What to Expect When You're Expecting Engagement: Delivering Procedural Justice in Large-Scale Solar

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National Council on Electricity Policy
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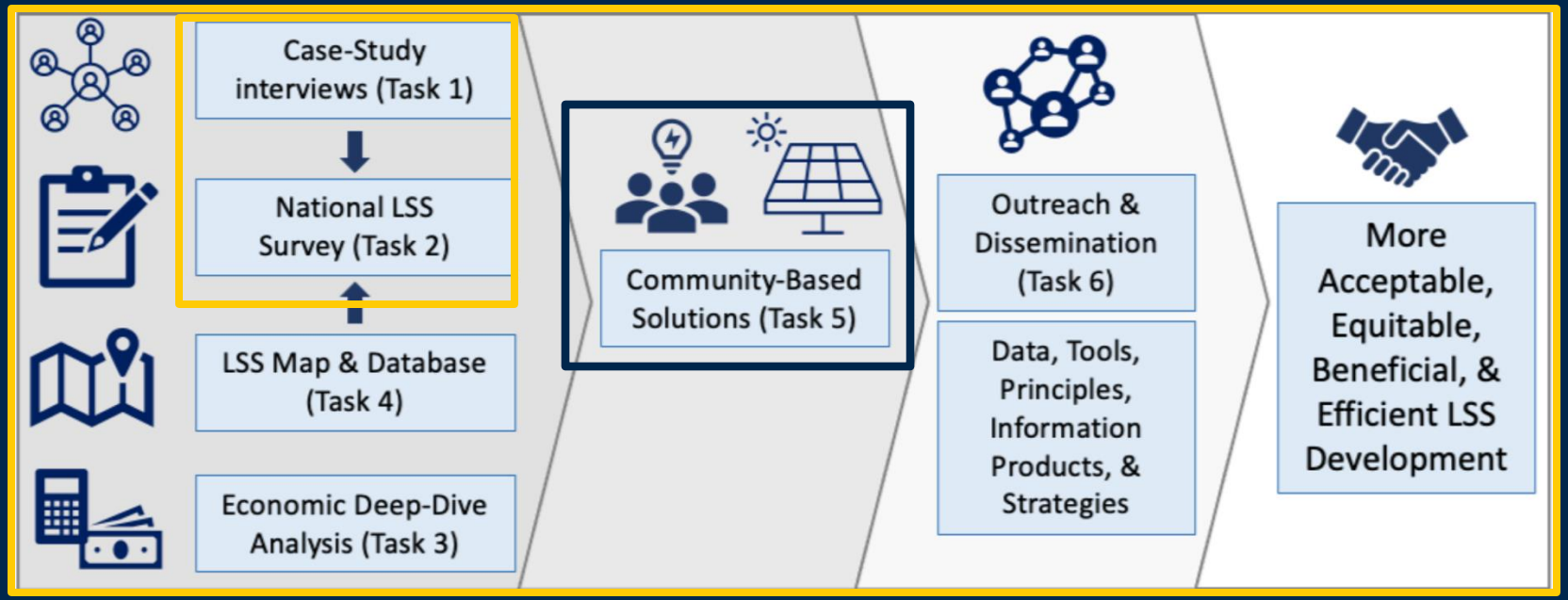
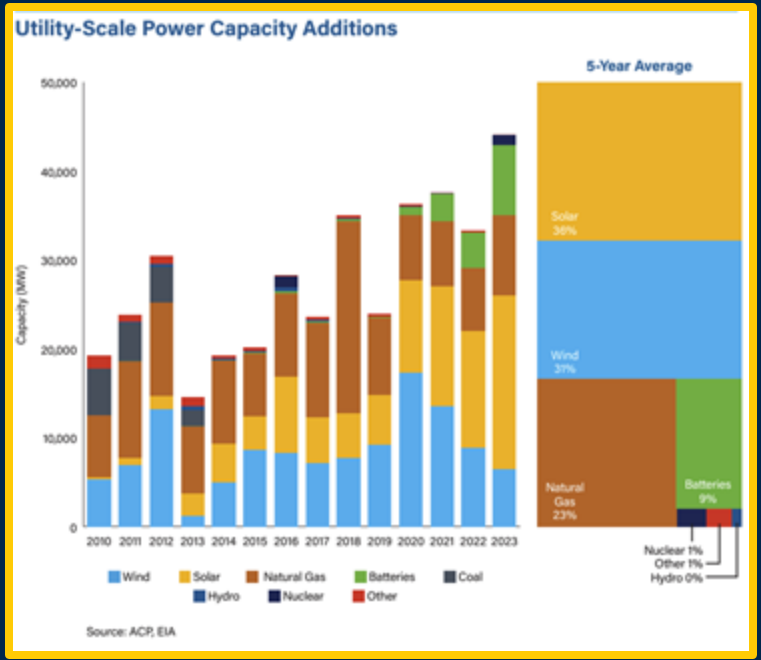
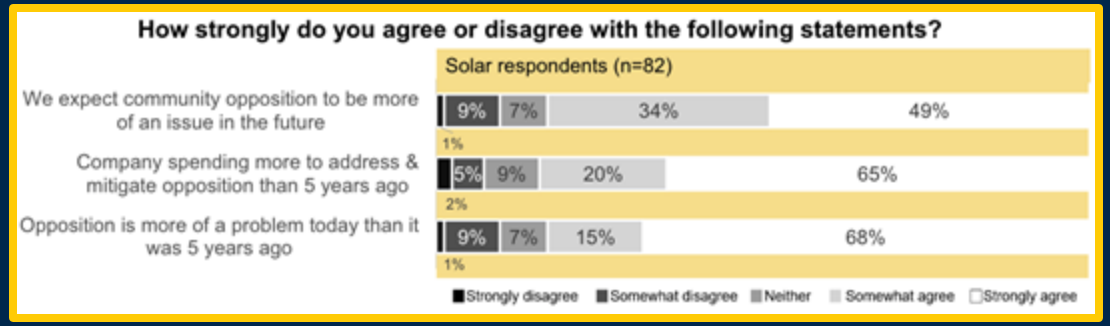
Community Centered Solar Development



