



U.S. Department of Energy Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

Federal Energy Management Program



Renewable Project Overview

Federal Utility Partnership Working Group

5/6/09

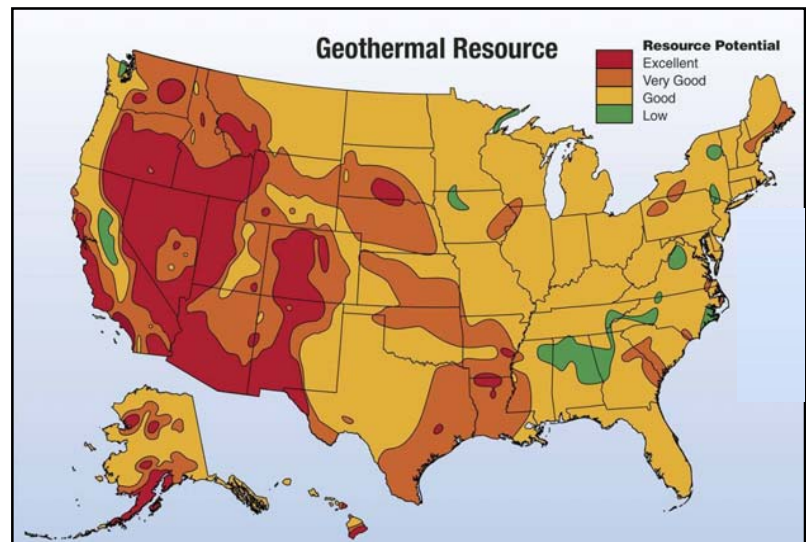
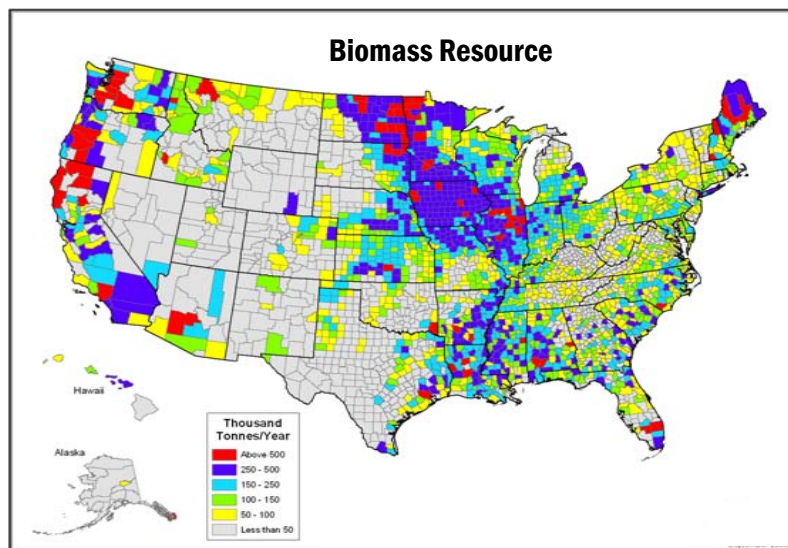
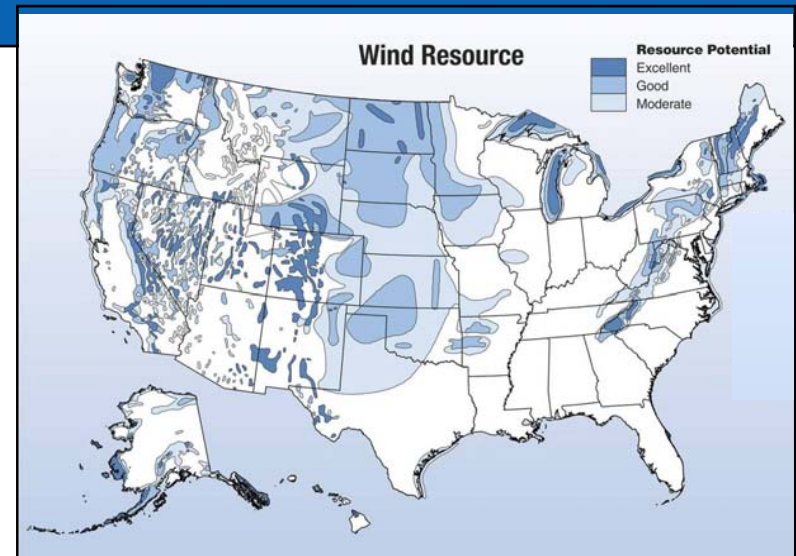
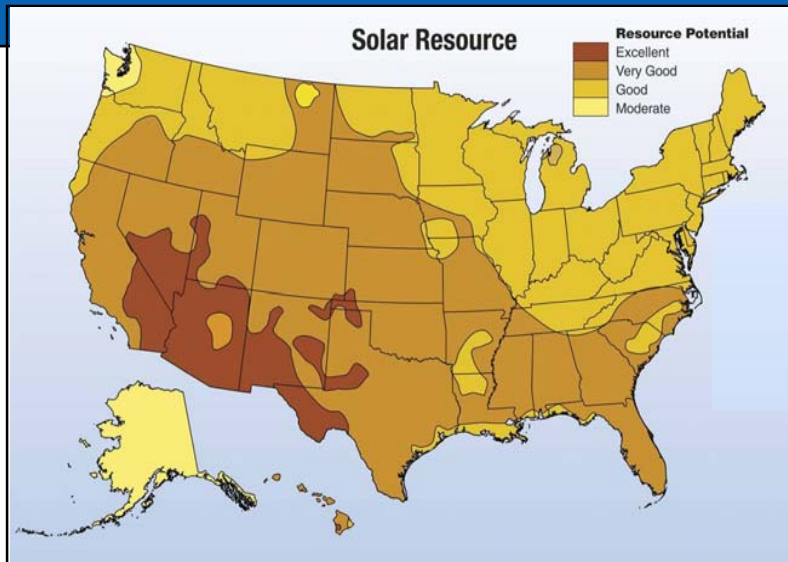
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Presentation Overview

