

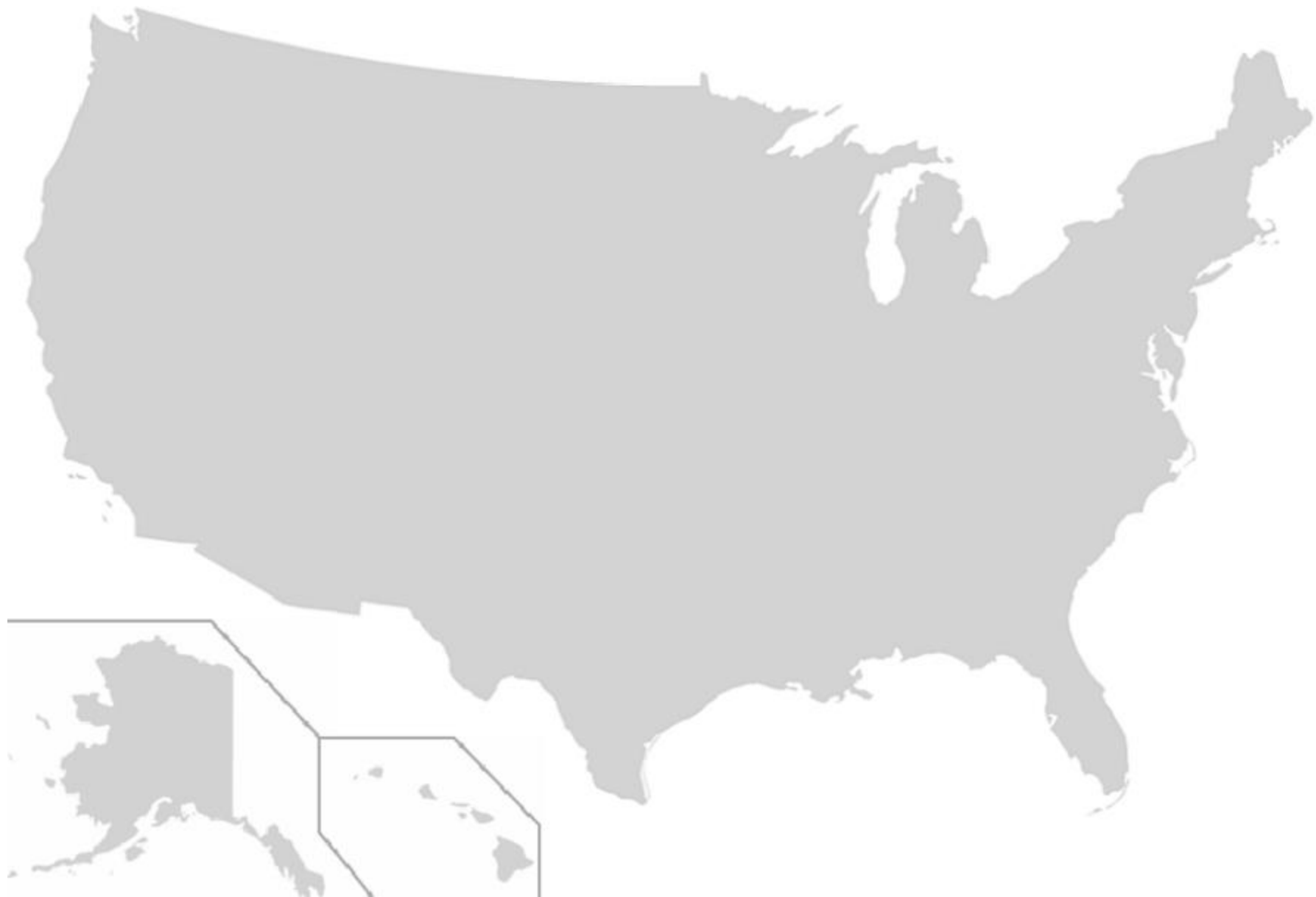


Tribes and Clean Energy Policy Opportunities

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United States of America



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<https://www.bia.gov/cs/groups/webteam/documents/document/idc1-028635.pdf>

Presentation Focus and Roadmap

- State policy opportunities
 - Solar financial incentives
 - Aggregated net metering
 - Community solar
- Tribal policy opportunities
- The Future

How impactful is state policy?

