Solar and Storage Industries Institute

Rural Perspectives on Large Scale Solar

Report summary of survey results

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Introduction

Understanding Community Support For Large-Scale Solar

Research and Purpose:

- As demand for clean energy rises and large-scale solar development is accelerating for communities across the nation, effective community engagement around large-scale solar (LSS) siting is becoming especially critical.
- To better understand these perspectives, the Solar and Storage Industries Institute (SI2), in partnership with researchers at the University of California, Santa Barbara (UCSB), conducted one of the largest national surveys of rural residents living near existing, planned, or likely future large-scale solar projects.
- This survey was conducted as part of a research program supported by the U.S. Department of Energy Integrated Energy Systems Office.
- Results identify several clear drivers of community support for large-scale solar development that serve as especially important takeaways for developers, utilities, policymakers, and local stakeholders.

Understanding Community Support For Large-Scale Solar

Why This Research Matters:

- There is little consensus around what specific strategies and approaches are effective for garnering community support for large-scale solar.
- This gap means that developers and communities alike lack clear, evidence-based approaches to effective community outreach around large-scale solar siting.
- As a result, community concerns may go unheard while developers take on costly, often ineffective outreach efforts.
- Results show that rural residents are significantly more likely to support large-scale solar projects when they lower electricity bills, lead to investments in local infrastructure, and preserve existing land uses through strategies like agrivoltaics.

Our Approach:

- Survey questions covered a range of topics related to Community Benefit Agreements (CBA), a mechanism commonly used to deliver benefits to host communities. Respondents were also asked about site design considerations, such as agrivoltaics, the co-location of solar and agriculture.

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Key Findings

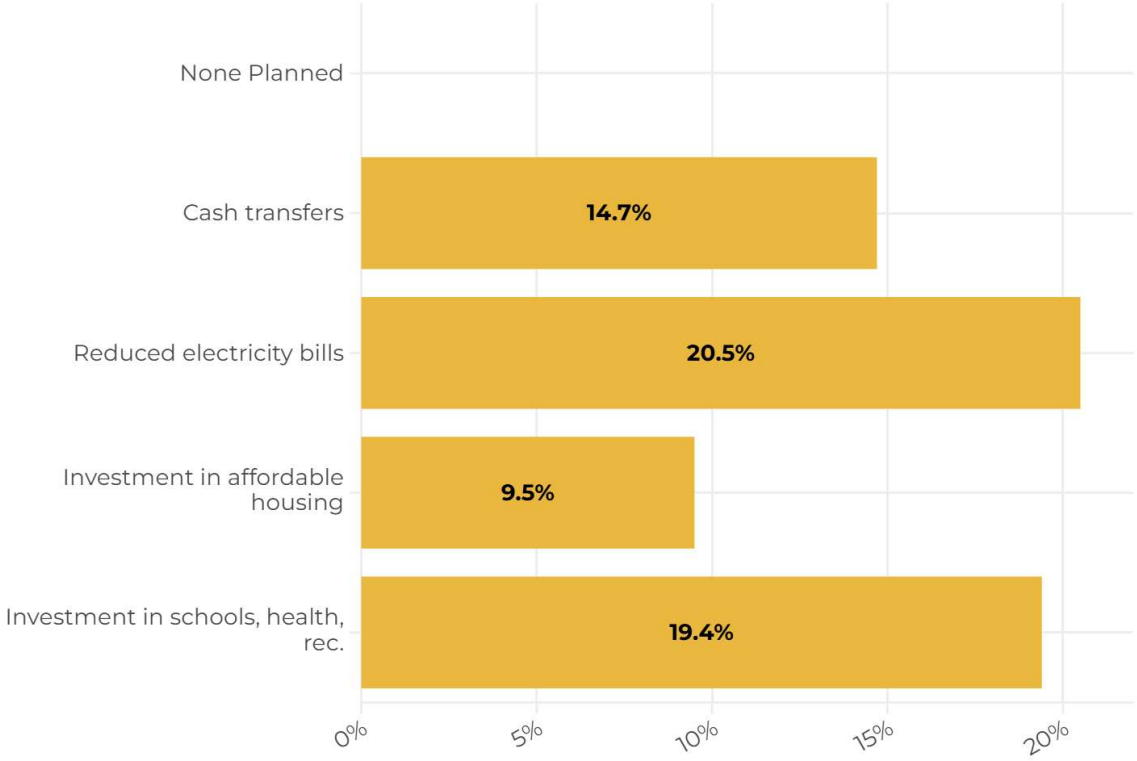
Electricity bill savings are the strongest driver of support.