- Federal and utility renewable requirements
- Power Purchase Agreements (PPA)
- Western Area Power Administration Federal Renewable Program
- UESC and renewables
 - Participating in utility renewable programs – Opportunity Announcement process
- Renewable projects implemented using appropriations

U.S. Renewable Energy Resources



Renewable Motivations

- Federal site – EPACT 2005 and EO13423 renewable requirements
- Utilities
 - Renewable Portfolio Standards
 - Utilities now eligible for investment tax credit

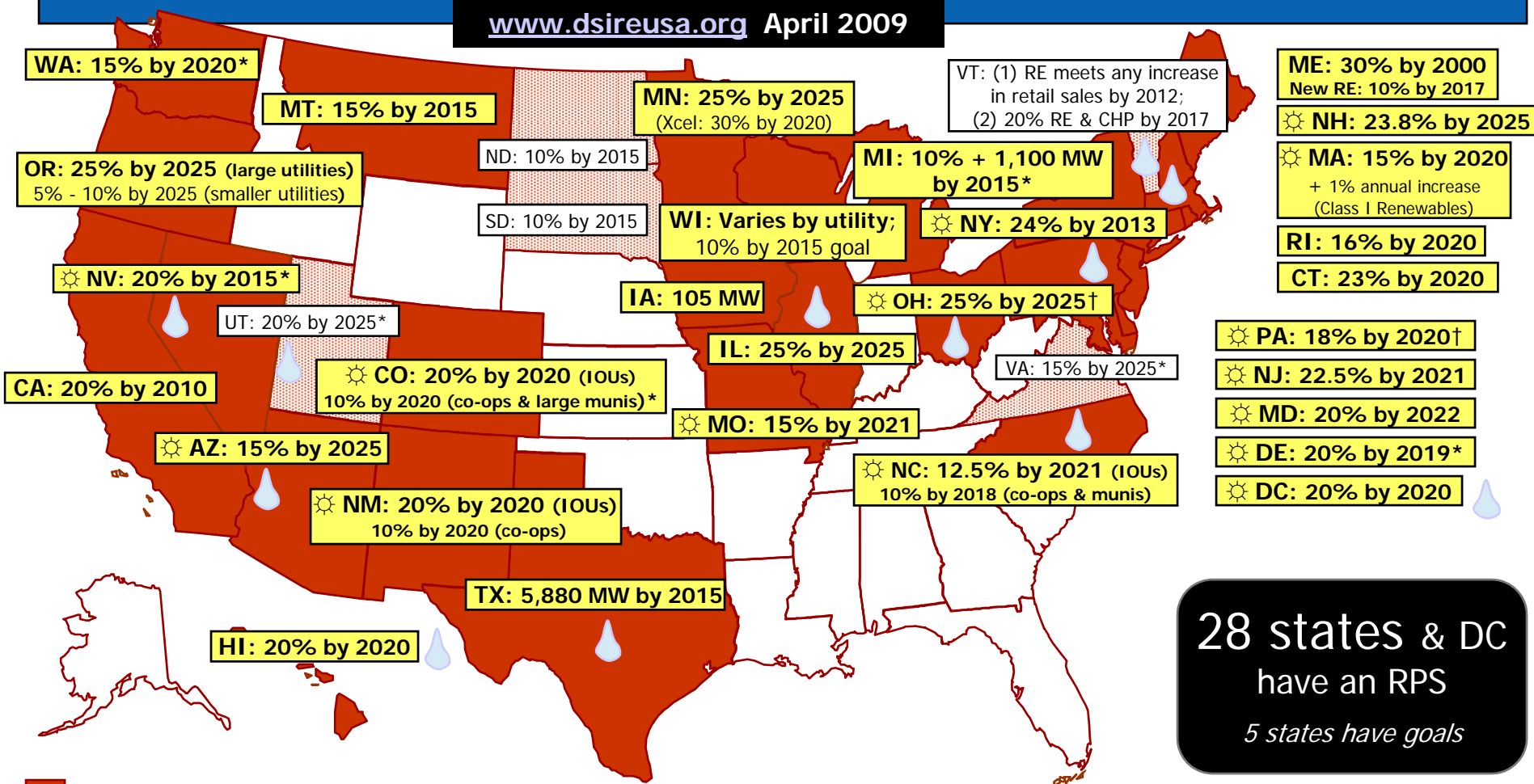
Reminder: Energy efficiency first!

Federal RE Requirements

- EPACT 2005 Section 203 statutory renewable energy goals
 - 3% of electric energy by 2007
 - 5% of electric energy by 2010
 - 7.5% of electric energy by 2013
- Bonus Provision
 - Renewable use counts double towards federal goal if produced on Federal or Native American land and used by Federal agency
- Under EO 13423:
 - At least half from new renewable sources
 - “New” = placed into service after January 1, 1999