Renewable Portfolio Standards

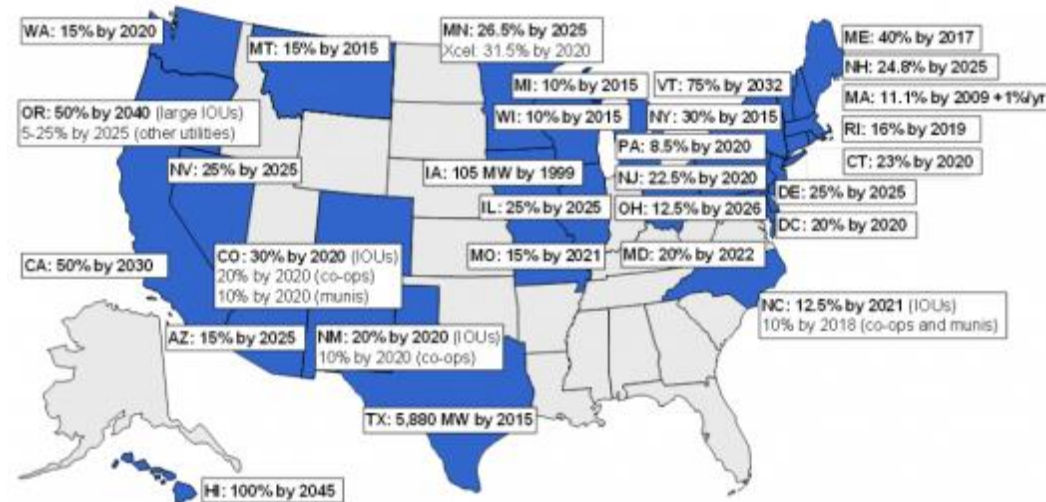
Mandate renewable energy generation for state load

- Impacts

- RPS policies apply to 55% of U.S. retail market
- These policies have driven 60% of the RE market since 2000
- These policies may support an additional 60 GW of renewable capacity

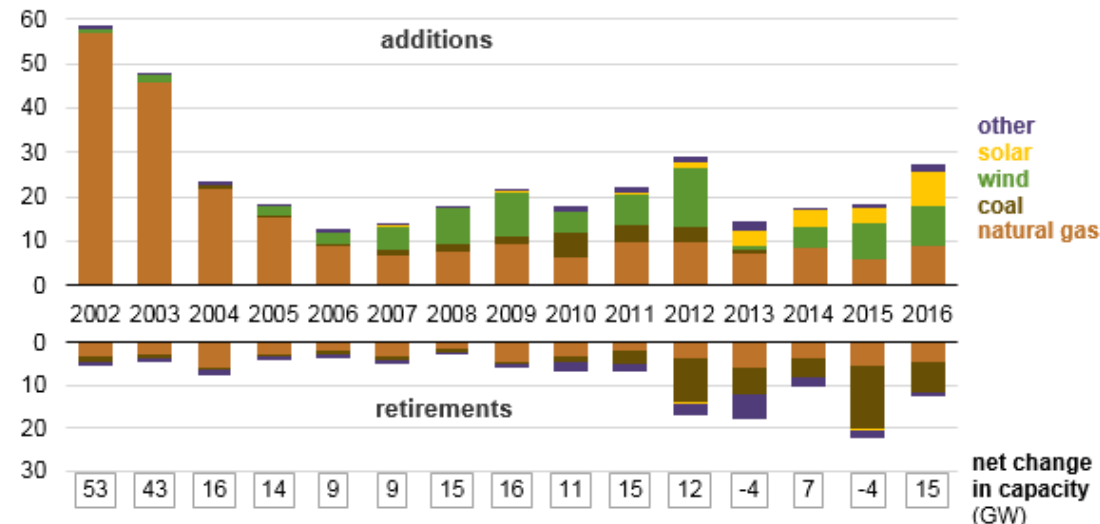
- Outcome

- Policy can drive markets



Source: Berkeley Lab

U.S. utility-scale electric capacity additions and retirements (2002-16) gigawatts



