DOE OFFICE OF INDIAN ENERGY

Federal and State Policy Affecting Tribal Energy Development

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National Tribal Webinar Series: Federal and State Policy – Advancing Strategic Energy Partnerships



U.S. DEPARTMENT OF ENERGY | Office of Indian Energy

Before we begin

1. President Trump's EO "Promoting Energy Independence and Economic Growth"
   - Signed Tuesday, March 28th, 2017
2. Current tribal energy legislation
   1. H.R. 210
   2. S. 245

Quotes: emphasis on certain energy sources

- Sec. 2a: “The heads of agencies shall review all existing regulations, orders, guidance documents, policies, and any other similar agency actions (collectively, agency actions) that potentially burden the development or use of domestically produced energy resources, **with particular attention to oil, natural gas, coal, and nuclear energy resources.**”

Previous EOs revoked

- The following previous EOs revoked:
  - EO 13653: “Preparing the US for the Impacts of Climate Change”
  - Presidential Memorandum of June 25, 2013 (Power Sector Carbon Pollution Standards)
  - Presidential Memorandum of Nov 3, 2015 (Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment)
  - Presidential Memorandum of Sept 21, 2016 (Climate Change and National Security)

Climate Action Plan

- The following reports are rescinded:
  - The President's Climate Action Plan
  - Climate Action Plan Strategy to Reduce Methane Emissions
  - Council on Environmental Quality's final report titled "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews"

Clean Power Plan

- Sec. 4a “Review of the Environmental Protection Agency’s ‘Clean Power Plan’ and Related Rules and Agency Actions
- “The Administrator shall review and, if appropriate, as soon as practicable, take lawful action to suspend, revise, or rescind… the ‘Legal Memorandum Accompanying Clean Power Plan for Certain Issues’ which was published… with the Clean Power Plan.”

Social Cost of Carbon

- Sec. 5a “Review of Estimates of the Social Cost of Carbon, Nitrous Oxide, and Methane for Regulatory Impact Analysis.”
- Sec. 5b “The Interagency Working Group on Social Cost of Greenhouse Gases… shall be disbanded…”

Lifting ban on coal production on federal land

- Sec. 6 “The Secretary of the Interior shall take all steps necessary and appropriate to… lift any and all moratoria on Federal land coal leasing activities related to Order 3388.”

Oil and Gas on Federal/Non-Federal lands

- Sec. 7b: "The Secretary of the Interior shall review the following final rules… and, if appropriate, shall… suspend, revise, or rescind:
  - Final rule: "Oil and Gas; Hydraulic Fracturing on **Federal and Indian Lands**"
  - Final rule: "General Provisions and Non-Federal Oil and Gas Rights"
  - Final rule: "Waste Prevention, Production Subject to Royalties, and Resource Conservation"

Current tribal energy legislation

- H.R. 210: Native American Energy Act
- S 245: Indian Tribal Energy Development and Self-Determination Act Amendments of 2017

Overview

1. **Net Energy Metering**
2. Renewable Energy Tax Credits
3. Utility decoupling

Net Energy Metering

- 4 major types
  1. Net Energy Metering
  2. Virtual NEM
  3. NEMA (NEM Aggregation)
  4. NEMA with export meter

Net Energy Metering: What is it?

- Generating one's own electricity, selling to utility for credit
- Major policy to decentralize energy generation
- Traditional set-up: one system owner, one account/meter, one beneficiary
- Requirements: NEM state policy, favorable interconnection standards, appropriate metering tech

Net Energy Metering

- Advantages:
  - Customer receives lower monthly electric bill while still enjoying reliability from grid
  - Depending on size of system and state policy, RECs can also be sold
- Disadvantages:
  - Large upfront costs: research, installation and maintenance, price of system

Virtual NEM: What is it?

- Like NEM but one owner account and several other accounts bundled together
- Requirements: All accounts/meters must be behind same Service Delivery Point (SDP)

Virtual NEM

- Advantages:
  - Greatly expands customer base to those who want RE but cannot afford the system
  - Credit allocation can be customized since all under one SDP
  - Increased Economies of Scale usually → lower project costs → lower monthly payments
- Disadvantages:
  - Shared/Split credits may amount to very little

NEMA (NEM Aggregation): What is it?