Renewable Portfolio Standards

www.dsireusa.org April 2009

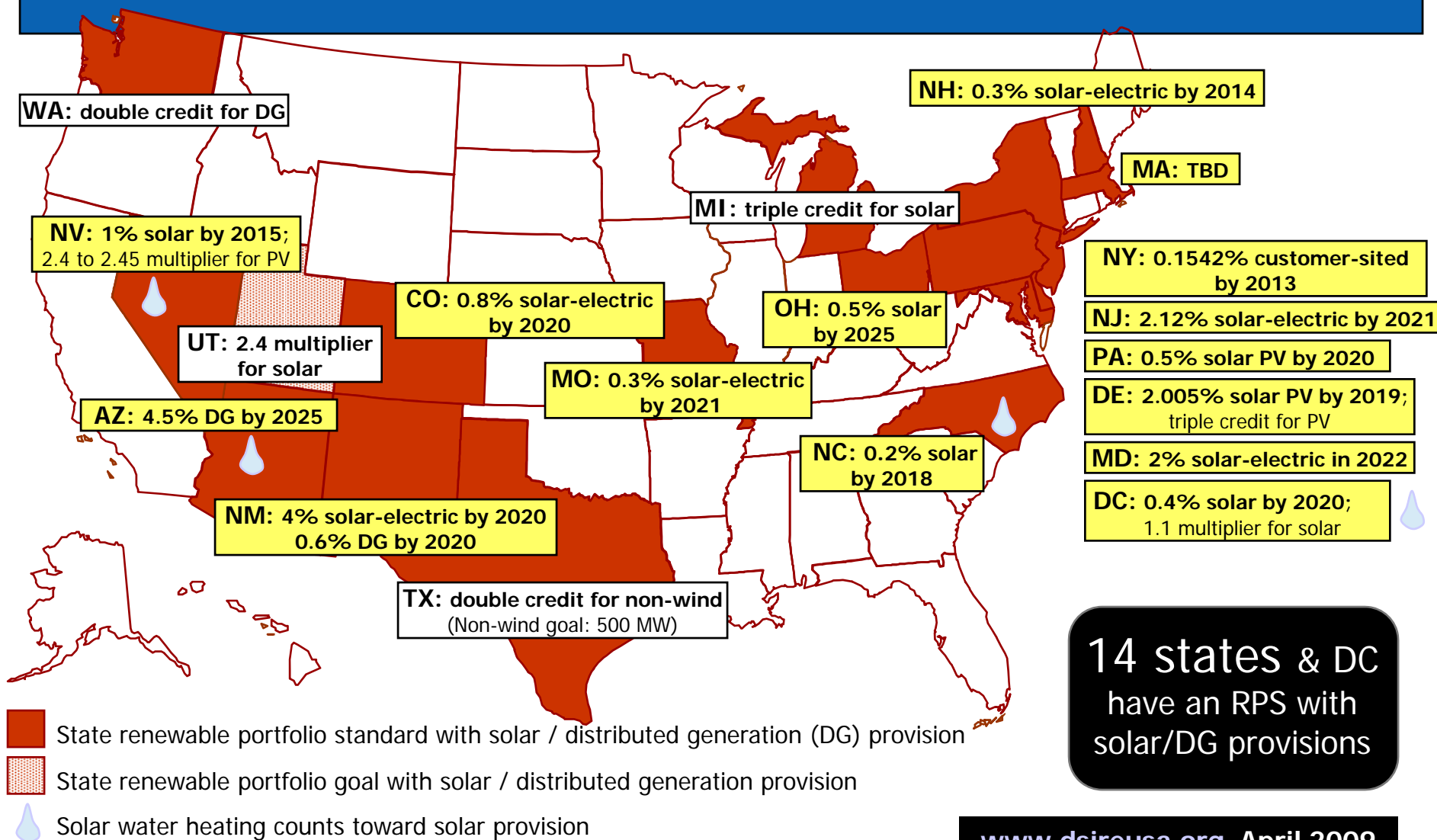


28 states & DC
have an RPS
5 states have goals

- State renewable portfolio standard
- State renewable portfolio goal
- Solar water heating eligible

- Minimum solar or customer-sited requirement
- * Extra credit for solar or customer-sited renewables
- † Includes separate tier of non-renewable alternative resources

RPS Policies with Solar/DG Provisions



Customer-Sited Power Purchase Agreement

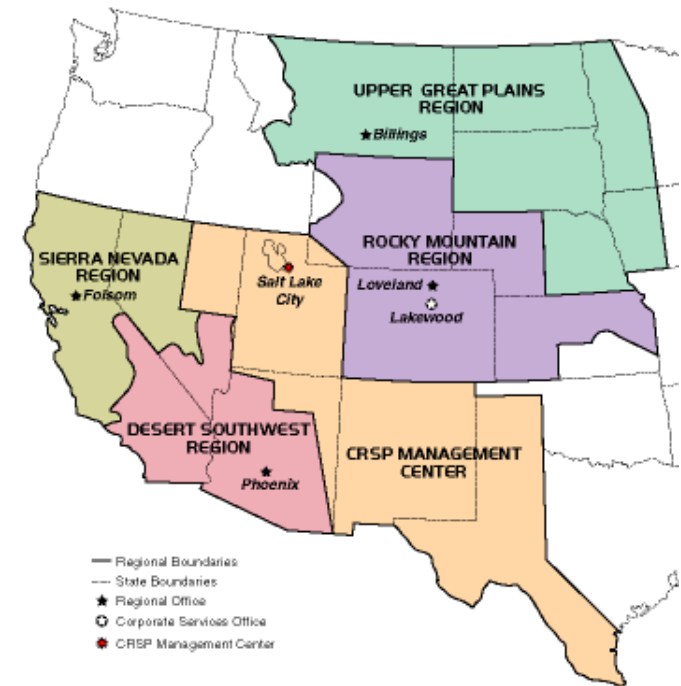
- Private entity installs, owns, operates and maintains customer-sited (behind the meter) renewable equipment
- Site purchases electricity through power purchase agreement (PPA)
- Pros
 - RE developer eligible for tax incentives, accelerated depreciation
 - No agency up-front capital required
 - RE developer provides O&M
 - Minimal risk to government
 - Known long term electricity price for portion of site load
- Cons
 - Transaction costs
 - Limited federal sector experience
- Key considerations – contract length, land use agreement, NEPA

