

# Net Metering and Interconnection: A Trendy New Direction for CHP

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Interstate Renewable Energy Council



Incentivizing CHP in the Southeast

August 11, 2009



# Connecting to the Grid Newsletter

Available at  
<http://www.irecusa.org/index.php?id=33>

This newsletter provides state-level policy updates and captures emerging regional trends in net metering and interconnection



## CONNECTING TO THE GRID

JULY 2009, Vol. 12, No. 7

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### HOW TO SUBSCRIBE

The Connecting to the Grid newsletter is published electronically every month by the Interstate Renewable Energy Council (IREC) and the North Carolina Solar Center at North Carolina State University. This is a free publication. Click [here](#) to subscribe.

### FORMAT

While customer-sited net metering and interconnection policies and regulations are primarily state issues, they are also becoming important on a regional basis. This newsletter has been designed to provide state-level policy updates and capture emerging regional trends. The state news is presented in geographic categories, primarily because the standard NERC and/or RTO/ISO regions do not always align with state boundaries. Please direct comments and questions about the newsletter to Laurel Varnado at [lvarna3@ncsu.edu](mailto:lvarna3@ncsu.edu).

### ACRONYMS

DG = Distributed Generation  
 EPA = Energy Policy Act of 2005  
 FERC = Federal Energy Regulatory Commission  
 GHG = Greenhouse Gas  
 IC = Interconnection  
 IOU = Investor Owned Utility  
 ISO = Independent System Operator  
 kVA = Kilovolt-ampere (essentially a kW)  
 NM = Net Metering  
 NEG = Net Excess Generation  
 NERC = North American Electric Reliability Corporation  
 PPA = Power Purchase Agreement  
 PSC = Public Service Commission  
 PUC = Public Utilities Commission  
 PURPA = Public Utilities Regulatory Policies Act  
 PV = Photovoltaic  
 REC = Renewable Energy Credit  
 RPS = Renewable Portfolio Standard  
 RTO = Regional Transmission Organization  
 QF = Qualifying Facility (under PURPA regulations)

### WHAT'S NEW AS OF JULY 2009?

[Note from the Editor](#): indefinite rollover, the great equalizer

#### State News in Detail:

##### Northeast States

Massachusetts DPU issues net metering order  
 New Hampshire PUC submits proposed net metering rule to JLCAR for approval  
 New York DPS approves net metering tariffs  
 Vermont PSB opens dockets for Feed-in Tariff implementation

##### Mid-Atlantic States

Delaware bills allow for indefinite NEG rollover, increase aggregate cap and provide net metering-like credits for grid integrated vehicles  
 New Jersey resumes discussion on Community Renewables Program  
 West Virginia Legislature requires PSC to consider net metering advancements

##### Midwestern States

Michigan PSC authorizes munis' renewable energy plans  
 Missouri PSC issues order on liability insurance requirements  
 South Dakota PUC requests comments on Small Generator Interconnection forms

##### Southern States

South Carolina: Net metering settlement signed by Office of Regulatory Staff and utilities  
 Tennessee signs Clean Energy bill

##### Western States

Arizona AEC approves APS's net metering tariff  
 California PUC approves SCE's plan for 500 MW of distributed solar installations  
 Idaho PUC asked to rule on ownership of RECs under PURPA contracts