Solar PV capacity is rapidly expanding while developers anticipate increasing opposition



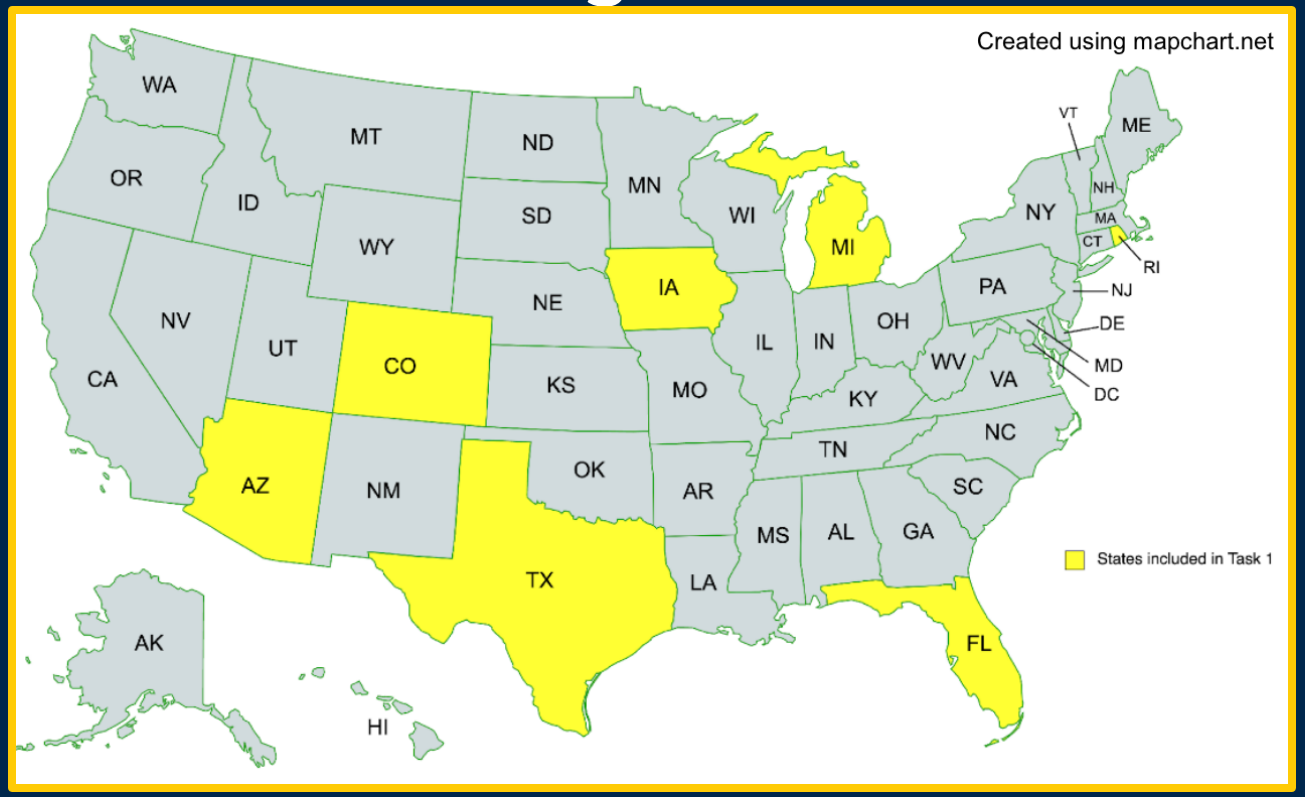
Large-scale PV solar accounts for the largest percent of capacity additions over the last 5 years



Survey of 123 U.S.-based renewable energy developers from 62 companies

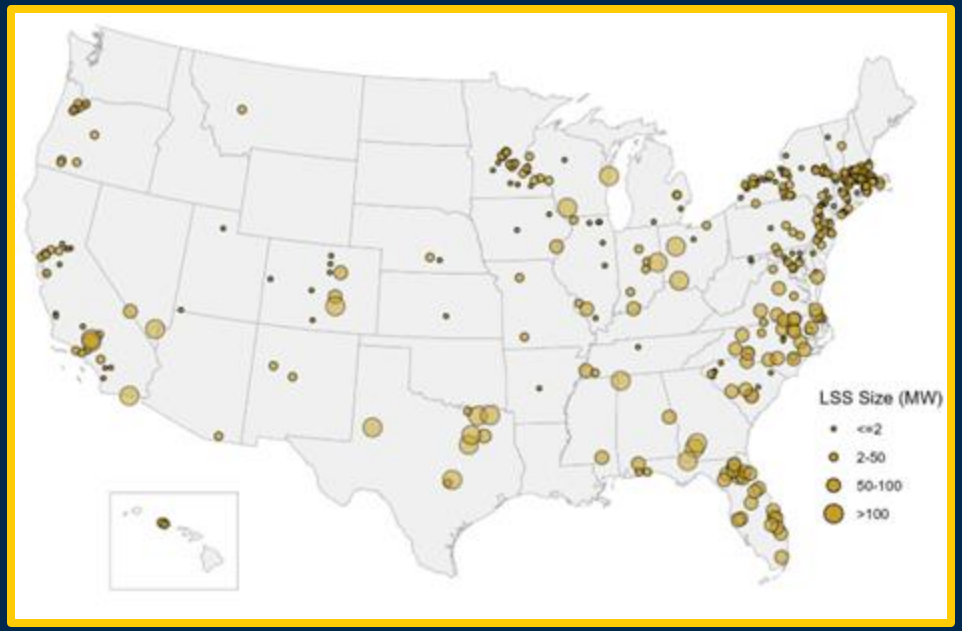
-American Clean Power. Clean Power Annual Market Report 2023. March 7, 2024. https://cleanpower.org/news/market-report-2023/
-Nilson, Robi, Ben Hoen, and Joseph Rand. "Survey of Utility-Scale Wind and Solar Developers Report," January 18, 2024. https://escholarship.org/uc/item/1w00h67w.