PPA Contract Length

- PPA contract length
 - Long term best – at least 10 years, preferably 20
- Long term contract options
 - Long term land use agreement requiring the developer to give federal agency right of first refusal on purchase of the power at a pre-determined price.
 - Developer has long term revenue stream
 - Federal site has long term price certainty
 - Congressional proposals for long term renewable contracting authority
 - Use Western Area Power Administration

Using Western Area Power Administration

- Long term contract authority - at least 20 years
 - Federal agencies in Western's service territory can use Western as the contracting agent
 - Site selects renewable developer and brings to Western (Western currently does not do RFPs)
 - Project examples: NREL and Fort Carson
- Other Western services – RECs for any federal agency, renewable power for sites in their region
 - Nominal fee for Western services



PPA Project Comparison

	Nellis AFB, NV	Fort Carson, CO	NREL, CO	GSA Sacramento, CA
Size	15 MW, 140 acres including closed landfill	2 MW on 12 acre closed landfill	.72 MW, 5.4 acres	.5 MW
Type	Ground Mounted, Single Axis Tracking PV	Ground Mounted, Fixed PV	Ground Mounted, Single Axis Tracking PV	Roof-top PV
Contract Length	Indefinite with 1 year termination	17	20	10
Land Use Agreement	Lease	Lease	Easement	License
Procurement and Contracting Agent	Site	Site, in partnership with Western	Site, in partnership with Western	Site
RECs	Sold to utility	Sold to utility	Sold to utility	Retained by renewable developer

UESC and Renewables

- Include renewables in UESC project, bundled with energy efficiency
- UESC/PPA “hybrid” – Exploring various options
 - UESC with payment tied to electricity production
 - DOD authority (10 USC 2913d4) ownership requirements may preclude this option
 - Civilian authority (42 USC 8256) does not include ownership requirements
 - Utility services agreement
 - Contract with local serving utility for the purchase of electricity from utility owned, utility operated renewable generation on-site.
 - ✓ Could use FAR 52.241-5 Contractor’s Facilities and Areawide Contract O&M schedule
 - ✓ Land use agreement (lease or other) may not be required under FAR 52.241-5