Opportunity Space: Tribes and State Policy

- Tribe's share boundaries with one or more states
- Tribes have made investments on state lands
- Tribes can leverage state programs to achieve mutual goals



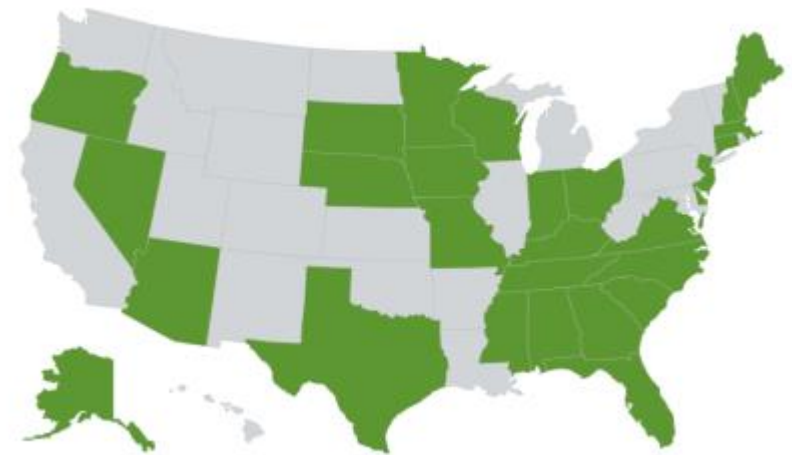
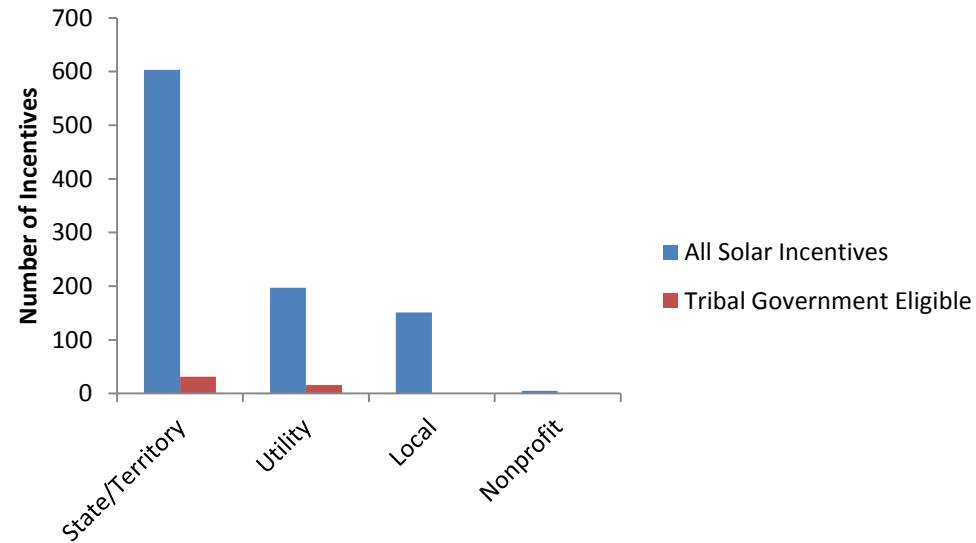
Leveraging State Policy Opportunities

State Financial Incentives

Financial Incentive Policy: Focus on Solar

Financial Incentives for Solar PV

- 973 programs are available to incentivize solar across the country
- Tribes are explicitly eligible for 48 programs
- These programs are distributed across 28 states



