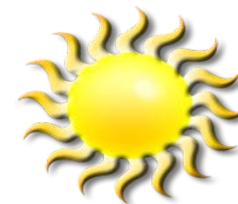
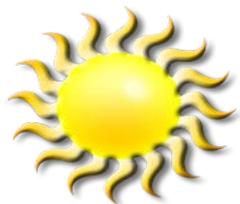


# **Northeast U.S. Solar Policy: Sunny, With a Chance of...FIT?**



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**2009 Northeastern Solar America Cities Conference  
Pittsburgh, PA  
October 16, 2009**



# DSIRE SOLAR!!

**DSIRE SOLAR**  
Database of State Incentives for Renewables & Efficiency

U.S. Department of Energy  
Energy Efficiency  
and Renewable Energy  
North Carolina **Solar Center**  
IREC

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**DSIRE HOME**  
DSIRE SOLAR is a comprehensive source of information on state, local, utility, and federal incentives and policies that promote the adoption of solar technologies. Funded by the U.S. Department of Energy's Solar Energy Technology Program, DSIRE SOLAR is a new component of the DSIRE project that provides solar-specific policy information to consumers, policy makers, program administrators, the solar industry and other stakeholders.

Search for incentives for one or both technologies:  
 Solar Electric  
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- **Interactive Policy Map:** Provides quick access to state specific solar information
- **Solar Policy Guide:** Offers descriptions of various state and local policy types for promoting solar; status and trends of individual policies; specific policy examples; and links to additional resources
- **Summary Maps:** Provide a geographical overview of incentives across the country
- **Solar Policy Comparison Tables:** Highlight individual elements of state rebate and tax credit programs
- **Search Function:** Allows users to create a custom list of programs by solar technology, incentive type, eligible sector, or other criteria.

# PV Incentives: Exploring the Options

## ➤ Federal Incentives

- 30% ITC (residential)
- 30% ITC/grant + MACRS (commercial)

## ➤ State Incentives

- Rebates/Grants (\$/W, \$/expected kWh, %)
- Tax Credits (generally %)
- Production Incentives (\$/MWh or kWh, contracts?)
- Sales Tax (6 – 7%, ~\$0.50/watt)
- Property Tax (% exemption, tax credits in MD)
- Loan Programs (state, utility, local)

# Incentives: A Northeast Comparison

State	Tax Incentive	Rebate	Production Incentive*	Sales Tax	Property Taxes	Avg. Electricity Rate (cents/kWh) June 2009**
Connecticut	-	R: \$1.75/W R	\$30 (Class I)	Yes (C, R)	100% exempt (R)	17.59
Delaware	-	25%	\$360 (solar)	No	None	12.19
Maine	-	\$2/W (\$2k max)	\$61 (Class I ACP)	No	None	12.4
Maryland	-	\$0.25/W - \$1.25/W	\$315 (solar)	Yes (C, R)	100% exempt (C, R)	13.26
Massachusetts	15% R	R: up to \$4.40/W; C:\$2.65/W	\$30 (Class I)	Yes (R)	100% exempt (C, R)	15.92
New Hampshire	-	\$3/W R	\$160 (SACP)	No	Local option (R)	15.54
New Jersey	-	\$1/W - \$1.55/W	\$617 (solar)	Yes (C, R)	100% exemption (C, R)	15.69
New York	25% R	\$3/W	N/A	Yes (R)	Local option (C, R)	16.58
Ohio	-	\$3 - \$3.50/W	\$450 (SACP)	Yes (C)	100% exemption (C)	9.42
Pennsylvania	15% R, C	\$1.75 - \$2.25/W	\$300 (solar)	No	None	9.98
Rhode Island	25% R, C	-	\$61 (Class I ACP)	Yes (C, R)	100% exemption (R)	14.82
Vermont	30% C	\$1.75/W	\$300 (SPEED)	Yes (C, R)	Local option (C, R)	12.8