Participating in Utility RPS Programs - Opportunity Announcement Process

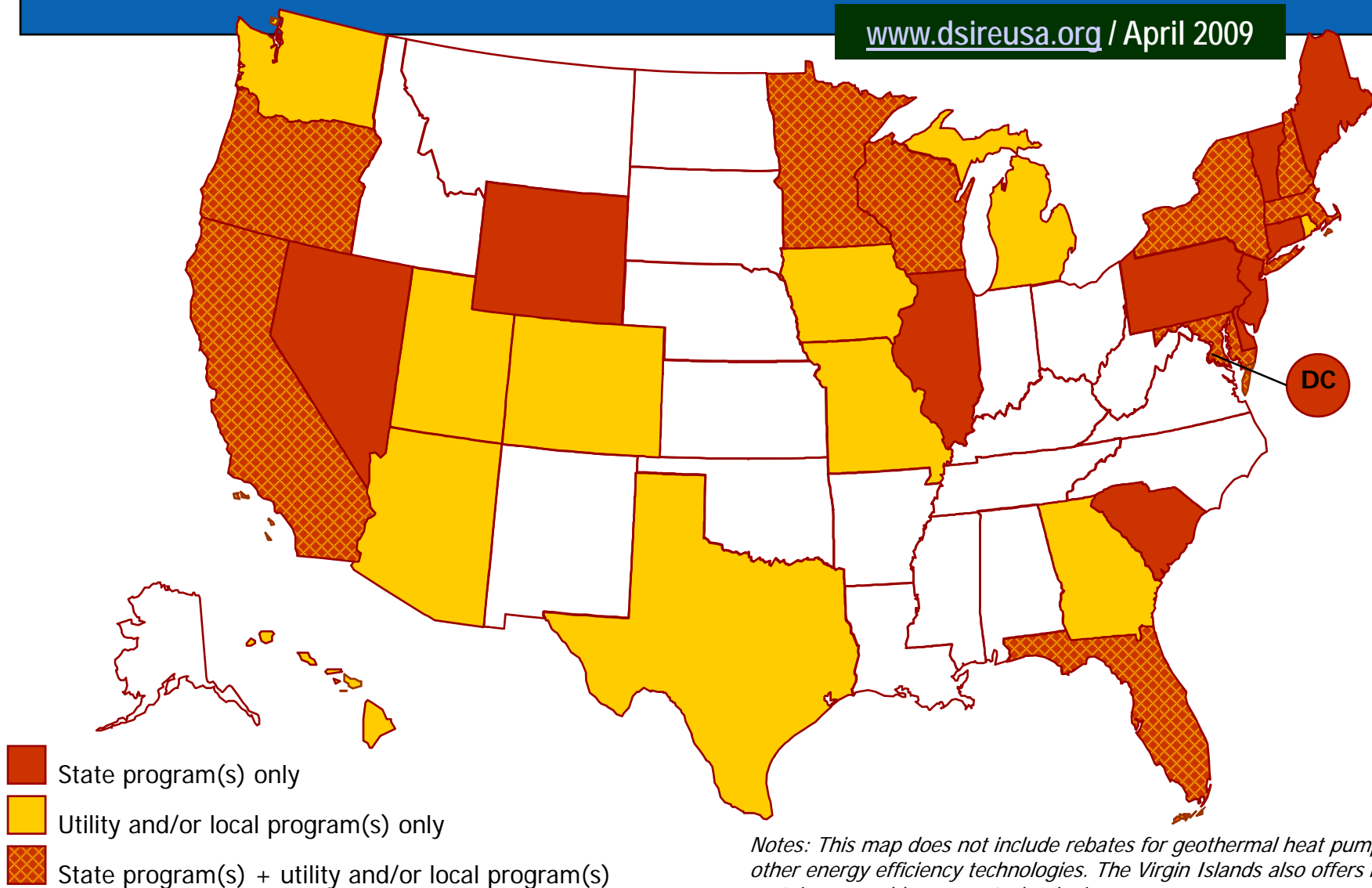
- Utility RPS procurements provide significant opportunity, but often short response time.
- Process required to select federal site renewable partner in advance of utility RFP
- Project example - “Opportunity Notice” used for National Renewable Energy Laboratory (NREL) solar PPA
 - Xcel Energy – periodic solar REC RFP for large solar projects
 - NREL issued an “Opportunity Notice” to down-select to several solar companies, in anticipation of Xcel RFP
 - Selected solar companies provided bids when Xcel RFP issued
 - NREL/DOE Golden Field Office selected one company to submit a bid to Xcel RFP

Using Appropriations

- GSA Supply Schedule for small projects
<http://www.gsaelibrary.gsa.gov/ElibMain/SinDetails;jsessionid=www.gsaelibrary.gsa.gov-52cc0%3A446117b3%3Ae18334633d31dfd?scheduleNumber=56&executeQuery=YES&specialItemNumber=206+3>
- O&M contract is recommended
- Pursue all available incentives (see DSIRE web site at <http://www.dsireusa.org/>)
- May be possible to sell the solar RECs
 - Purchase replacement RECs to get credit towards federal renewable goal
- NREL/FEMP can provide assistance