##### International News

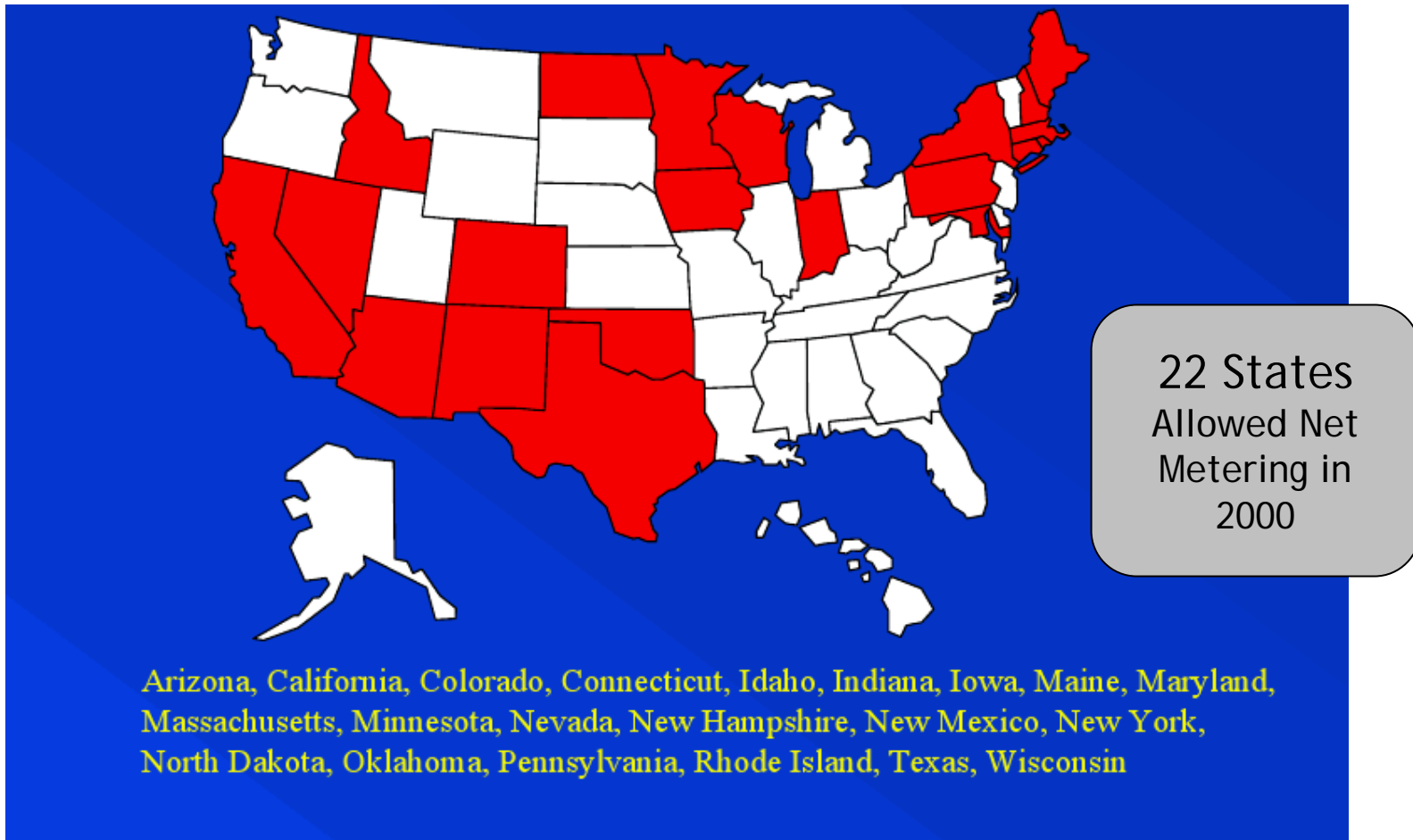
East Africa Region's States Pursue Joint Power Supply Plan  
 DOE Approves \$508M for 16 States' Spending Fast-Track Initiatives for Solar Energy Development on Western Lands Announced