Respondents were **21% more likely to support projects that reduce household electricity bills**, preferring this over all other options, including direct cash transfers.

Given that LSS projects generally connect to the bulk electric grid, this finding suggests that **solutions that lower electricity bills for residents of communities that host large energy projects could lead to greater local support.**

CBA Components (Compensation)

Compensation change in popularity relative to "none planned"



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Local community investments matter.

Respondents were **19% more likely to support projects that included investments in local infrastructure,** reinforcing the importance of visible, community-level benefits.

Programs that allow stakeholders the broad ability to pass on project benefits to the local communities in the **form of infrastructure and other local benefits are likely to lead to greater local support for large energy projects**.

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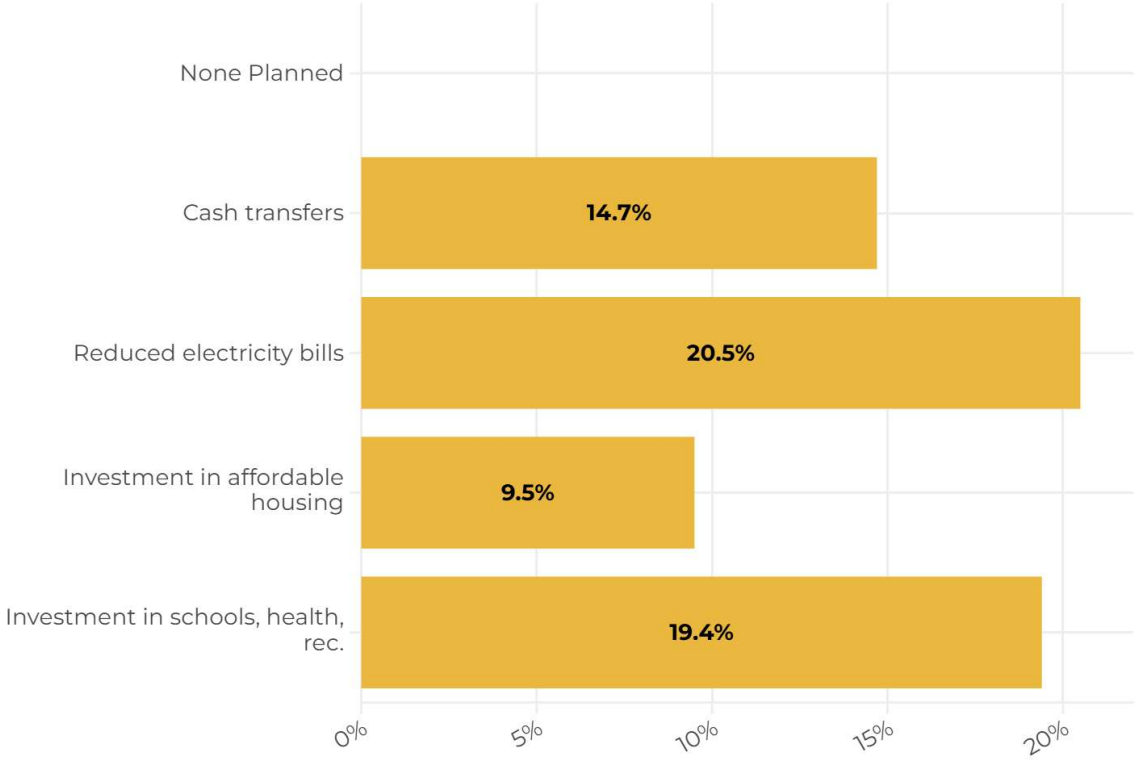