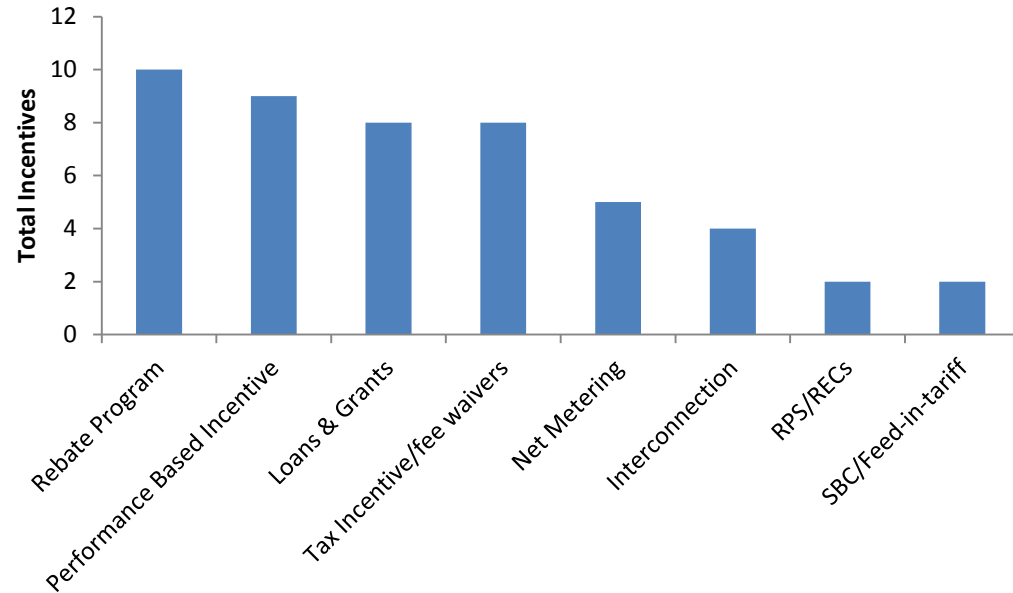
Distribution of Incentives

- Oregon, Massachusetts, and Minnesota account for 30% of all incentives
- 7 states with large tribal populations **do not** offer an incentive **specific** to tribes: California, Colorado Michigan, New Mexico, New York, Oklahoma, and Washington
- Bottom line: Tribal participation in state policies is not uniform across the states

Examining existing opportunities

Financial Incentives for solar PV

- Rebate programs are most frequent
 - Ex. NV Energy Renewable Generations Program
- Performance-based Incentives
 - Ex. Tennessee Valley Authority
- Loans & Grants
 - Ex. Delaware's Sustainable Energy Utility Revolving Loan Fund



Tribal Eligibility by Program

- Differences in specificity of tribal eligibility
 - In ~59% of the programs tribal governments are likely to qualify
 - It is unclear that tribal governments are eligible (based on program language) in the other programs

Eligibility	Policies
Tribal Government Explicitly included	11 programs (23%)
Incentive available to any paying customer	10 programs (21%)
Incentive available to individual who can access property	8 programs (17%)
Incentive available to any government	5 programs (11%)
Unclear	14 programs (30%)

Examples of Clear(er) Tribal Eligibility

- Explicit inclusion
 - Ex. [Oregon Renewable Energy Development Grant Program](#)
 - **"the applicant must be a** trade, business or rental property owner with a business site in Oregon or be an Oregon non-profit organization, **tribe** or public entity."
- Any paying customer
 - Ex. [AEP Texas Central and North Company Smart Source Solar PV Rebate](#)
 - “customers are defined as **the entity with financial responsibility for paying the electric bill** for the meter behind which the distributed solar energy equipment is to be installed.”

Examples of Clear(er) Tribal Eligibility

- The entity that pays the utility bill
 - Ex. TVA's Green Power Providers: "The system's location must match the participant's billing address for power services"