##### Conferences and Events

## Net Metering

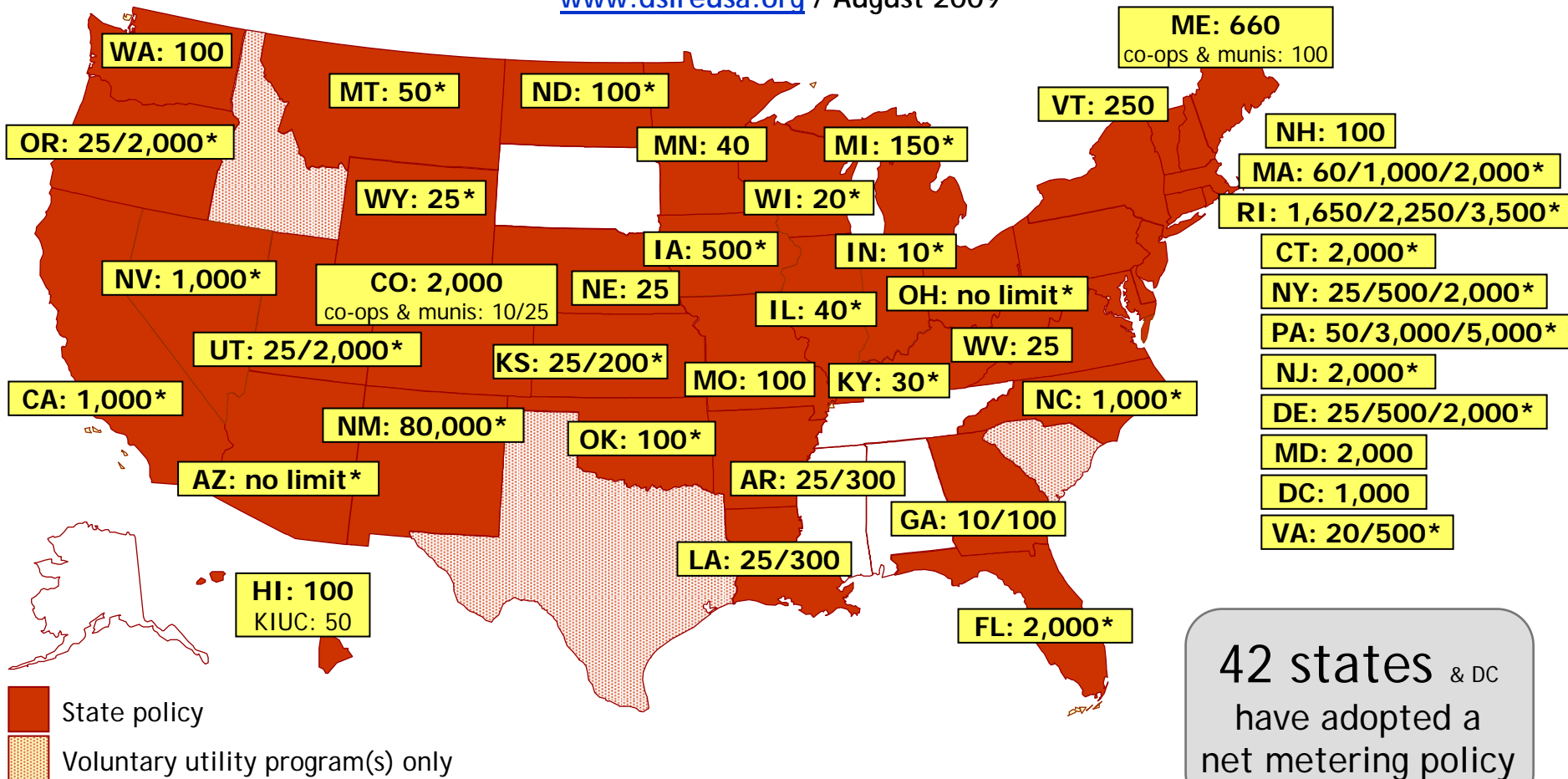
- Net Metering allows a utility customer to offset part or all of the customer's load at any given time and get a one-to-one credit for any excess kWh sent to the utility.
- States legislatures, utility commissions and utilities continue to come up with alternative or more detailed definitions based on facility size, program size, type, rollover period, charges, etc.
- Available "statewide" in 42 states (+ D.C.). In four other states, some utilities have adopted voluntary standards. State policies vary widely. "Best" net metering policies adopted by CO, MD, FL, NJ, OR, PA, CA, CT.\*