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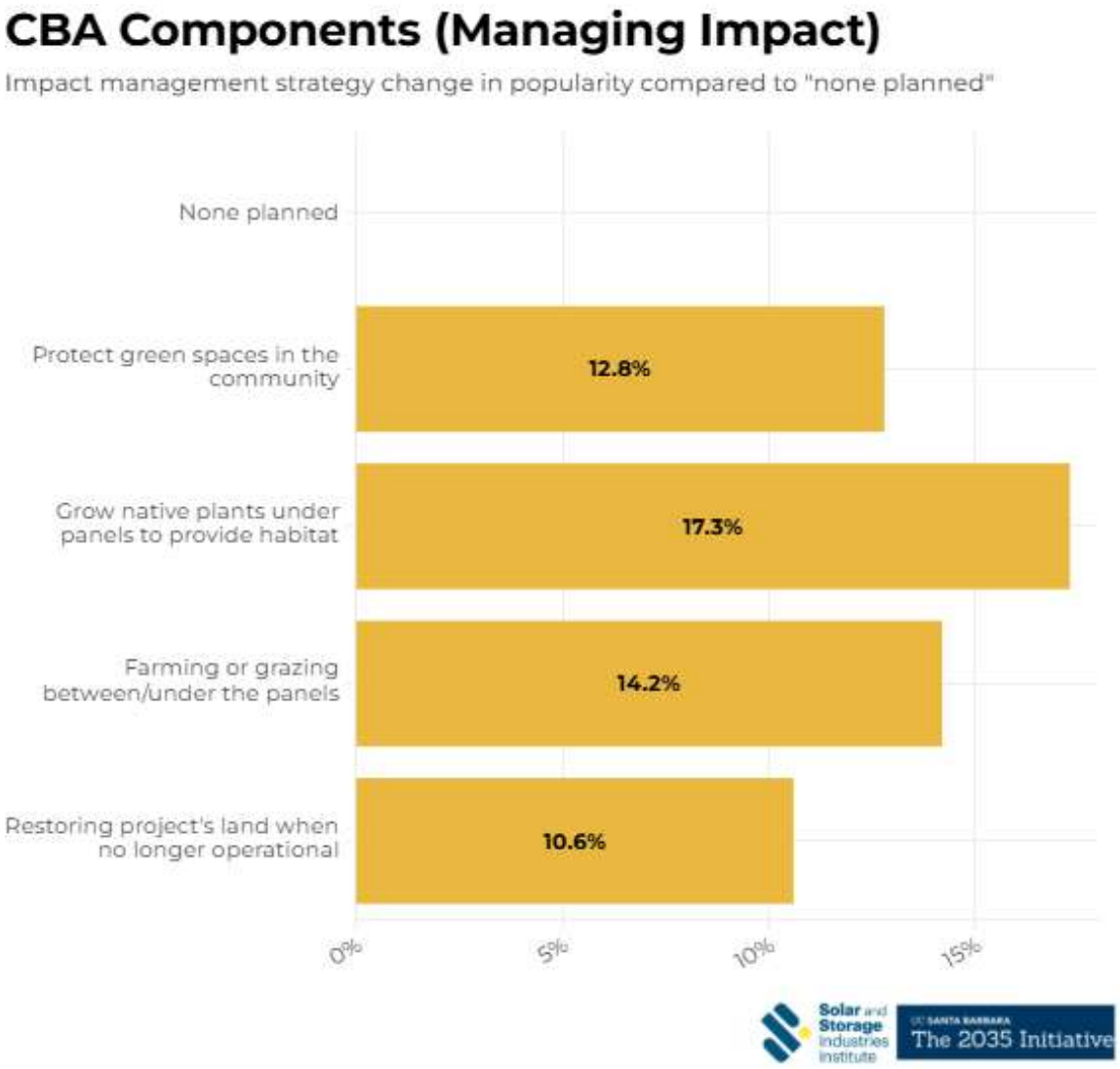
Agrivoltaics & active land stewardship practices significantly increase support.