\* Sources: PJM-EIS, Evolution Markets, DSIRE

\*\* Source: Energy Information Administration

# Financial Incentives: Some Issues

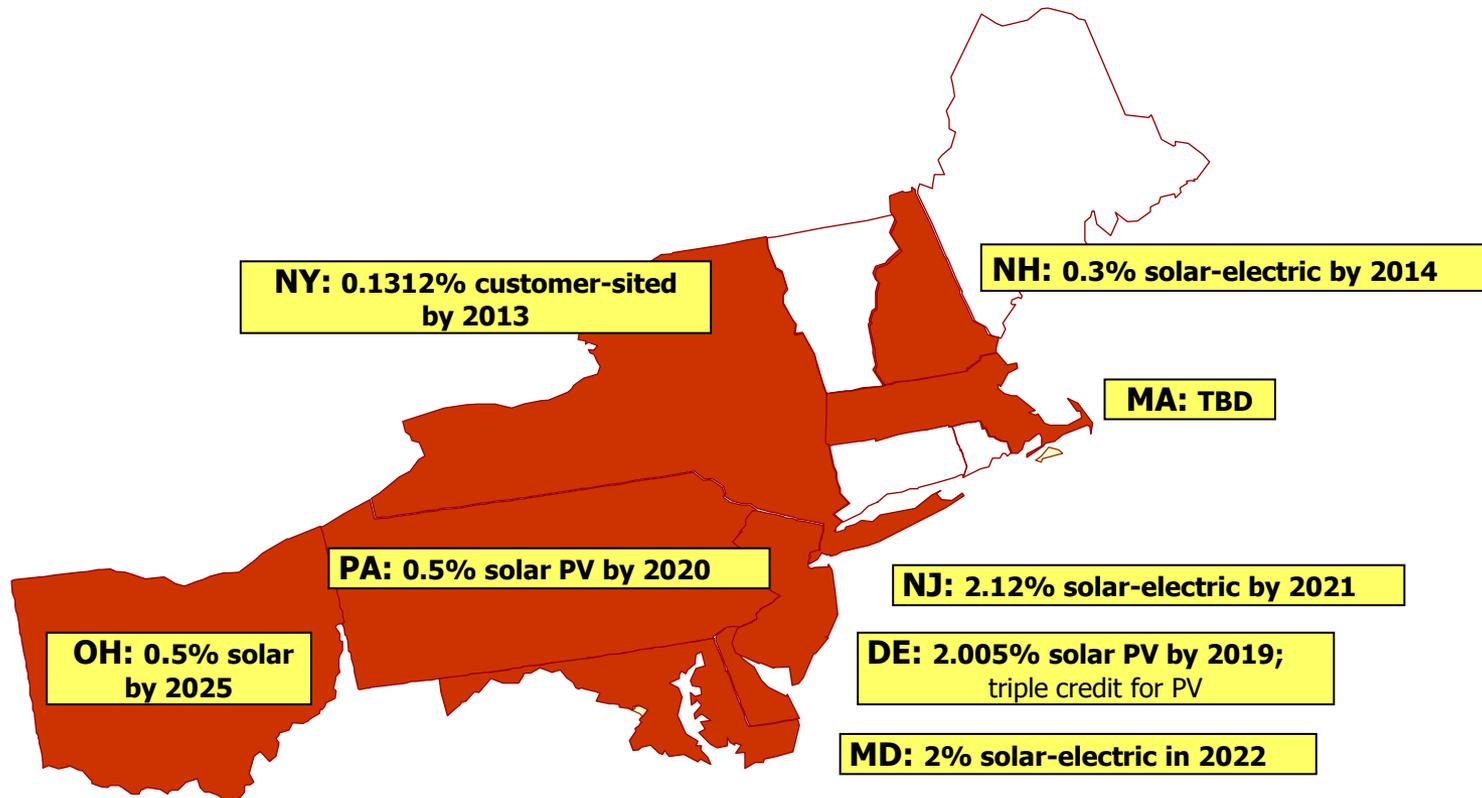
- Lack of transparency and pricing certainty in SREC markets; ease of use problems for small generators; market saturation and interstate eligibility?
- Reliance on tax system for incentives (tax liability, applicability for gov't, non-profits).
- Legality of third-party ownership structures under state utility regulations, net metering.
- Financing the balance of costs after up-front incentives.
- Uncertainty of funding and program rules for rebate programs.

