leases. Promote peer learning, model lease templates, and provide landowner education to reduce risks and ensure leases support landowners' long-term goals and strengthen farm viability.
6. **Train agricultural and conservation professionals on solar integration:** Build the capacity of agricultural and conservation professionals to guide farmers and ranchers on integrating solar in ways that protect soils, preserve agricultural use, and strengthen operations.

Conclusion

As Texas continues its rapid growth, solar energy development is just one of the many challenges agricultural producers and landowners face across the state. This survey reveals a complex but consistent message: **Texans are not fundamentally opposed to solar, but they want it done right.**

Whether siting projects on less productive, marginal farmland or incorporating agrivoltaics, solar development can provide opportunities to keep land in agriculture and sustain farming operations. However, there is an information gap that needs to be addressed so that solar expansion can have better outcomes for agricultural producers, landowners, and rural communities.

As a state with the most farms and utility-scale solar development, Texas has an opportunity to ensure both can support one another. We need both renewable energy and thriving farms, and Texas can be an example of how to achieve these mutual benefits for a prosperous future.

American Farmland Trust
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LEARN MORE

To read our full report, "Texas Smart Solar Survey: Findings and Recommendations", visit farmland.org/solar

If you'd like to connect with a member of our team, you can reach out to Garrett Bader, gbader@farmland.org