Respondents had strong preferences for projects that maintained, restored or supplemented the existing project landscape in some way. **Projects that allow farming or grazing alongside solar panels received substantially higher support than those that replace farmland.**

Recognizing that agrivoltaics is not suitable in every situation, this finding suggests that research and education activities should be focused on addressing barriers to **agrivoltaics and beneficial land stewardship practices, which could ultimately lead to project designs that engender more community support.**



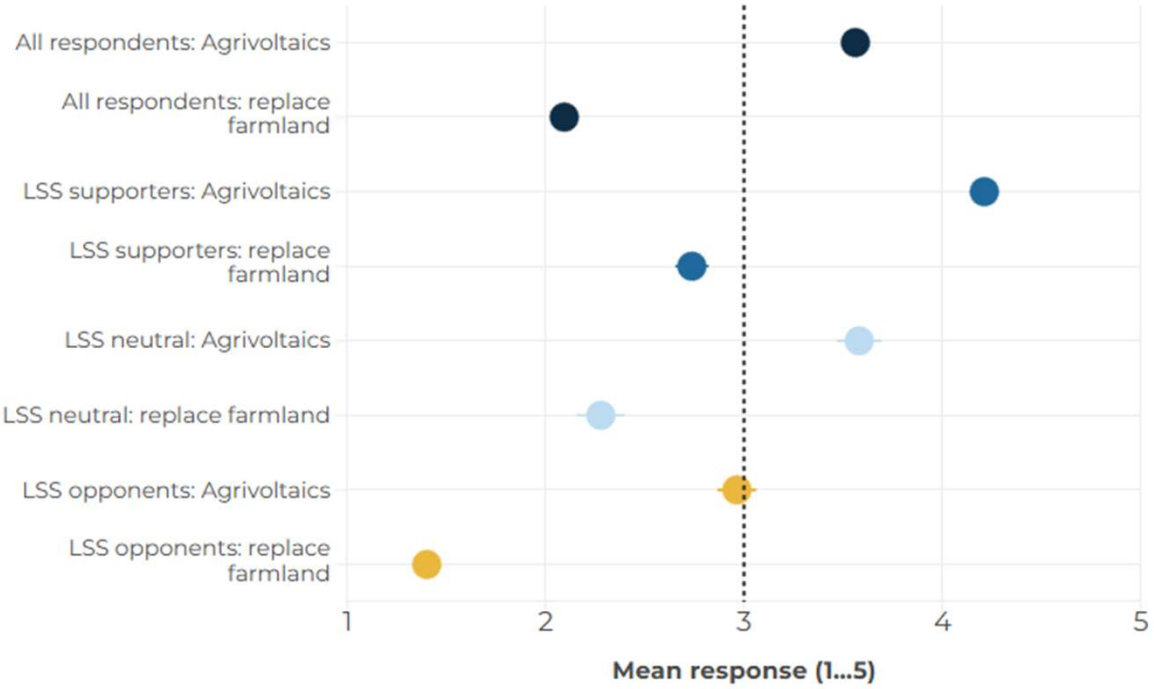
Among respondents initially opposed to LSS:

Agrivoltaic project designs shifted attitudes from opposition to a neutral position.

Findings suggest that agrivoltaics could help opponents feel more comfortable with LSS. **Research and other activities that lead to greater community understanding of agrivoltaics and land stewardship practices could lead to improved community support for LSS projects, even among local skeptics**.