## Solutions???

Some from the industry, some from policy makers

# *Northeast State RPS Policies: Solar/DG Provisions*

[www.dsireusa.org](http://www.dsireusa.org) / October 2009



Solar Set-Asides	MW (2025)	Rank	% Retail Sales (2025)	Rank
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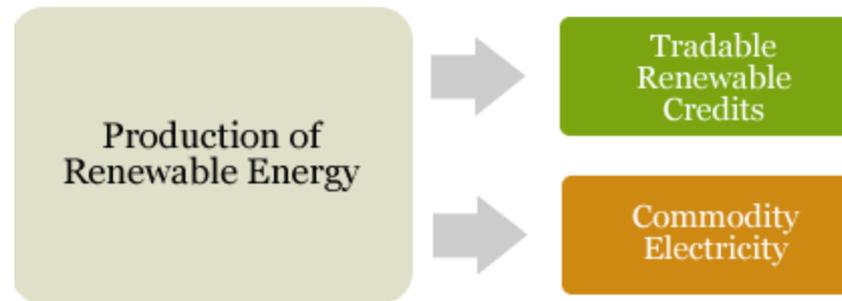
AZ	1,037	4	2.0%	3
CO	135	12	0.4%	11
DC	48	13	0.4%	10
DE	<b>144</b>	11	1.4%	5
IL	1,736	1	1.0%	6
MD	<b>1,248</b>	3	1.9%	4
MO	183	9	0.2%	13
NC	236	8	0.2%	14
NH	<b>31</b>	14	0.3%	12
NJ	<b>1,649</b>	2	2.1%	2
NM	357	7	3.1%	1
NV	173	10	0.9%	7
NY	<b>15</b>	16	0.01%	16
OH	<b>710</b>	6	0.4%	9
OR	20	15	0.04%	15
PA	<b>723</b>	5	0.5%	8
<b>Total</b>	<b>8,447</b>		<b>0.2%</b>	

**NE Total: 4,520 MW**

Source: Lawrence Berkeley National Lab

# Solar Renewable Energy Certificates

Potentially very valuable to solar generators in some markets but tend to not be very user friendly.



## Some solutions:

- Requirements for long-term contracts for SRECs as a separate commodity from electricity (e.g., NJ, MD to a lesser extent)
- Feed-in tariffs (SRECs bundled with electricity such as in RI, VT).
- Up-front SREC prepayments (e.g., Xcel in CO, DTE in MI).
- SREC based loans (e.g., PSE&G Solar Loan I & II).
- Facilitate SREC trading (e.g., accessible pricing information, trading platforms, public aggregation services)

# The Government Dilemma

We want solar, but we can't access many of the incentives.

- PPA agreements with solar companies have great potential under the proper circumstances.
- State rebate programs often offer slightly higher incentives to governments and non-profits that cannot take advantage of tax incentives. May be conditional on non-third party ownership structures.
- Incentive programs based on SRECs and/or production payments do not require tax liability.
- Tax credit bonds: CREBS and QECBs. New allocations, changes to make them more flexible.
- Favorable, well-designed net metering policies for larger commercial scale systems can be helpful. These have largely been adopted by states in the Northeast. Meter aggregation (1 system → multiple building loads) is potentially useful if permitted.

# Third-Party Ownership/PPA Model

- Third-party ownership allows a site owner to install PV, but avoid typical problems of:
  - high up-front costs
  - lack of adequate tax liability (e.g., government buildings)
  - need to finance, build, and maintain system