## Net Metering as of March 2000



# Net Metering Availability

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



42 states & DC  
have adopted a  
net metering policy

State policy

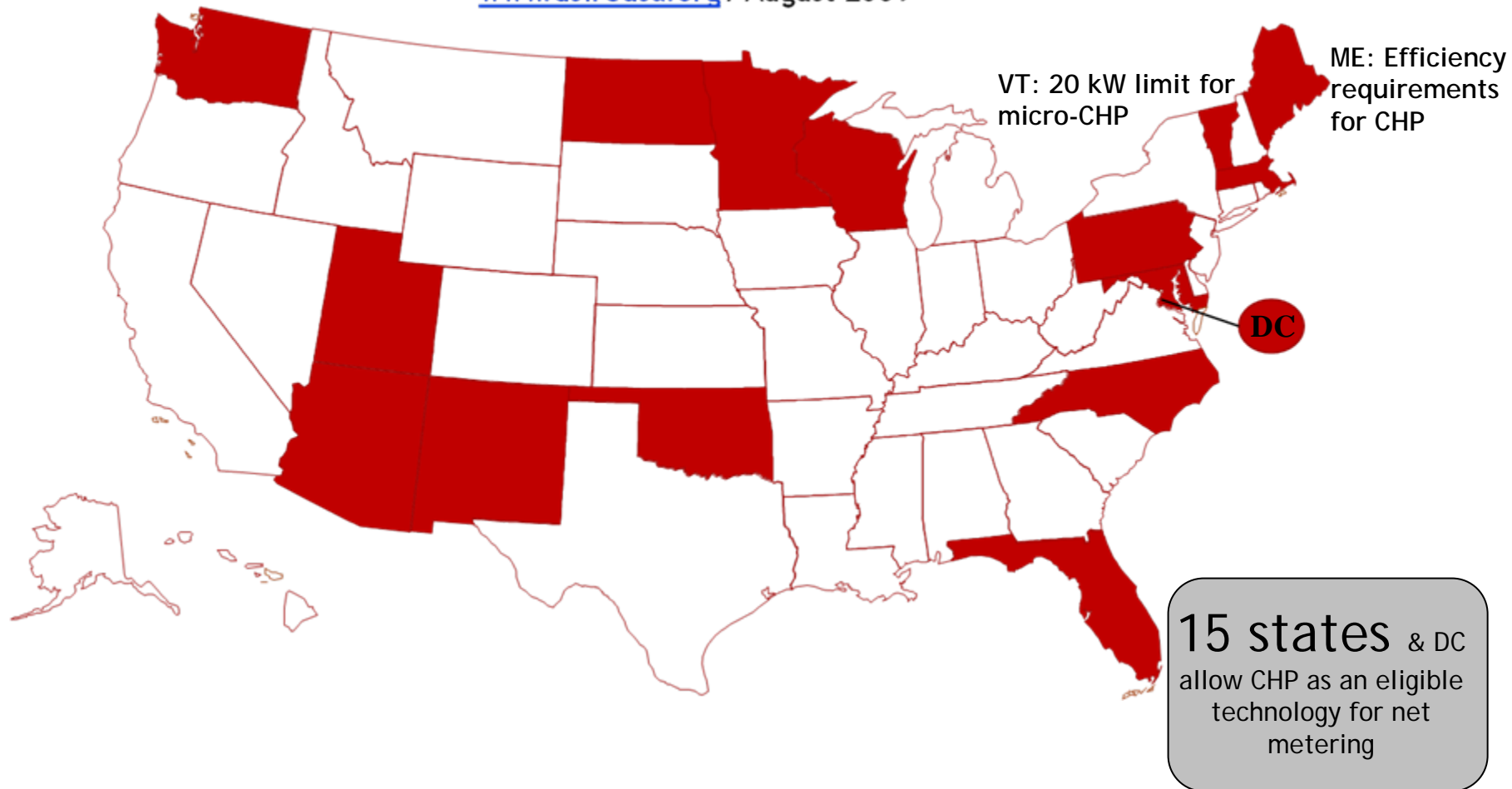
Voluntary utility program(s) only

State policy applies to certain utility types only (e.g., investor-owned utilities)

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.

# CHP Availability in Net Metering Policies

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



# North Carolina Net Metering

Incentive Type: Net Metering Eligible Renewable/Other Technologies: Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, **CHP/Cogeneration**, Hydrogen, Anaerobic Digestion, Small Hydroelectric, Tidal Energy, Wave Energy, Fuel Cells using Renewable Fuels

Applicable Sectors: Commercial, Industrial, Residential, Nonprofit, Schools, Local Government, State Government, Tribal Government, Fed. Government, Agricultural, Institutional

Applicable Utilities: Investor-owned utilities

System Capacity Limit: **1 MW**

Aggregate Capacity Limit: No limit specified

Net Excess Generation: Credited to customer's next bill at retail rate; granted to utility at beginning of summer billing season

REC Ownership: **Utility owns RECs** (unless customer chooses to net meter under an unfavorable demand tariff)

# Florida Net Metering

Eligible Renewable/Other Technologies: Solar Thermal Electric, Photovoltaics, Wind, Biomass, Hydroelectric, Geothermal Electric, **CHP/Cogeneration**, Hydrogen, Small Hydroelectric, Tidal Energy, Wave Energy, Ocean Thermal

Applicable Sectors: Commercial, Industrial, Residential, Nonprofit, Schools, Local Government, State Government, Tribal Government, Fed. Government, Agricultural, Institutional

Applicable Utilities: Investor-owned utilities

System Capacity Limit: **2 MW**

Aggregate Capacity Limit: No limit specified

Net Excess Generation: Credited to customer's next bill at retail rate; excess reconciled annually at avoided-cost rate