Case Study Interviews of Large-Scale Solar (LSS) neighbors

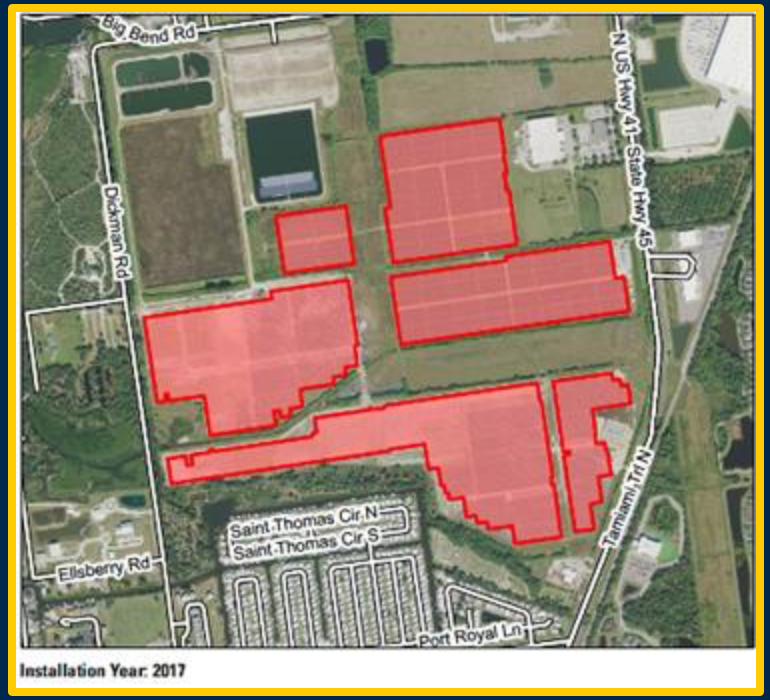


Locations of case study interviews.

Survey of Large-Scale Solar (LSS) neighbors



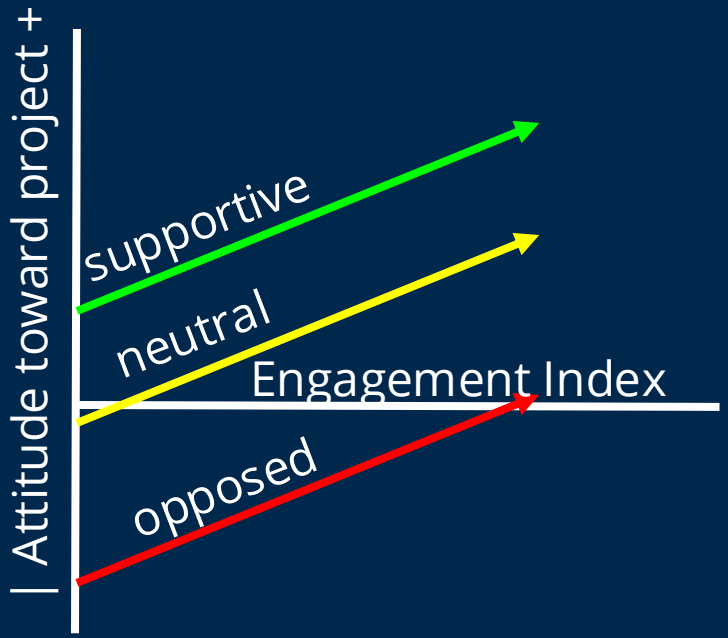
Solar projects represented in survey responses



An example image of a solar project included in survey invitation letters

Map image source: Joseph Rand, LBL 2024

Increasing engagement is associated with more positive attitudes; even among those who acted in opposition to the project.