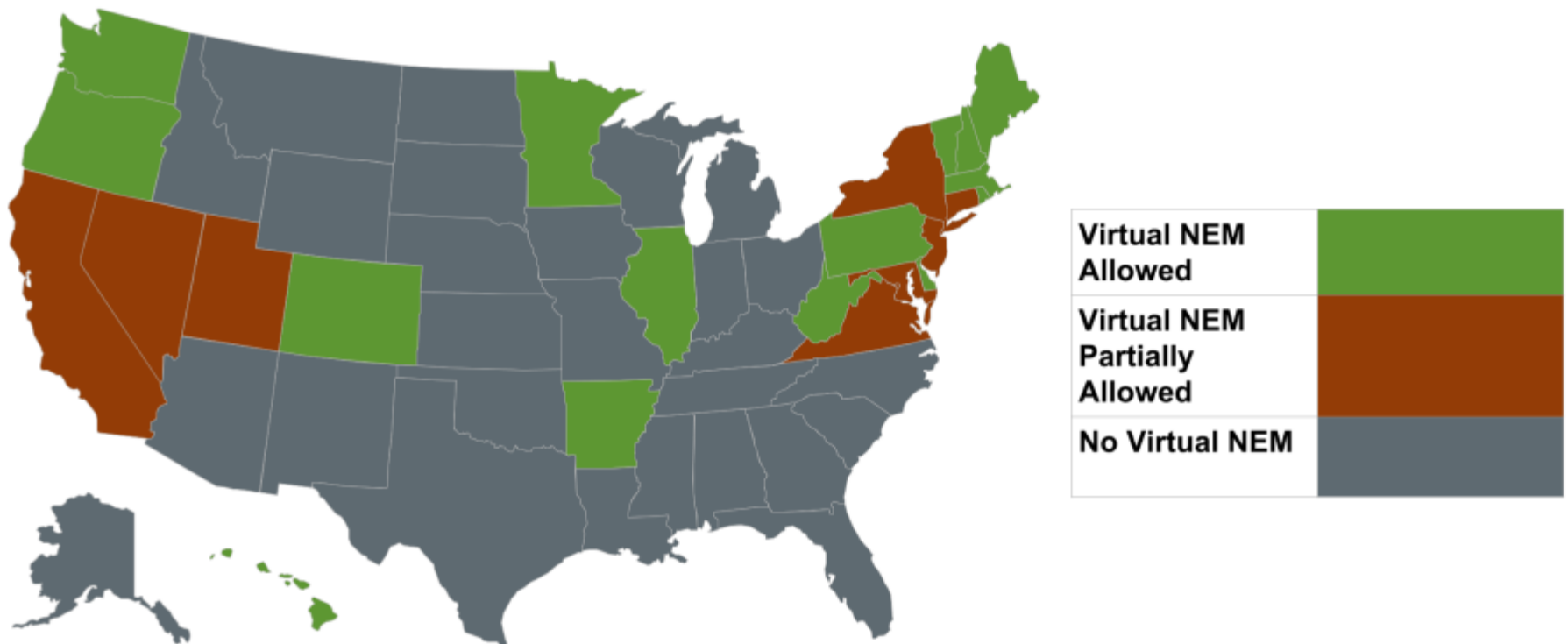
Leveraging Community Solar and Aggregated Net Metering Opportunities

Policy Background

- Aggregate or Virtual Net Metering: Customer can bundle electricity consumption from multiple meters and offset that electricity from an on or offsite solar facility
- Community Solar: Customer can subscribe to blocks of solar generation from an offsite facility to meet a portion of their onsite demand

Virtual Net Metering Policy Environment

23 states have adopted virtual net metering policies



Eligibility Limits on Virtual Net Metering

- Tribal governments can participate in at least some programs.
- Tribal governments are not explicitly listed in state programs