REC Ownership: **Customer owns RECs**

## Recent Achievements in the U.S.

On April 30th, Governor John Baldacci of Maine signed a significant reform bill (LD 336) on net billing to allow for shared ownership, an increase in eligible system size to 660 kW, and to expand the eligible technology to include micro-CHP with any technology and any fuel. **Micro-CHP 30 kW and below must achieve combined electrical and thermal efficiency of 80% or greater, and micro-CHP 31 kW to 660 kW must achieve combined efficiency of 65% or greater.**

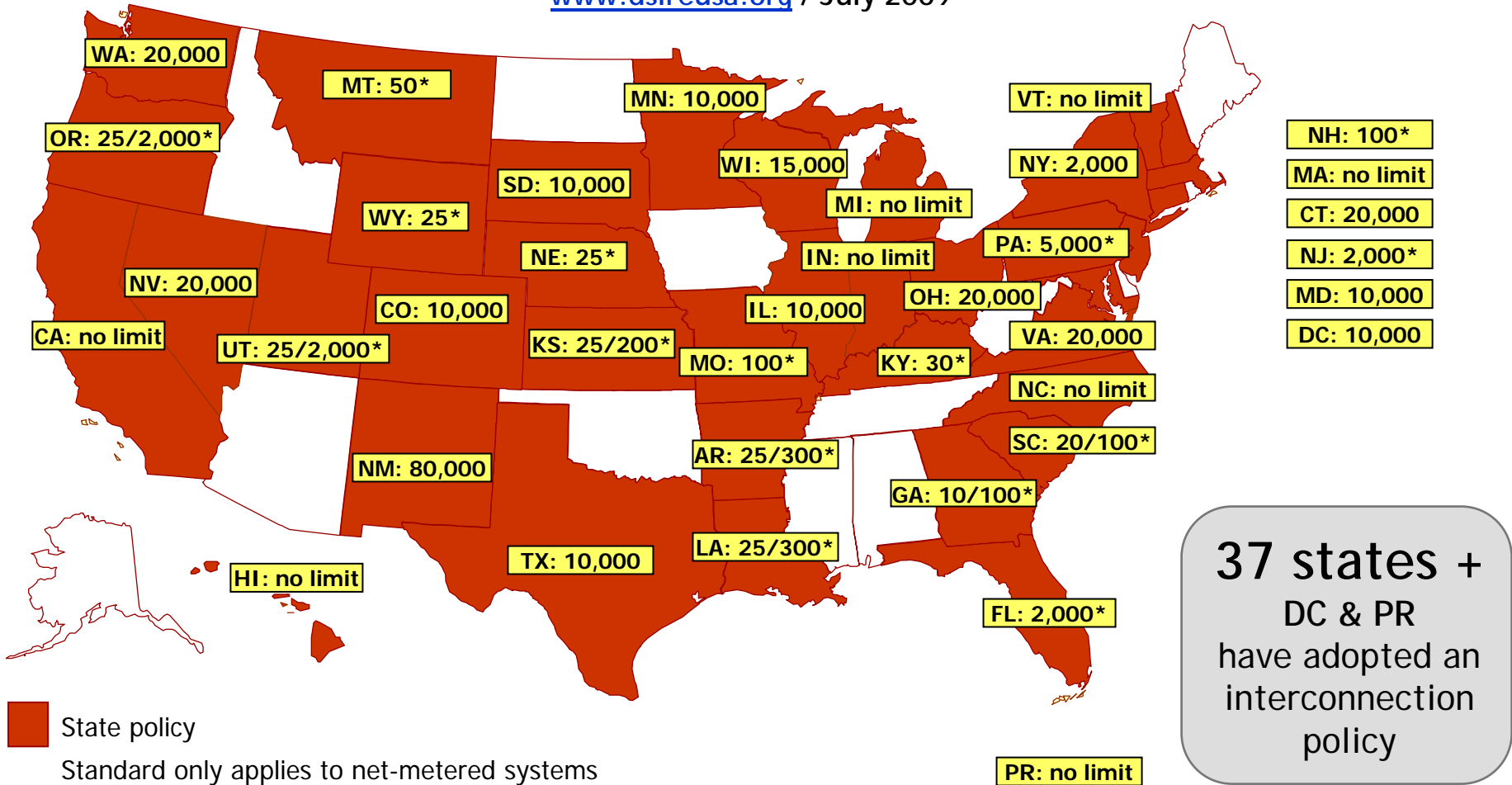
On May 7, 2009 Maryland Governor Martin J. O'Malley signed House Bill 1057, Net Energy Metering - **Micro Combined Heat & Power**, into law. Among other things, the legislation opens up net metering to Micro-combined heat and power systems not exceeding 30 kW in size. Existing law already permitted net metering of wind, solar and biomass systems.