OLS Regression
Adjusted R-Squared: .57
n=230

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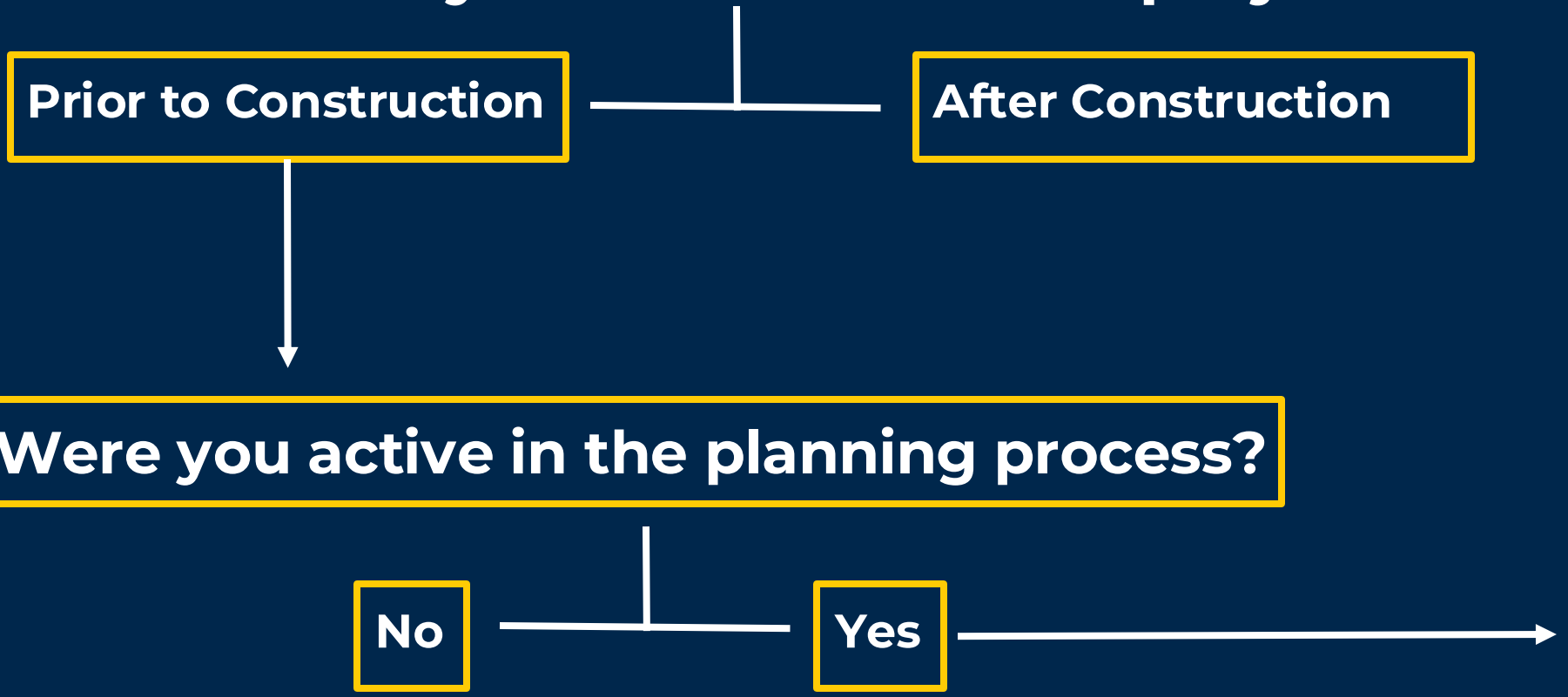
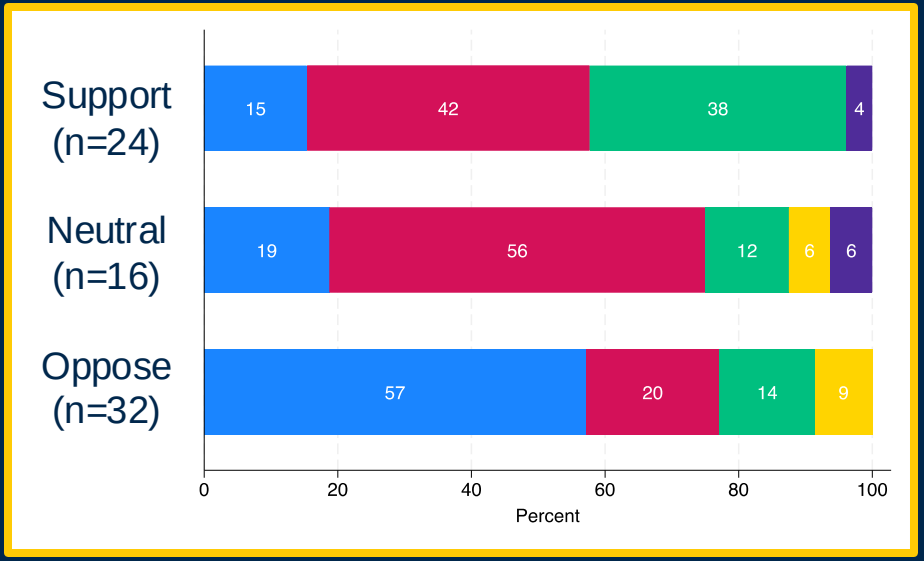
How do solar neighbors' perceptions of community engagement compare to their expectations?

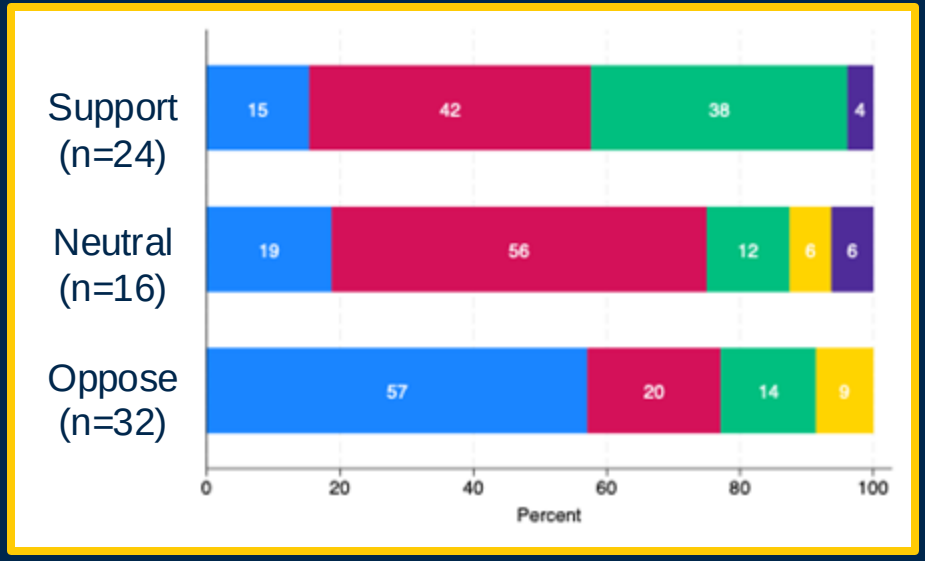
When did you learn about the project?