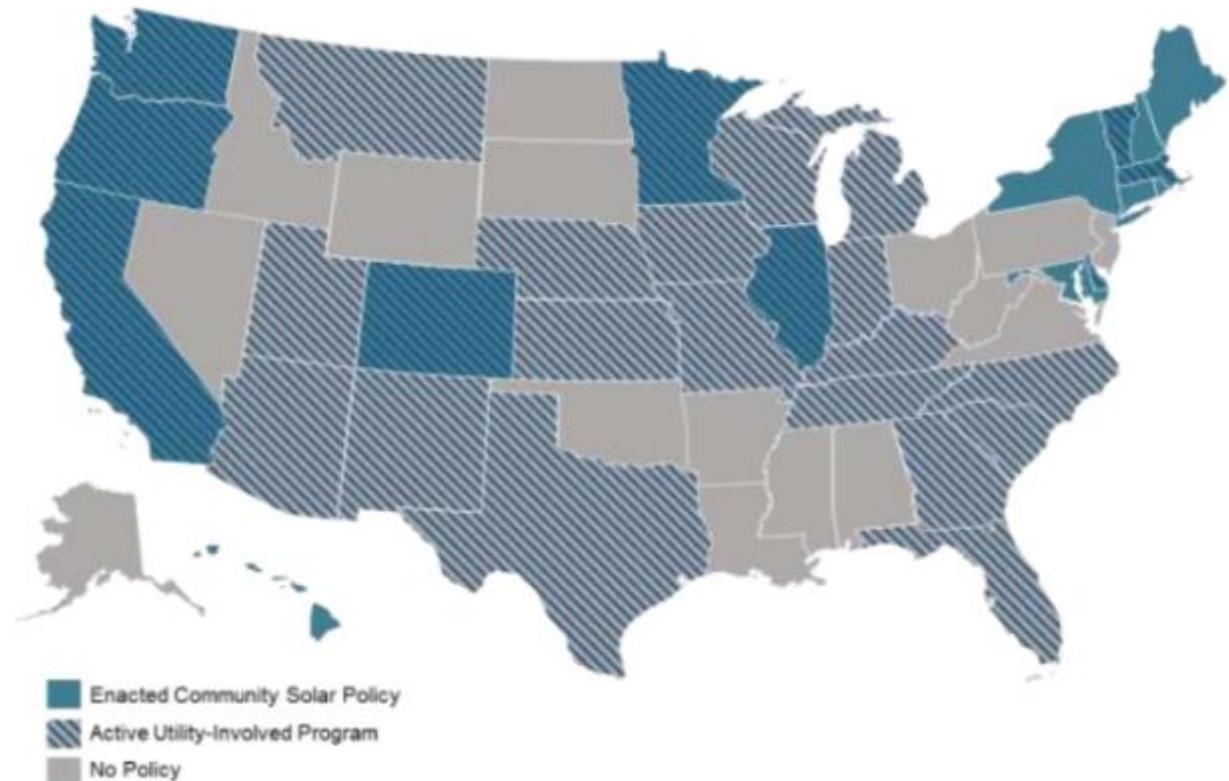
Eligibility Limits	States
No limits on customer type	15 states (65%)
1 customer type/project (e.g. ag)	4 states (17%)
2 or 3 customer types (e.g. ag and government)	3 states (13%)
Geographic requirements (same/adjacent location)	1 state (UT) (4%)

Why Community Solar?

- Benefits of Virtual NEM and community solar
 - It offers those individuals that do not have solar access to participate in the market
 - 35% of U.S. population are renters
 - Only 51% of residential homes can host a 1-5 KW PV System
- Aggregated net metering, may be limited to one customer's load.
- Community Solar Benefits
 - It offers economies of scale over rooftop systems
 - It can reduce upfront purchasing costs of a project