## BUT...

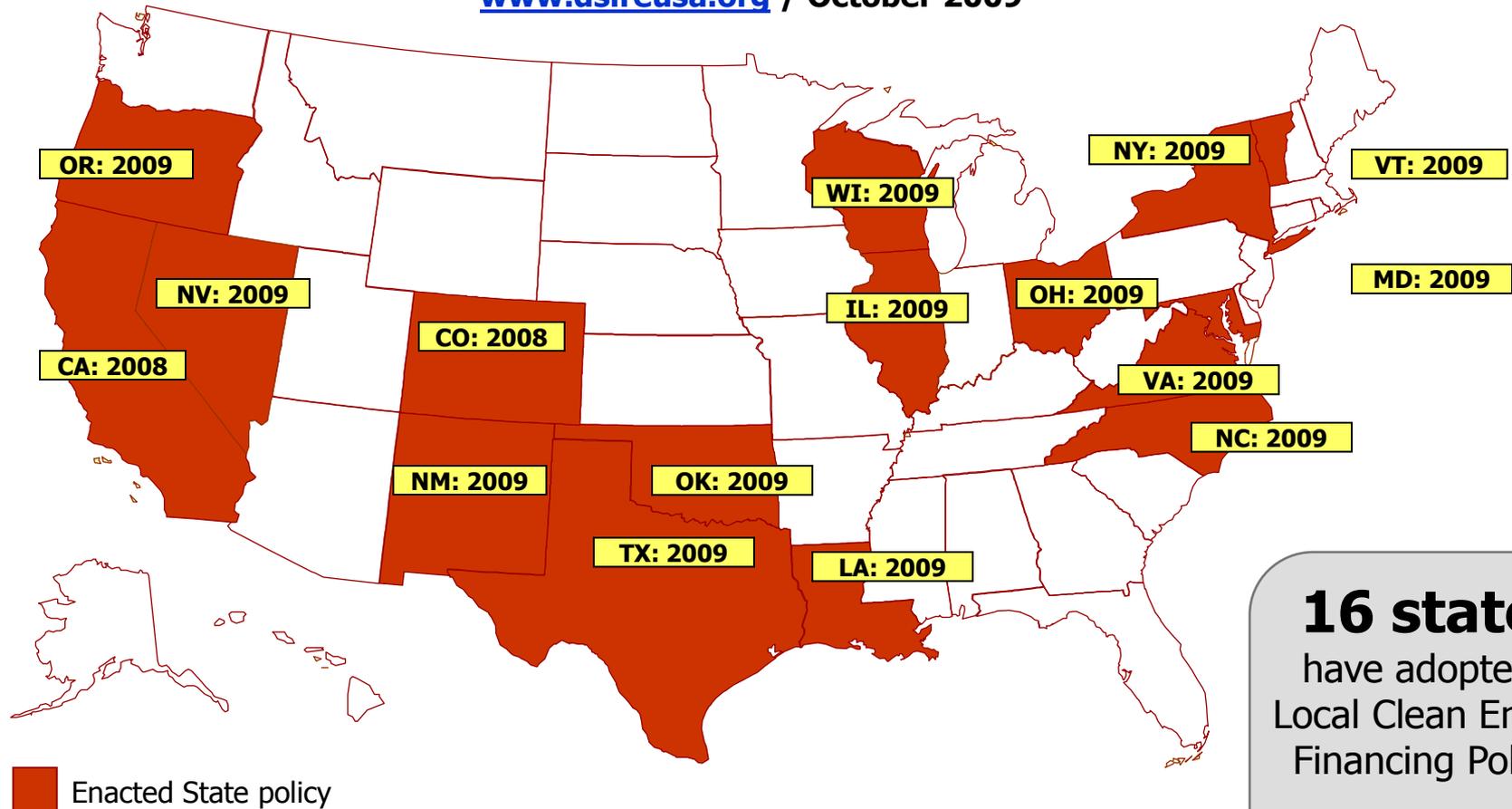
- Issues related to the regulation of “public utilities” and traditional utility monopoly rights can pose problems in otherwise favorable markets.
  - The Oregon PUC has ruled that solar and wind providers cannot be considered public utilities AND determined that they are not subject to PUC regulation as “electric service suppliers”.
- Net metering regulations that imply that the net metering customer and the system owner are the same “person” may also inhibit adoption.
  - The Michigan PSC revised its proposed net metering rules in response to comments during the rulemaking process, replacing the word “owns” with “uses” in the definition “customer-generator”.
  - Maryland revised its net metering law in 2009 (S.B. 981) to accommodate certain third-party structures.

# Financing Up-Front Costs

- State sponsored loan programs
  - NY Energy Smart Loan Fund: Provides loans at up to 4% below lender rates for 10 years. Residential projects are eligible.
  - RIEDC Renewable Energy Loans: Available for non-residential projects only, project specific terms.
- Creative utility programs
  - PSE&G Solar Loan program finances 40-60% of up-front costs and allows repayments with SRECs at basement (\$475/SREC for Solar Loan I) or market price.
- Solar Leasing
  - CT Solar Lease program offers fixed monthly payments for 20 years, no down payment, 15-year purchase option.
- Local Loan Programs
  - PACE or Berkeley model (e.g., Babylon, NY). Typically requires a state authorization in order to make it legal. Potential use for federal Qualified Energy Conservation Bonds.

# Property Tax Financing Authorization

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**16 states**  
have adopted a  
Local Clean Energy  
Financing Policy;

# Questions??

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