How were the public engaged in decisions about the project?



Which is the most appropriate way to engage the public in decisions about solar projects?



Most of the public (was) /need not be (un)aware	Public (was just)/ should be (kept) informed	Public (should) provide(d) input	Public (should) recommend(ed) decisions	Public (should) made/make decisions

Less Engagement ⟷ More Engagement

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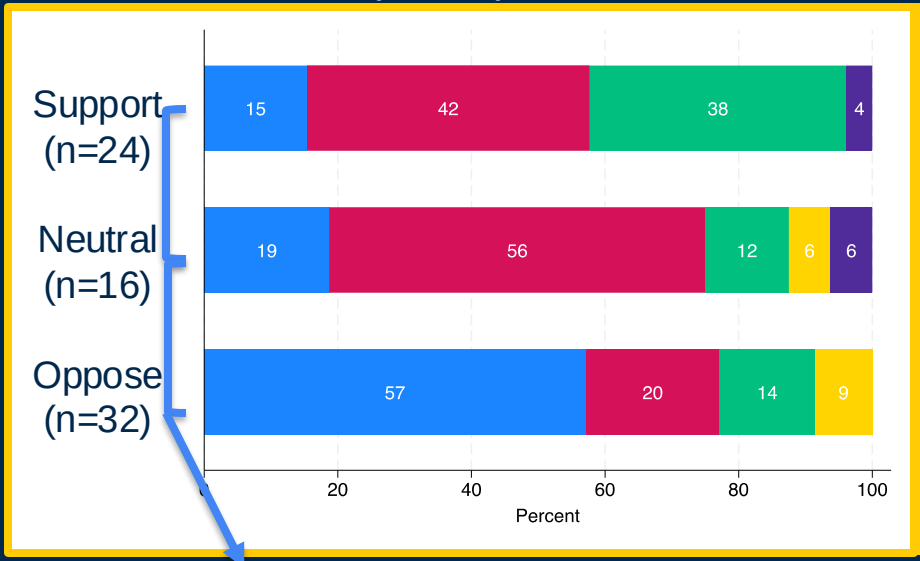
How were the public engaged in decisions about the project? (n=72)



Most of the public was unaware

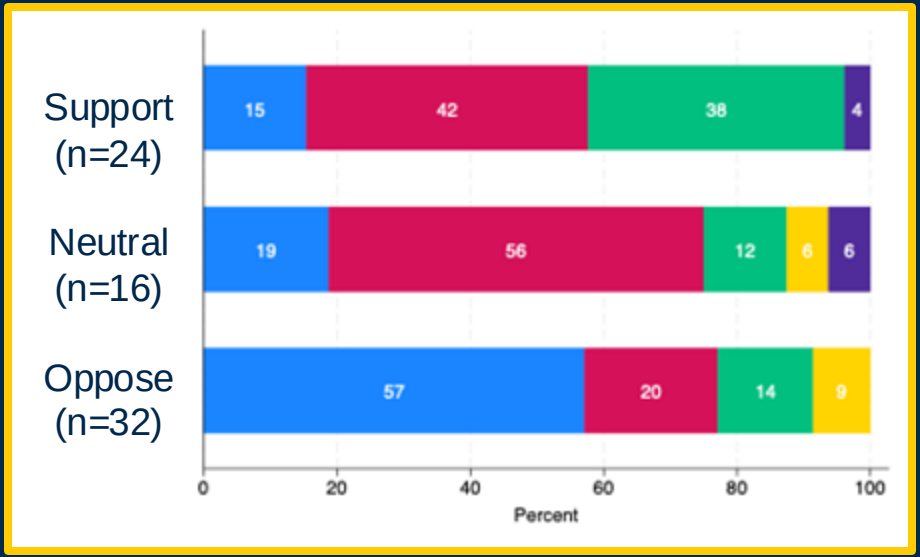
When did you first learn about the solar energy project on the map? (n=864)