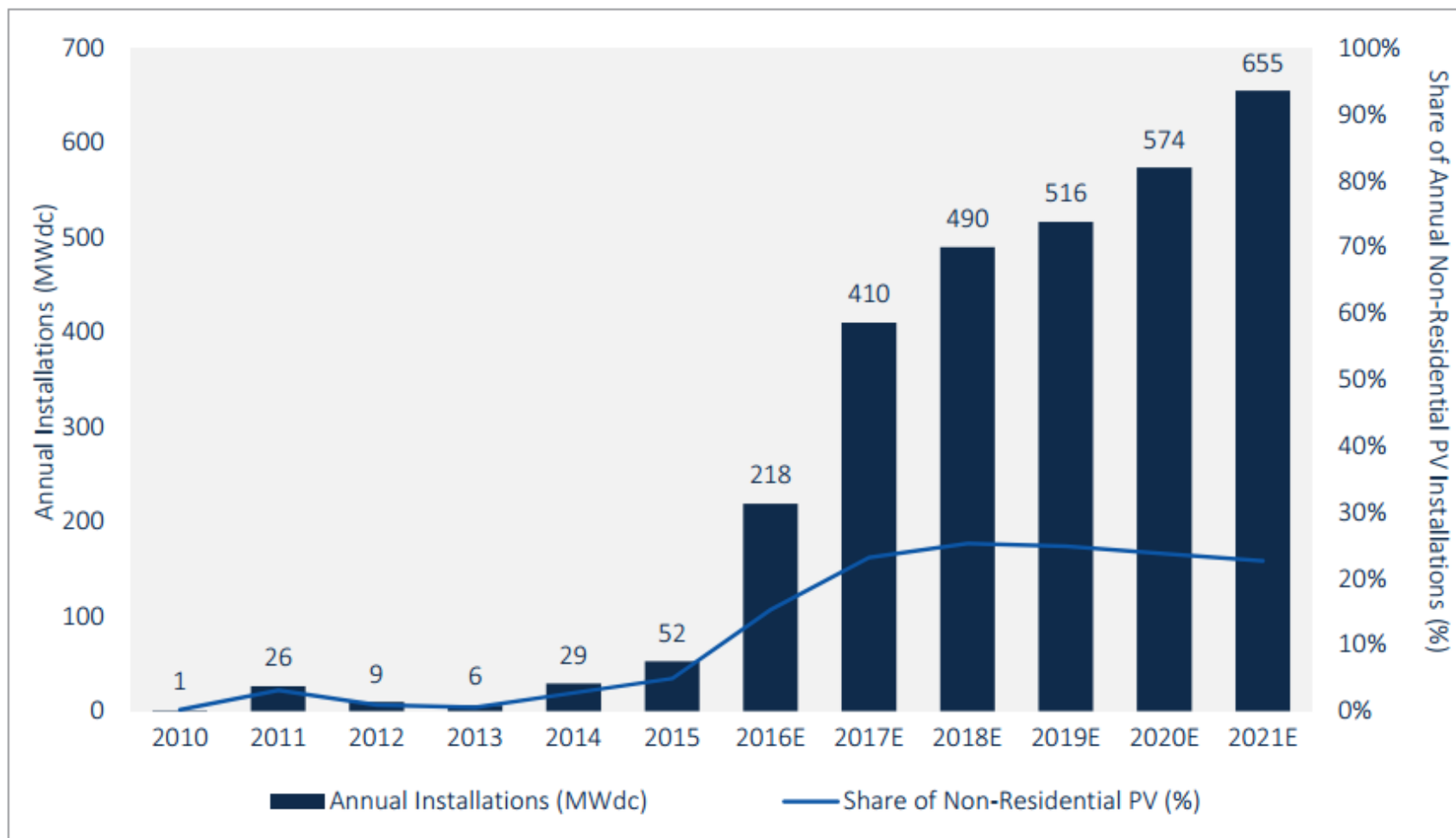
Community Solar Policy Environment

- To date, 33 states have community solar programs
- 16 states have enacted legislation to mandate these programs



Sources: NC Clean Energy Technology Center and Smart Electric Power Alliance⁹

Market Outlook



Low and Moderate Income (LMI) Requirements

- 7 states address LMI subscribers
 - 6 states require low-income customer participation in developer portfolios.
 - California requires developers to locate in EJ communities



Tribal Eligibility and LMI carve outs

- Tribal Eligibility
 - Community solar programs typically do not mention tribes eligibility
 - Washington's program is unique and structure excludes tribes
- Housing Authority Participation: Rhode Island and Colorado

Leveraging Tribal Government Policy Opportunities

Traditional Opportunities

- Utility-scale renewable deployment on tribal land
 - Kumeyaay Wind Farm (50 MW wind)
 - Moapa Band of Paiutes (250 MW solar)
- Tribal Utilities
 - Navajo Tribal Utility Authority
 - Distributed PV deployment: Solar for those without electricity
 - Utility-scale deployment: 27.5 MW solar
- Tribal collaboration with federal government
 - Ex. Tribal Energy Program Grants
 - Pascua Yaqui Tribe in Arizona: Assess viability of commercial and community solar on tribal land
 - Oneida Tribe of Indians of Wisconsin: Solar deployment on tribal facilities

- State Policy Opportunities
 - For existing programs: Tribal governments can **discuss eligibility with their utility** or state regulators
 - For developing programs: Tribal governments can **work with state policymakers to clarify tribal eligibility** in program statute and regulation
- Emerging and Tribal Opportunities
 - Tribes can request **technical assistance**
 - Tribes can discuss opportunities or partnerships with utilities

What's Next

- Tribes can leverage at least some state policy to achieve clean energy objectives
- In most cases, tribal eligibility is unclear
- When policy is unclear tribes could:
 - Work with their utility to determine eligibility
 - Work with state policymakers to clarify tribal eligibility from the outset

Thank You!

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NREL's Jeff Cook contributed to the content in this presentation (and much of NREL's upcoming policy reports)

Got questions? We've got answers:

<https://energy.gov/indianenergy/office-indian-energy-policy-and-programs>

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