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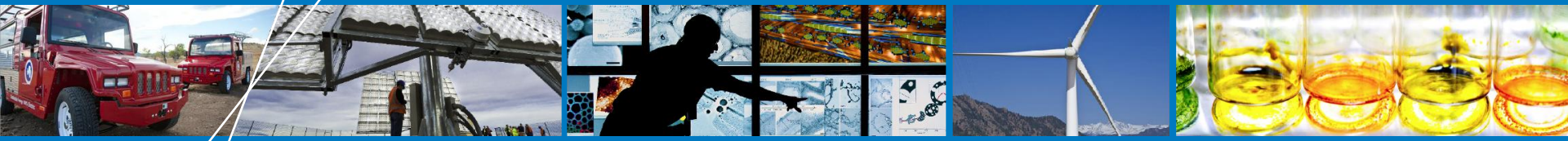
Western States' Renewable Portfolio Standards, Compliance Status and Tribal Energy Opportunities



Tribal Leader Forum Series

Sarah Busche, NREL

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Take Away Message

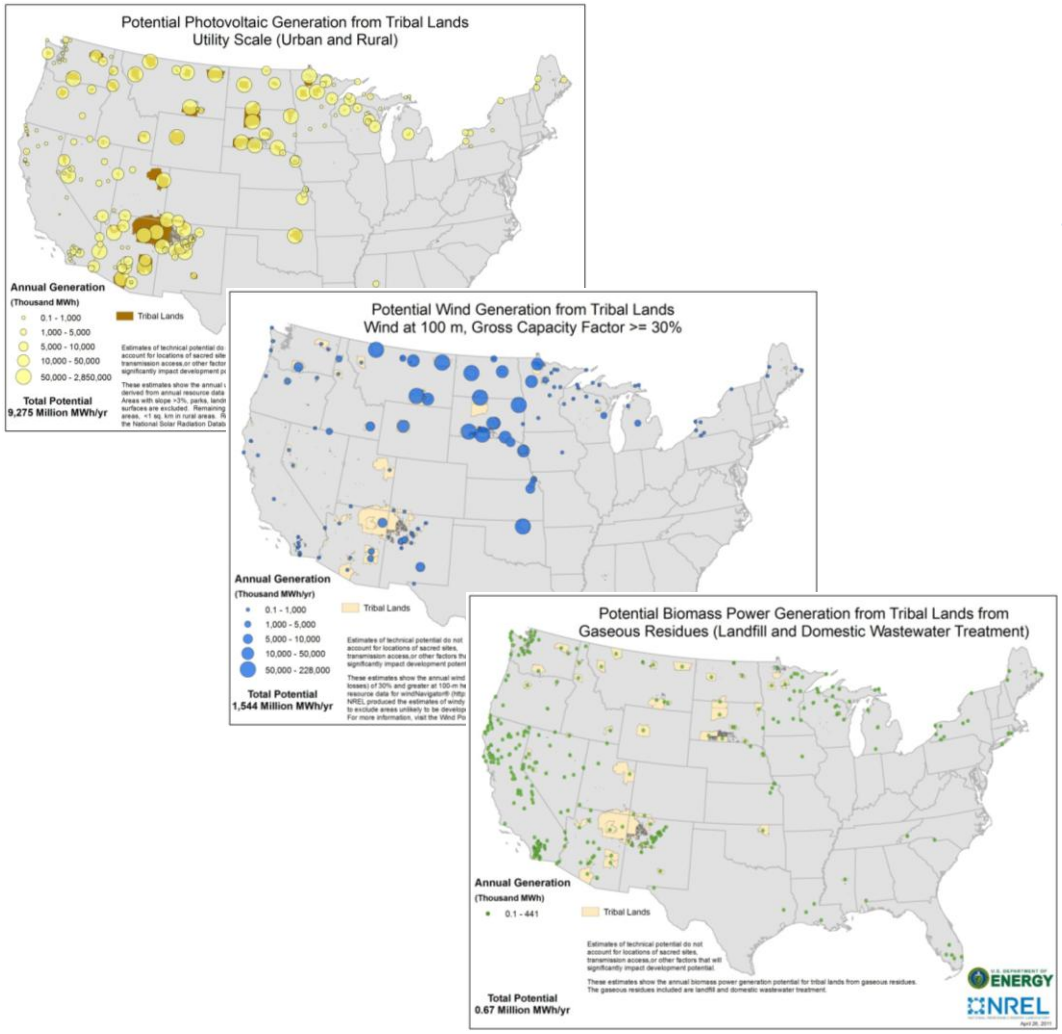
SUPPLY

Many tribal lands in the West are rich in renewable resources

DEMAND

Policy matters and is creating demand for renewables in the West

Potential Supply - Tribal Resources



Tribal lands contain about 4% of total U.S. RE potential

- 4% of utility scale PV
- 5% of solar CSP
- 3% of wind

SOURCE: Lopez, *Forthcoming*

Starting a Renewable Energy Project

- What renewable **resources** exist?
- What **sites** with resources do you own?
- To whom will you **sell** the electricity?
- How will federal and state **incentives or policies** impact my project?
- Is there easy **access to the grid** from the project site?
- Are there any major **permitting** concerns?