Only 10% knew prior to construction

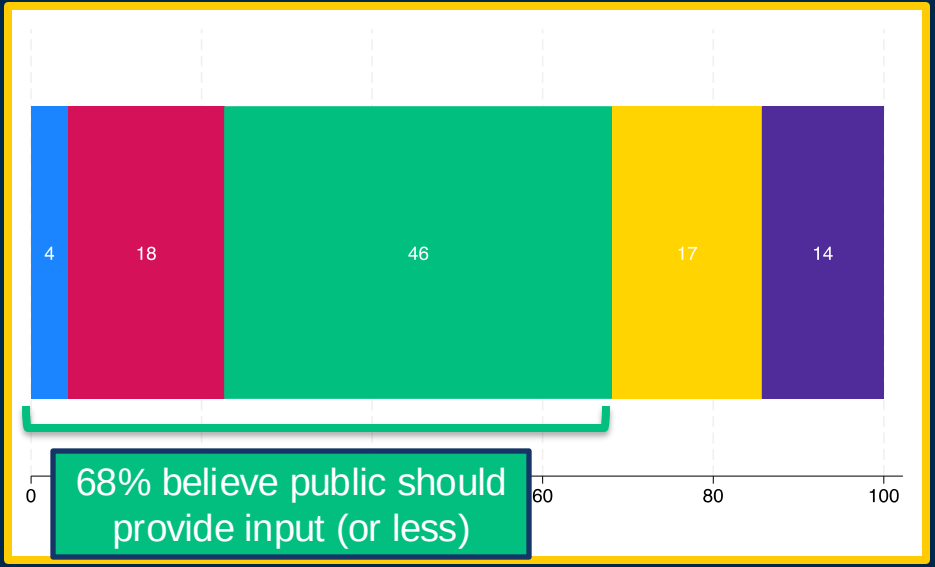
90% of the public were unaware before construction began

Which is the most appropriate way to engage the public in decisions about solar projects?

Active in Planning (n=72)



All Respondents (n=926)



Most of the public need not be aware	Public should just be kept informed	Public should provide input	Public should recommend decisions	Public should make decisions

Less Engagement → More Engagement

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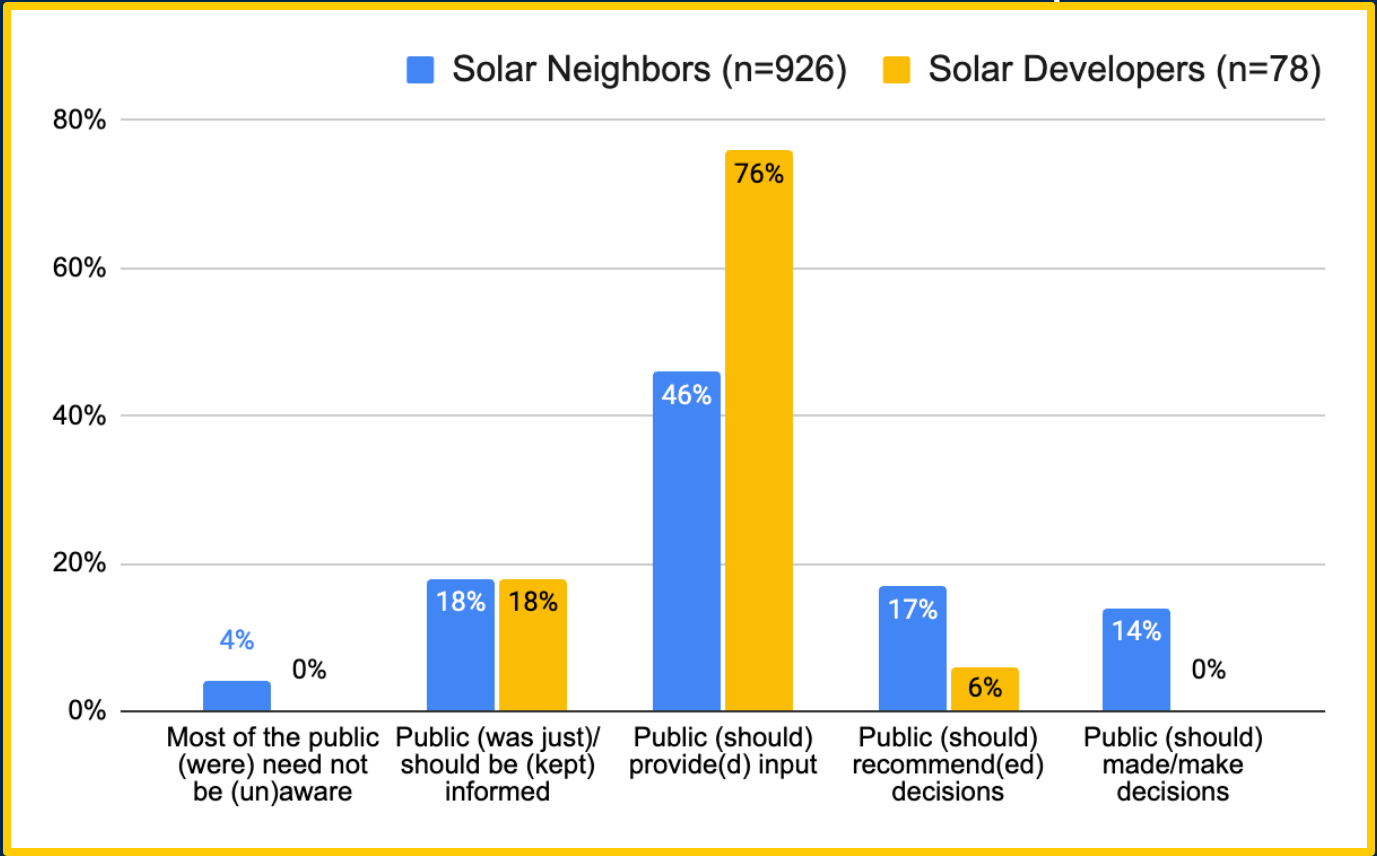
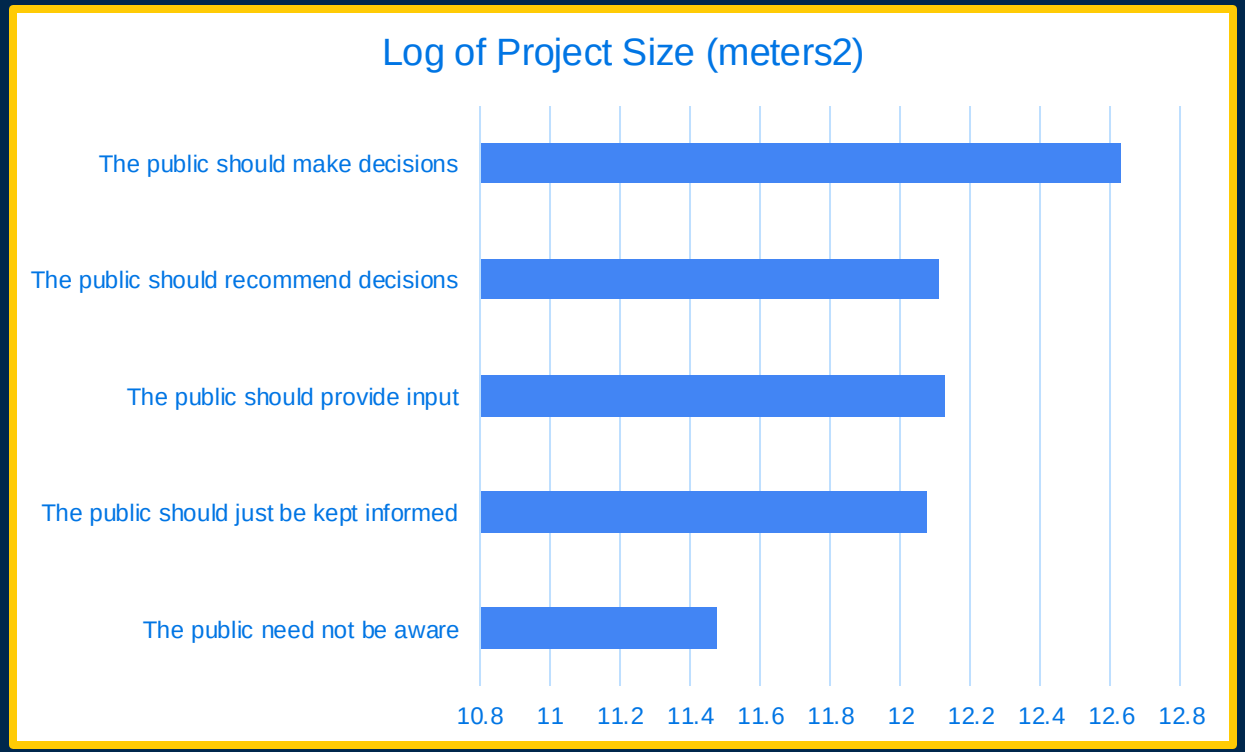
Nearly ½ of Neighbors and ¾ Developers believe the Public "Should Provide Input."