Effect of Agrivoltaics Framing on Attitudes Towards LSS

1 = Much more negative, 5 = Much more positive



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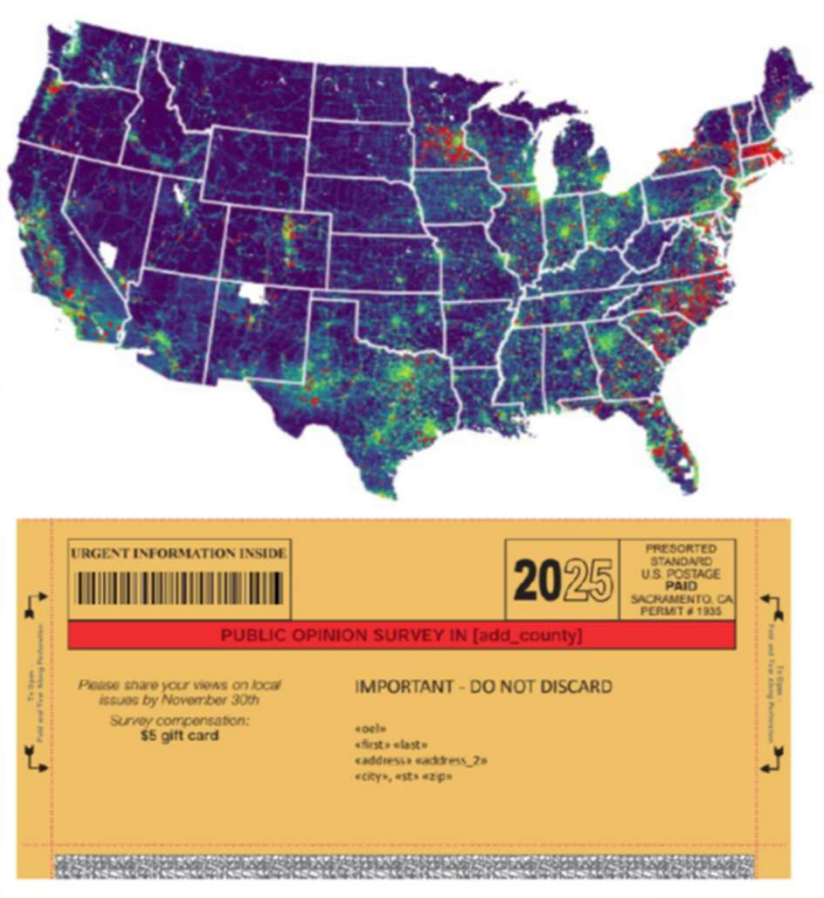
Survey Methodology

Sampling Approach

- Mail-to-web methodology
- 3 strata, proximity to:
  - Ealy-stage solar projects
  - Late-stage solar projects
  - High-potential for LSS
- Randomly sample ~37,000 from each stratum
- Respondent compensation: $5
  - + 1:500 odds draw for $250
- 112,000 invitations sent
- Data collection: Oct. 28 – Nov. 30, 2025
- Additional methodological details available at: www.2035initiative.com/surveying-clean-energy-communities