Projected Demand from Policy

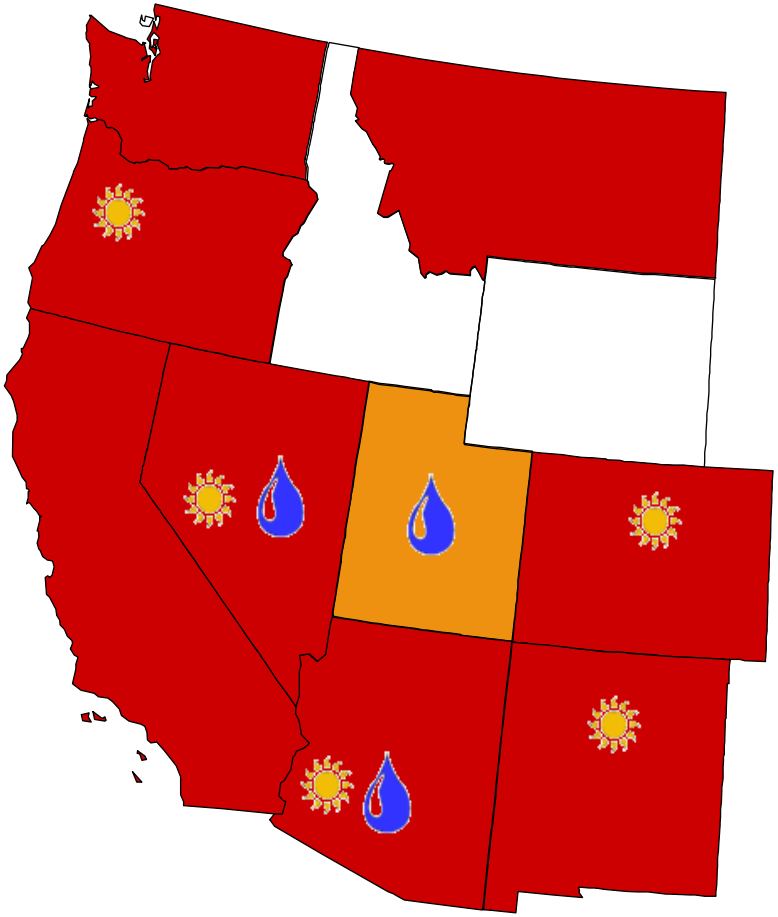
- RPS demand in Western States
- Potential gaps in 2020 are large
- CA is the main driver

SOURCE: Haase et al

Renewable Portfolio Standards (RPS)

- **RPS:** a requirement set by a state for utilities to generation x% of electricity from renewables by a specific date
- **Set-asides (or carve-outs):** require that a % of the RPS requirement is met by generation from a specific technology (e.g., solar)
- **Multipliers:** give "bonus" credit for generation from specific technologies (e.g., solar or distributed generation)

Western States' RPS Policies



State	RPS
AZ	15% by 2025
CA	33% by 2020
CO	30% by 2020 (IOUs) 10% by 2020 (co-ops/munis)*
MT	15% by 2015
NM	20% by 2020 (IOUs) 10% by 2020 (co-ops)
NV	25% by 2025*
OR	25% by 2025 (large utilities)* 5%-10% by 2025 (small utilities)
WA	15% by 2020*
UT	*GOAL: 20% by 2025*

Renewable portfolio standard

Renewable portfolio goal

Solar water heating eligible

Minimum solar or customer-sited requirement

* Extra credit for solar or customer-sited renewables

SOURCE: www.dsireusa.org

Who's on track to meet their RPS…

…and who isn't.

State	Projected 2020 Capacity Gap or Excess
AZ	141-905 MW
CA	406-13,107 MW
CO	1,279 MW
ID	1,005 MW
MT	42-379 MW
NV	542-1,005 MW
NM	28-117 MW
OR	343-1,689 MW
UT	287 MW
WA	554-1,985 MW
WY	4,260 MW
WECC Total	8,286 MW - 8,756 MW

SOURCE: Haase et al

Arizona

Projected capacity needs: 141-905 MW

RPS details

- 15% by 2025
- 30% of the requirement must be met with distributed generation
- Electricity produced by eligible systems must be deliverable to the state
- Credit multipliers are available for in-state solar installations and in-state manufactured content

Selected Interim Targets	
2015	5%
2020	10%
2025	15%

SOURCE: www.dsireusa.org

California

Projected capacity needs: 406-13,107 MW

RPS details

- 33% by 2020
- No technology minimum
- Maximum RECs:
  - 25% by 2013
  - 10% by 2017

Interim Targets	
2013	20% of retail sales
2016	25% of retail sales
2020	33% of retail sales

SOURCE: www.dsireusa.org

Colorado

Projected capacity needs: 1,279 MW

RPS details

- 30% by 2020 for IOUs
- 10% by 2020 for electric co-ops and munis with 40,000+ customers
- For IOUs, 3% of retail sales must by distributed generation by 2020
- Credit multipliers
  - 125% credit for in-state generation
  - 150% for community projects
  - 300% for
    - solar electricity in a co-op or muni territory, or
    - projects 30 MW or less that are interconnected to T&D lines owned by a co-op or muni

Selected Interim Targets for IOUs	
2014	12% of retail sales
2019	20% of retail sales
2020	30% of retail sales

SOURCE: www.dsireusa.org

New Mexico

Projected capacity needs: 28-117 MW

RPS details

- 20% by 2020 for IOUs
- 10% by 2020 for rural electric co-ops
- Technology minimums (IOUs only):
  - 20% must be solar (4% of total sales)
  - 20% must be wind (4% of total sales)
  - 10% must be other RE (2% of total sales)
  - 3% must be distributed generation (0.6% of total sales)

Interim Targets for IOUs	
2011	10% of retail sales
2015	15% of retail sales

SOURCE: www.dsireusa.org

What does this mean for you?

A utility may be interested in purchasing the electricity from your potential project to meet RPS requirements

Other Policies

Resource: www.dsireusa.org

Other state policies to consider:

- Interconnection standards
- Performance based incentives
- Permitting requirements

Thank you!

Questions?

Sarah Busche

Sarah.Busche@NREL.gov