- One owner account, several aggregating accounts
- Different SDPs, but
- Requirements: All aggregating accounts must be adjacent/near owner account, all meters belong under same “customer-on-record”

NEMA

- Advantages:
  - Expands NEM further to multiple buildings under same account contract
- Disadvantages:
  - Fees: initial set-up fee, monthly service fees for each account
  - Less control over where credits are allocated because under multiple SDPs; uses a “pro-rata” (proportional) formula

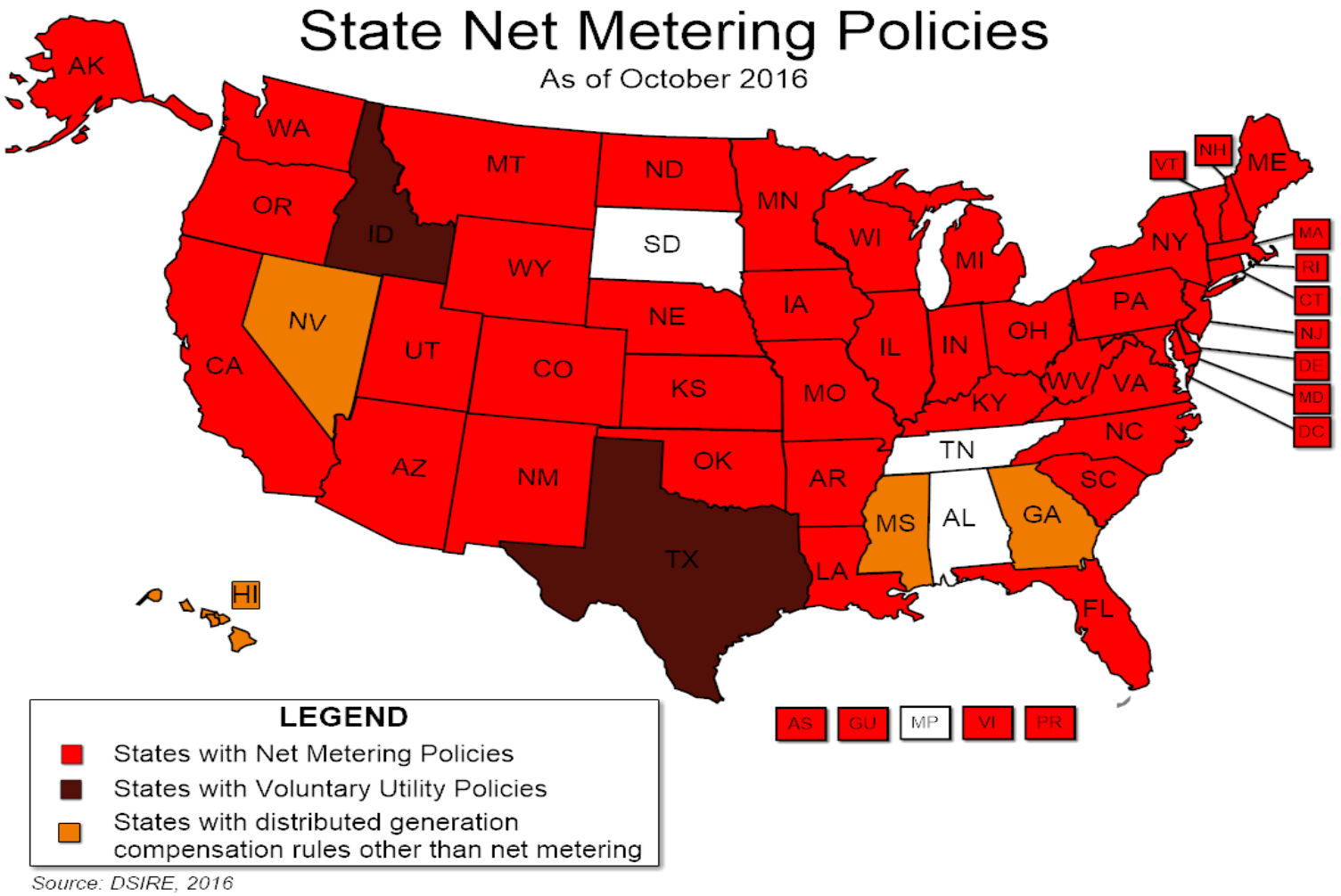
NEMA with export meter: What is it?