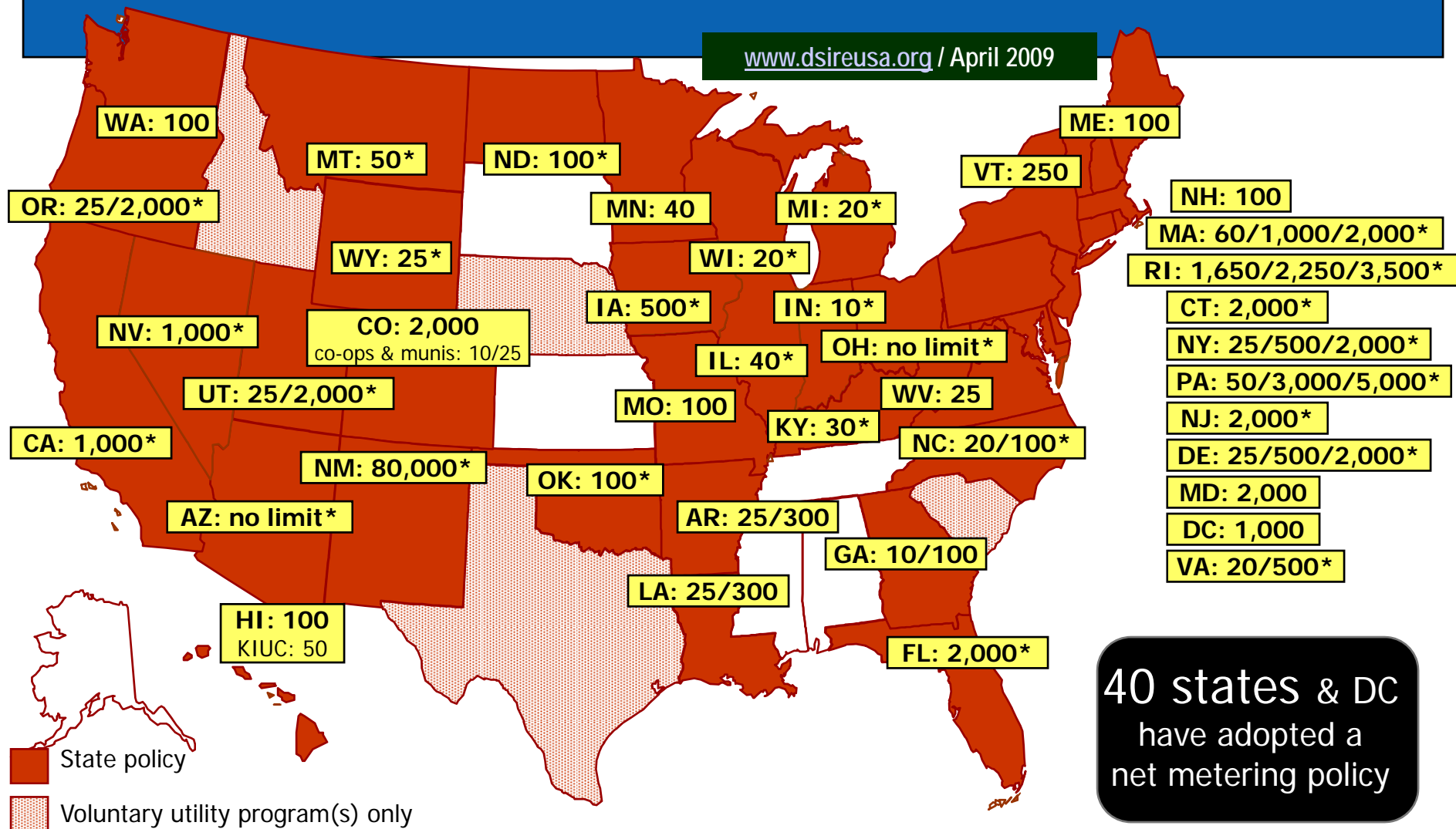
Rebate Programs for Renewables

www.dsireusa.org / April 2009



Net Metering

www.dsireusa.org / April 2009



40 states & DC
have adopted a
net metering policy

Note: Numbers indicate system capacity limit in kW. Some state limits vary by customer type, technology and/or system application. Other limits may also apply.

Closing Thoughts

- Significant opportunities to implement renewable projects through local utilities
- Continue discussions regarding contracting options and creative solutions
- One of this afternoon's Working Group topics is utility renewable agreements and developing a standardized PPA contract
 - Everyone is invited to attend (not just lawyers and contracting officers)