## Interconnection Procedures

- An interconnection standard includes the technical requirements and the legal procedures through which a customer-sited generator may interconnect with the electric grid.
- Generally the utility must study and approve a proposed DG system within a framework established by the state regulatory agency.
- Offered in 37 States (+ D.C.) but “Best” policies adopted by IL, NJ, NM, MD, MA.\*

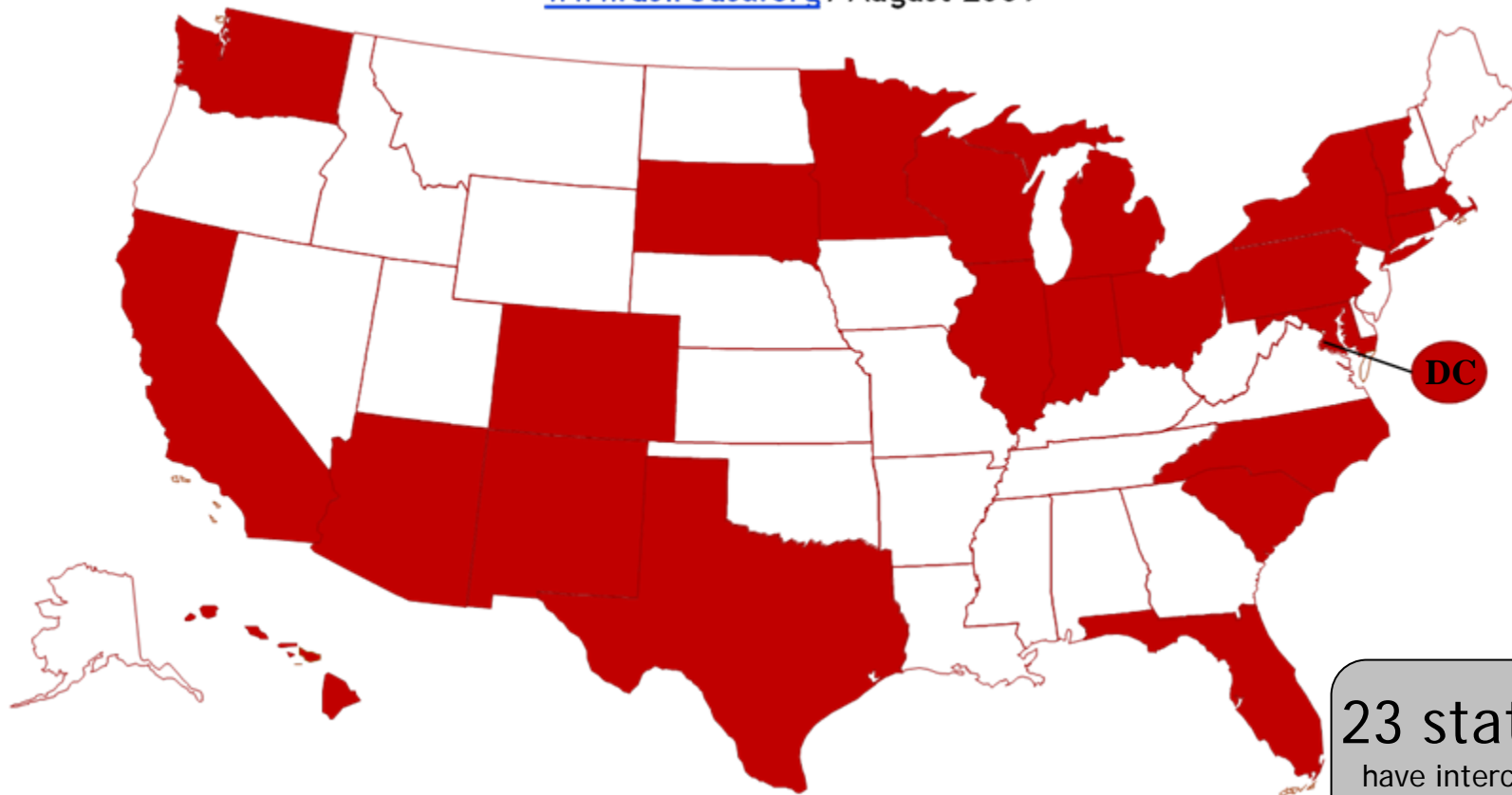
# Interconnection Procedures

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



# Interconnection Procedures for CHP

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



23 states & DC  
have interconnection  
procedures for CHP

# North Carolina Interconnection

Eligible Renewable/Other Technologies: Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Fuel Cells, Municipal Solid Waste, **CHP/Cogeneration**, Anaerobic Digestion, Small Hydroelectric, Microturbines, Other Distributed Generation Technologies

Applicable Sectors: Commercial, Industrial, Residential, Nonprofit, Schools, Local Government, State Government, Fed. Government, Agricultural, Institutional

Applicable Utilities: Investor Owned Utilities

System Capacity Limit: **No limit specified**

Standard Agreement: Yes

Insurance Requirements: Vary by system size and/or type; levels established by commission

External Disconnect Switch: Not required for inverter-based systems up to 10 kW (unless the utility pays for it); utility's discretion for all other systems

Net Metering Required: No

## South Carolina Interconnection

Eligible Renewable/Other Technologies: Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Fuel Cells, Municipal Solid Waste, **CHP/Cogeneration**, Anaerobic Digestion, Small Hydroelectric, Microturbines, Other Distributed Generation Technologies

Applicable Sectors: Commercial, Industrial, Residential, Nonprofit, Schools, Local Government, State Government, Fed. Government, Agricultural, Institutional

Applicable Utilities: Investor-owned utilities