- A NEMA system that allows for controlled credit allocation through an export meter
- Net Generation Output Meter (NGOM) accounts for all electricity going out to grid
- Requirements: installation of NGOM (export meter) and interconnections

NEMA with export meter

- Advantages:
  - Control of credit allocation
- Disadvantages:
  - Upfront NGOM and interconnection cost

States with NEM

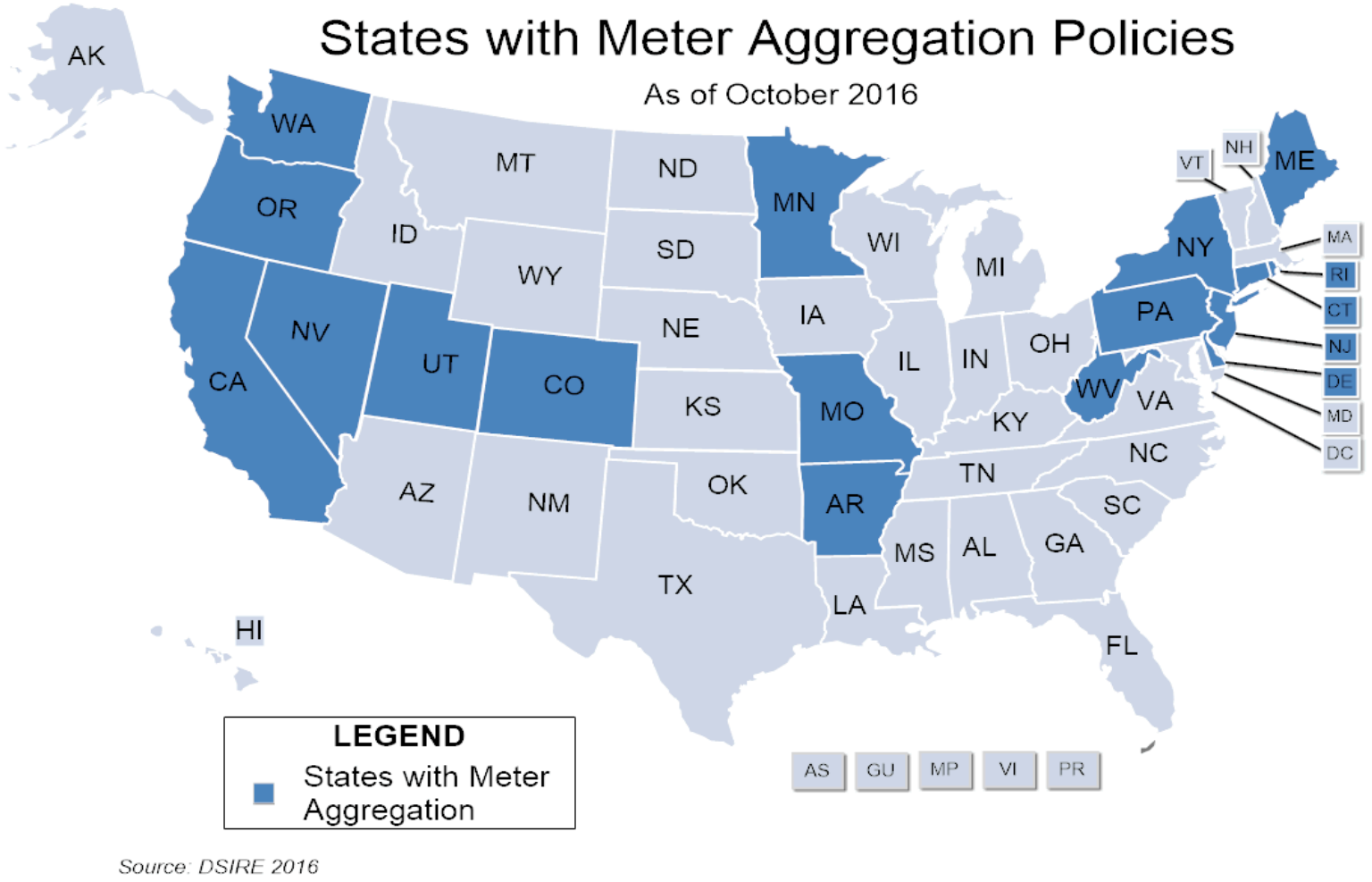


Source: DSIRE, 2016

States with NEM

- Overwhelming majority of states but
- High variance state-to-state on:
  - System capacity limits (1 MW for CA, 30 kW for KY)
  - If not, then kWh limits
  - What constitutes as RE differs state-to-state