Sample Characteristics

5,193 respondents

~3,800 completed full survey

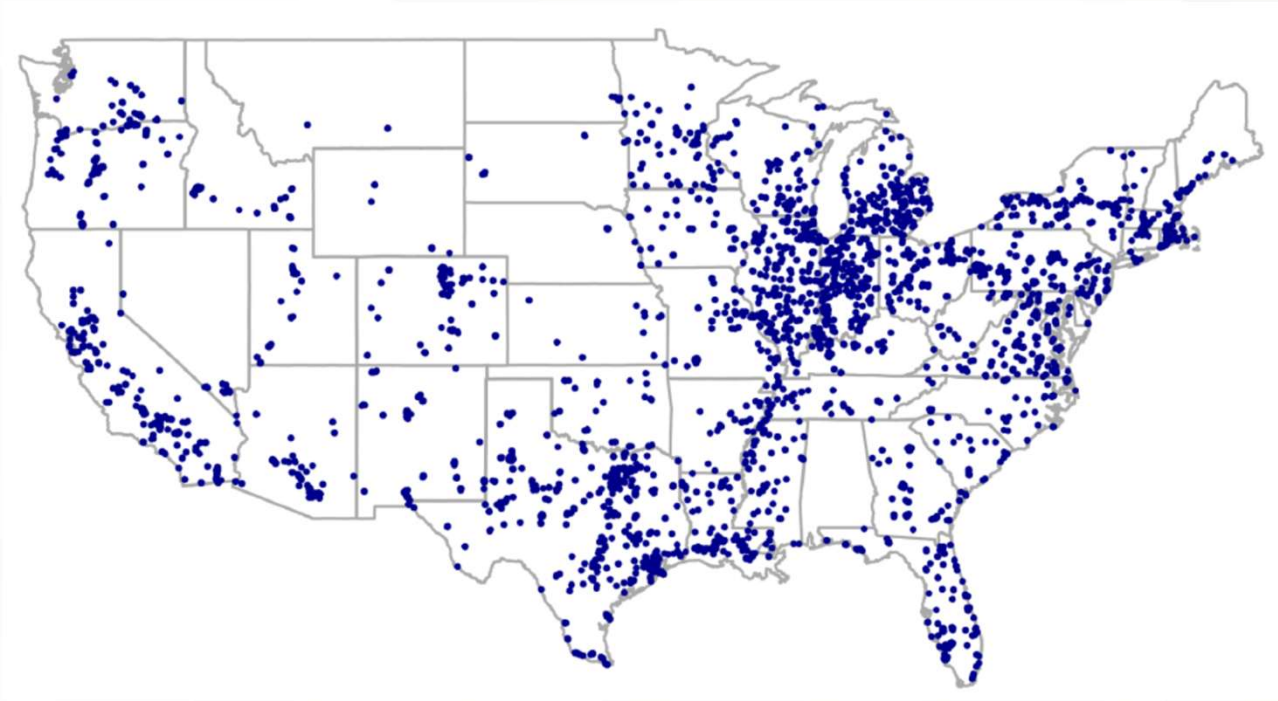
- 85% agreed to be recontacted

4.6% response rate (3.4% for survey completion)

Across 47 states

Stages of development:

- 33.5% early stage
- 32.3% late stage
- 34.2% high potential areas



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Conclusion

A Roadmap for Community-Supported Solar Development

- The findings from this research show that community support for large-scale solar development is strongly tied to whether projects deliver clear and meaningful local benefits.
- Rural residents are more likely to support projects that lower electricity costs, invest in local infrastructure, and preserve existing land uses through approaches such as agrivoltaics and active land stewardship.
- As electricity demand continues to rise and new energy sources are deployed across the country, this research highlights opportunities for decision makers to better align large-scale solar deployment with the economic and land-use priorities of rural communities.

Implications and Next Steps

- Reducing electricity bills, delivering local benefits, and incorporating innovative designs are key drivers of large-scale solar project development and community engagement.
- Based on these findings, solutions that address the following could lead to greater host community support for large energy projects:
  - **Electricity bill savings emerged as the strongest driver of support.** Programs that pass on bill savings directly to residents of communities that host large energy projects are likely to increase local support for that project.
  - **Local community investments also significantly increased support.** The removal of barriers that limit investments in local communities would likely lead to greater levels of community support. Additionally, the creation of new pathways that enable greater flexibility in distributing local investments would likely engender more community support.
  - **Agrivoltaics and active land stewardship practices significantly improved perceptions of solar development.** Recognizing that agrivoltaics is not suitable in every situation, additional research and education that addresses barriers to agrivoltaics from multiple stakeholder perspectives could lead to project designs that are more likely to receive broad host community support.