System Capacity Limit: **100 kW for non-residential; 20 kW for residential**

Standard Agreement: Yes

Insurance Requirements: Vary by system size and/or type; levels established by commission

External Disconnect Switch: Required

Net Metering Required: No

# Florida Interconnection

Eligible Renewable/Other Technologies: Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, **CHP/Cogeneration**, Anaerobic Digestion, Small Hydroelectric, Tidal Energy, Wave Energy, Ocean Thermal

Applicable Sectors: Commercial, Industrial, Residential, General Public/Consumer, Nonprofit, Schools, Local Government, State Government, Tribal Government, Fed. Government, Agricultural, Institutional

Applicable Utilities: Investor-owned utilities

System Capacity Limit: **2 MW**

Standard Agreement: Yes

Insurance Requirements: Vary by system size and/or type; levels established by commission

External Disconnect Switch: Not required for inverter-based systems up to 10 kW; required for all other systems

Net Metering Required: Yes

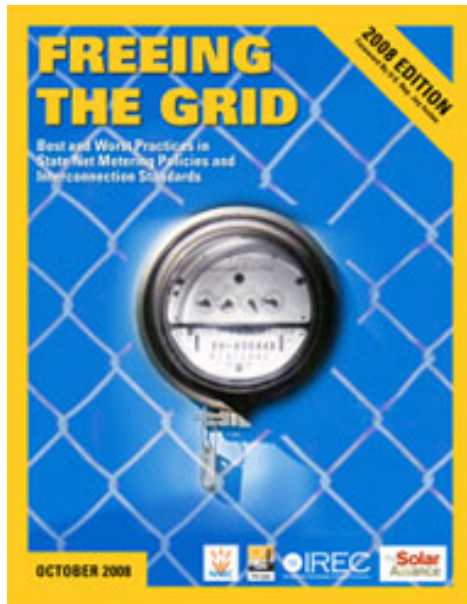
## Lingering Questions

- Southeastern states will most likely follow the lead of NC and Florida...but when?
- Will there be efficiency requirements on CHP (as in the case of Maine) in order to net meter?

## Trends Indicate CHP is on the rise

- When state net metering and interconnection policies are updated, they usually include CHP in the revision process
- Most recently Micro-CHP is finding a home in net metering policies
- Trends tend to spread regionally: In the Southeast NC and FL are traditionally the leaders of the pack
- Nationally recognized model standards (including FERC's SGIP) include CHP as an eligible technology

## Further Resources



- Freeing the Grid, available at <http://www.newenergychoices.org/>
- IREC Model Standards: <http://www.irecusa.org/index.php?id=31>
- Database of State Incentives for Renewables & Efficiency (DSIRE) : [www.dsireusa.org](http://www.dsireusa.org)

# Questions?

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