States with NEMA



Source: DSIRE 2016

NEM Types for Reference

Table 1: Overview of Net Metering Alternatives

	Electricity Used On-Site?	Multiple Meters?	Multiple Off-takers?	Multiple Service Points?	Customized Credit Allocation?
Standard Net Energy Metering	Yes	No	No	No	No
Virtual Net Metering	No	Yes	Yes[1]	No	Yes
NEM Aggregation – Billing Method	Yes	Yes	No	Yes[2]	No
NEM Aggregation – NGOM Method	No	Yes	No	Yes[2]	Yes

1. Meters must be tied to the same utility service delivery point
2. Meters must be on adjacent/contiguous properties solely owned, leased or rented by the NEM-eligible customer-generator

Source: Alta Energy

States with NEMA

- 17 states have NEMA:
  - Arkansas, California, Colorado, Connecticut, Delaware, Maine, Maryland, Minnesota, Nevada, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Utah, Washington and West Virginia.

Overview

1. Net Energy Metering
2. **Renewable Energy Tax Credits**
3. Utility decoupling

Renewable Energy Tax Credits

- Federal tax credits:
  - Investment Tax Credit (ITC)
  - Production Tax Credit (PTC)

ITC and PTC

- Two federal programs incentivizing RE growth by reducing taxes owed for residential and commercial projects
- ITC is based on the amount of investment in the project
- PTC is based on per kWh generation

ITC

- An extension was passed in 2015, extended credit through 2019 before ramping down
- 2015-2019: 30%
- 2020: 26%
- 2021: 22%
- 2022 onward: 10% only for commercial

ITC Ramp Down Schedule

Technology	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	Future Years
PV, Solar Water Heating, Solar Space Heating/Cooling, Solar Process Heat	30%	30%	30%	30%	26%	22%	10%	10%
Hybrid Solar Lighting, Fuel Cells, Small Wind	30%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Geothermal Heat Pumps, Microtubines, Combine Heat and Power Systems	10%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Geothermal Electric	10%	10%	10%	10%	10%	10%	10%	10%
Large Wind	30%	24%	18%	12%	N/A	N/A	N/A	N/A

PTC

- A direct reduction per kWh, inflation adjusted
- For projects beginning construction Dec 31st, 2016 onward, credit is $0.0184 per kWh and only for wind projects
- PTC applies for first 10 years of operation
- Phase down:
  - 2017: 20% reduction, 2018: 40%, 2019: 60%

Current investment climate: uncertain

- Unpredictable political climate
- Not certain ITC/PTC will get additional extensions past 2020
- Potential corporate tax rate changes

Overview

1. Net Energy Metering
2. Renewable Energy Tax Credits
3. **Utility decoupling**

Decoupling: What is it?

- Decoupling is separating utility revenue from utility generation
- State PUCs (Public Utility Commissions) set the rates for IOUs (Investor Owned Utilities)
- Rate traditionally based on Cost of Service, favoring least-cost method of delivering electricity to customers
- Big question: how will utilities make money?

Shifting away from COS

- PBR: Performance Based Ratemaking
- PUCs, working with various stakeholders, create metrics for utilities to strive for
- Examples:
  - Energy efficiency
  - GHG per kWh
  - Energy reliability (load balancing)
  - Electrification
  - Others

The future of utilities

- PBR is a way for utilities to stay relevant amidst:
  - Competition from third-party energy developers
  - NEM
  - Newer federal and state regulations

PBR vs COS

- COS:
  - Only looks at cost
  - Does not incorporate value of other options
  - Does not consider social and environmental costs/value
- PBR
  - Considers social and environmental value
  - Utilities rewarded for over-compliance, penalized for under-compliance

Utility reaction: varied

- Some utilities have read the wind and adjusted business models to incorporate PBR
  - Southern Power in GA one of the biggest utility-scale solar developers in the south
- Other utilities are using the courts
  - Arizona IOUs and third-party developers battling over NEM value

Downsides to PBR

- Not a familiar model, not politically popular (yet)
- Metric results can take time meanwhile bills may go up in the short run