Nilson, Roberta, Ben Hoen, and Joseph Rand. "Survey of Utility-Scale Wind and Solar Developers Report." Berkeley, CA: Lawrence Berkeley National Laboratory, 2024. https://emp.lbl.gov/publications/survey-utility-scale-wind-and-solar.

Expectations are higher for Neighbors near the biggest projects



Awareness

- Solar Neighbor: “I'm all for solar projects, however living very close to the referenced project, I wasn't aware of any of the details surrounding it. More public communication would be nice” - R1070

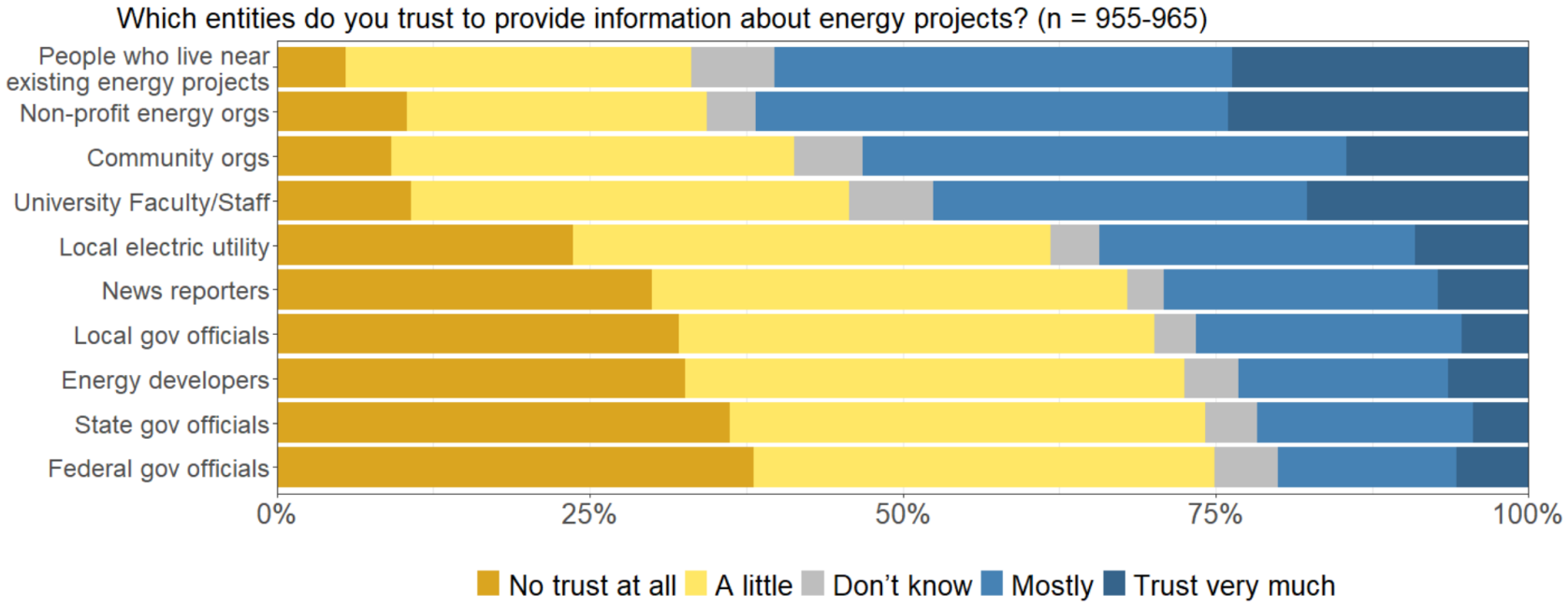
- An official in Texas: “We had a bajillion meetings with the community,...[but] there are always people who didn’t, ‘I never heard about this, why didn't you ask me, why didn't you tell me?’” (45)