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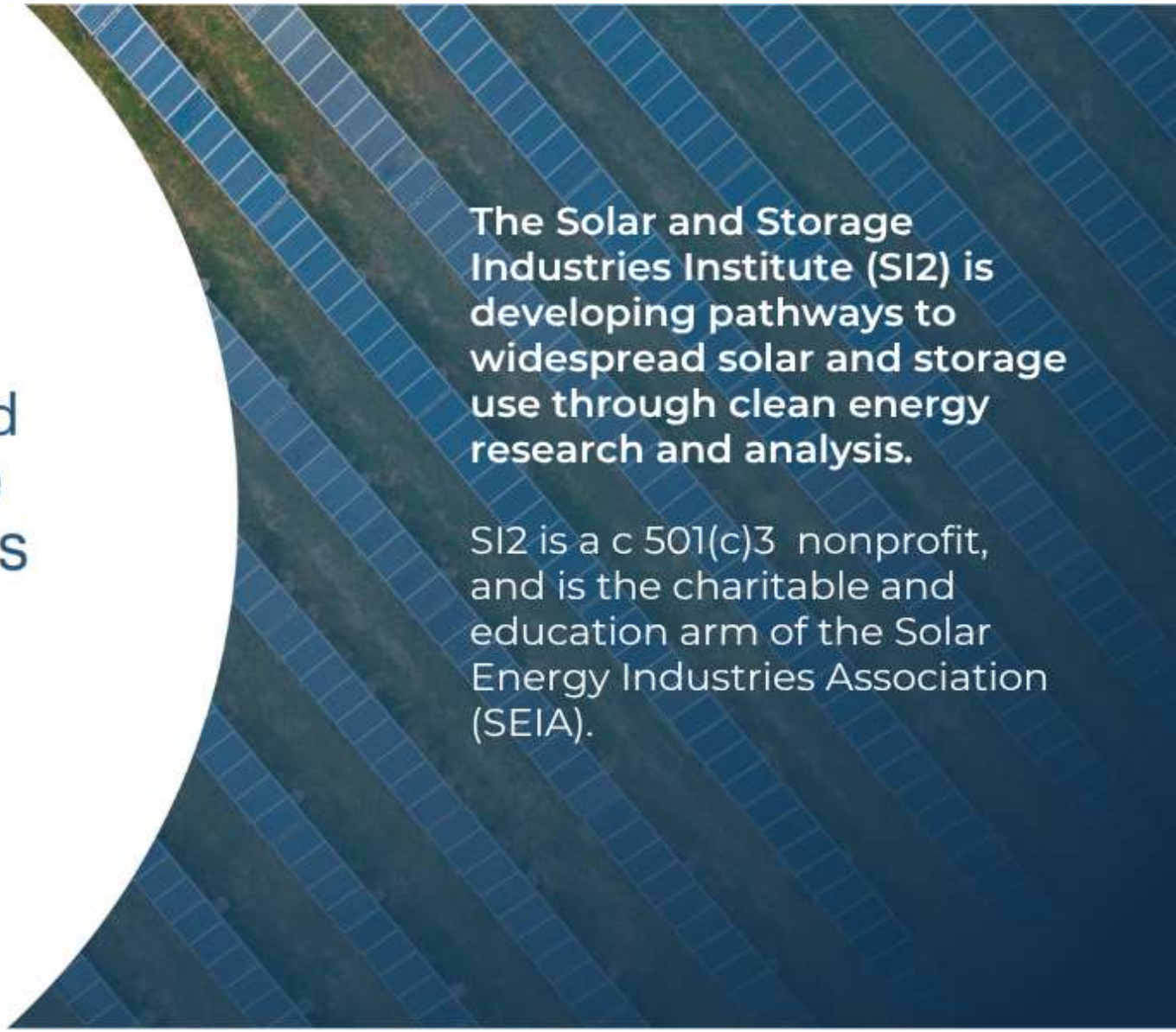

The Solar and Storage Industries Institute (SI2) is developing pathways to widespread solar and storage use through clean energy research and analysis.

SI2 is a c 501(c)3 nonprofit, and is the charitable and education arm of the Solar Energy Industries Association (SEIA).