Access to Information

- Solar Neighbor: “I wasn’t told anything about it… no person came to my house to fill me in. I’m pissed that my neighbor was one of the owners of the fields and he couldn’t even come TALK to me” (R855)

- Residents who had direct engagement with developers appeared to perceive projects more favorably (5, 7, 34, 38, 53, 9, 10, 4). A business owner adjacent to a project in Florida appreciated the developer stopping by and personally introducing themselves prior to development (26)

Energy project neighbors, non-profit orgs, and university staff are most trusted sources of information; government officials and developers are least trusted



Opportunity to Engage

- “There were no public meetings and no information ahead of time… [The] state is forcing solar on people without any input” (R4338).

- “Many laws were written to encourage solar and reduce the input of abutters… lots of money came in from out-of-state to snap up the easiest sites … Ten years later, we have anti-solar activists in the state government actively blocking all renewable projects” (R2455).

- “Small towns do not have [the] state to monitor what developers do! So, developers get away with what they want” (R3033).

Ability to Affect Outcome

- “I felt that the attitude of the city was, ‘this project is going in. We are just gonna listen to these yokels from the boonies spout off until they’re done and then push this baby through” (R869).

- When not acted on, residents feel their feedback is ignored:
  - “They pretended to address my concerns, then just didn't do anything.” (R2573)

  - A landowner and cattle rancher in Arizona urged the developer and planning commissioners to not plant oleander as a vegetative screen, as oleander can be toxic to livestock. Nevertheless, oleander was planted. (12)

Overall Engagement

- "I believe it is no one's business where or who does solar projects. It's between the landowner and the supplier. If a company buys land that is for sale, it's their land. I don't think anyone need to say what can and can't be done with the land they own or rent.” (R4349)

- “Public should make decisions … Not the state govt. making decisions on their own without the public's opinion first."

Limitations

- Our sample only included projects that were completed.
- Perceptions and expectations of engagement among supportive and opposed respondents could reverse for projects that were cancelled.

Our Related Publications

- Bessette, Douglas L., Ben Hoen, Joseph Rand, Karl Hoesch, Jacob White, Sarah B. Mills, and Robi Nilson. “Good Fences Make Good Neighbors: Stakeholder Perspectives on the Local Benefits and Burdens of Large-Scale Solar Energy Development in the United States.” Energy Research & Social Science 108 (February 1, 2024): 103375. https://doi.org/10.1016/j.erss.2023.103375.

- Nilson, Robi, Joseph Rand, Ben Hoen, and Salma Elmallah. “Halfway up the Ladder: Developer Practices and Perspectives on Community Engagement for Utility-Scale Renewable Energy in the United States.” Energy Research & Social Science 117 (November 1, 2024): 103706. https://doi.org/10.1016/j.erss.2024.103706.

- Rand, Joseph, Karl Hoesch, Sarah Mills, Ben Hoen, Robi Nilson, Doug Bessette, and Jake White. “Perceptions of Large-Scale Solar Project Neighbors: Results From a National Survey,” 2024.

- Hoesch, K., Mills, S.B, Rand, J., Nilson, R., Bessette, D.L., White, J., Hoen, B. (2024). What to Expect When You’re Expecting Engagement: Delivering Procedural Justice in Large-Scale Solar. (In review Energy Research & Social Science)

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Thank you!

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More Information:

- Visit https://communitycenteredsolar.lbl.gov/
- Sign up for our newsletter: https://emp.lbl.gov/

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Appendix

Appendix: Summary Statistics of Community Centered Solar Development Survey

Demographic Summary Statistics

Gender:	
Male	53%
Female	44%
Other / Prefer not to say	2%

Income:	
< $25,000	6%
$25,000 - $49,999	17%
$50,000 - $74,999	15%
$75,000 - $99,999	17%
$100,000 - $149,999	22%
$150,000 - $199,999	12%
$200,000 - $249,999	4%
$250,000 or more	7%

Age:	
Min	20
p25	49
Median	63
Mean	61
p75	73
Max	96

Employment Status:	
Full-time	44%
Part-time	4%
Retired	43%
Homemaker	3%
Other / unemployed	5%

Race:	
White	80%
Black / African American	5%
Asian	5%
Am. Indian / AK native	1%
Hispanic	6%
Other	3%

Education:	
High School	20%
Some college	26%
College degree	50%
Mast. / Prof. / Doc.	3%

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