

# CONNECTING TO THE GRID

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Connecting to the Grid got a face-lift this month! We are pleased to present this new format which will hopefully be easier to read without bogging you down with old information. If you're particularly interested in the history of a certain proceeding there are a couple great resources out there already: the [DSIRE database](#) has a lot of great information, as does the [Connecting to the Grid News Feed](#), which has a search feature to help you narrow down your focus. Please let us know if you have any questions or comments about the changes.

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Editor: Laurel Varnado

NC Solar Center, NC State University

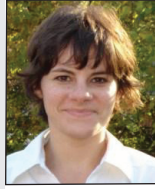


### ABOUT THIS NEWSLETTER

While customer-sited net metering and interconnection policies are primarily addressed at the state level, 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. *Connecting to the Grid* is a free, electronic newsletter published each month by the Interstate Renewable Energy Council (IREC) and the North Carolina Solar Center at North Carolina State University. [Click here to subscribe.](#)

Please direct comments and questions about the newsletter to Laurel Varnado at [lavarnad@ncsu.edu](mailto:lavarnad@ncsu.edu).





## INNOVATIVE UTILITY PRACTICES, A FOCUS ON CO-OPS



*“Many forward-thinking utilities have already begun to transform their business-as-usual approach to fit the next-generation of power delivery needs.”*

Our centralized-generation model of energy infrastructure was clearly a driving force behind the acceleration of American economic development in the 20th century. Considering the current media and political buzz around transitioning to a clean energy economy, the U.S. is in the midst of rethinking this model. Many forward-thinking utilities have already begun to transform their business-as-usual approach to fit the next-generation of power delivery needs.

The three main types of utilities, investor-owned, municipal and cooperative, are similar in many respects but their fundamental structure and purpose differs enough to cause variations in their approach to net metering and interconnection policies. Despite the inherent constraints of each utility type, some utilities have heeded the call for more and cheaper options to connect renewable energy to the grid. This month we begin to look at some of the constraints that bind utilities' policy-making abilities and ways that utilities are working with the system to ramp up renewables. I'll start the discussion with electric cooperatives and in subsequent months we will be following up with a look at municipal and investor-owned utilities.

Cooperatives or co-ops are member-owned, representing 27% of utilities in the U.S. but only 10% of sales. Co-ops generally serve rural areas and are often driven to achieve least-cost energy prices for their members, generally making it more difficult for them to adopt renewable energy incentives and net metering. Additionally, co-ops tend to have much smaller peak loads than investor-owned utilities (IOUs) so large net-metered systems could potentially have a much greater impact on the co-op's revenue stream. They also usually have smaller sub stations than IOUs, which could require additional

upgrades and capital costs to interconnect a larger system. These facts do not preclude co-ops from implementing net metering policies though, not by a long shot! Valley Electric Association in Nevada provides a great example of this. In 2009 they voluntarily implemented a net metering policy that would take these two constraints into account by placing a 30 kW limit on net-metered systems with a .5% aggregate limit on participation.

Only six states regulate cooperatives; most states instead defer control to cooperative members. Since co-ops are usually not regulated by state PUCs, one could argue that they have a greater measure of freedom to implement policies that suit their customer base. To provide a good example of innovative policy-making, Farmers Electric Cooperative in Iowa, with around 760 members, offers a solar feed-in tariff of \$0.20 per kWh. They additionally offer a \$1/watt up-front rebate *and* net metering. Their reasoning, according to a recent article, came down to peak shaving in the summer. Farmer's Electric, like many co-ops is only a retail service provider and purchases power through wholesale agreements. The price of power in the contract is based partly on the peak demand so by cutting down on peak energy they might be able to lower their costs.

These examples provide a brief glimpse some ways co-ops are adapting to new demands but clearly there is still a lot of work to be done. This shift toward a more distributed model of power generation will require more innovation as the country develops new financing models for grid-tied renewable energy. Utilities may operate under a different set of constraints and motivations but incorporating renewables is proving to be both achievable and beneficial for the bottom line.

Best,  
Laurel Varnado

# STATE NEWS IN DETAIL

## NORTHEAST STATES

### CONNECTICUT

The Connecticut Department of Public Utilities (DPUC) has rescheduled a hearing regarding utilities' December 10, 2009 proposed revisions to formalize guidelines for interconnecting inverter-based systems to area networks. These were filed as compliance to Order No. 4 in [Docket No. 03-01-15RE01](#), the DPUC investigation into the need for interconnection standards for distributed generation. Pursuant to a DPUC decision dated December 23, 2009, the DPUC will conduct a public hearing for the purpose of considering the utilities' proposed changes to the guidelines. Letters will be accepted from members of the general public who have an interest in the outcome of this matter through the last day of the proceeding. The hearing will take place on February 18, 2010. This issue is being considered under [Docket No. 03-01-15RE02](#).

### NEW YORK

Con Edison has filed a proposal with the New York State Public Service Commission (PSC) to support the development of 25 megawatts (MW) of solar energy resources in New York City by 2015, which would

offset about 16,000 tons of carbon dioxide (CO<sub>2</sub>) emissions annually. Con Edison suggested the State set aside \$24.8 million of its renewable energy funds for these programs for residential and commercial customers in New York City.

Source: [CNN.com](#)

On February 11, the New York Public Service Commission approved tariff filings of the six investor-owned utilities in New York to encourage the installation of residential micro-combined heat and power (micro-CHP) and fuel cell electric generating systems. The utilities that submitted tariffs include Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., National Grid, New York State Electric & Gas Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

The state's Standardized Interconnection Requirements (SIR) were also revised to incorporate the net metering modifications for micro-CHP and fuel cell systems. Micro-CHP or fuel cell generating systems may not exceed 10 kW, and the installation must be located and used at the applicant's premises.

Source: [NY PSC Press Release](#)

### RHODE ISLAND

On January 9, Rhode Island released a state-coordinated plan to develop a green economy. The plan, "[A Roadmap for Advancing the Green Economy in Rhode Island](#)," delineates a path that focuses on the completion of three projects in the near term. The first calls for a state energy strategy for the next decade that will consider how

to increase the renewable energy supply, reduce energy demand and stabilize prices. The second initiative would increase access to financing for green companies. The third aims to improve education in such fields as wind power, where specialized welders and electronic technicians are needed.

### VERMONT

On January 15, the Public Service Board of Vermont issued an order in their examination of the establishment of a standard offer for renewable energy resources with a generating capacity up to 2.2 MW. State legislation included initial prices to be paid qualifying plant owners but charged the PSB with setting an interim price no later than September 15, 2009, and a final price no later than January 15, 2010. The [price schedule](#) will apply to all new standard-offer contracts executed subsequent to the issuance of the order. Also attached to the order were the model inputs for developing the standard-offer prices. Visit the [PSB website on Dockets 7523 and 7533](#) for more information.

## MID-ATLANTIC STATES

### NEW JERSEY

On January 17, 2010, New Jersey Governor Corzine signed into law the [Solar Energy Advancement and Fair Competition Act](#) (A3520). This law establishes new solar requirements in addition to removing the 2 MW cap for net-metered systems. The Board of Public Utilities will be convening a stakeholder proceeding to implement the new law. A public hearing was scheduled for February 2, 2010, concerning the

previously-issued rule proposal to remove the cap.

Comments on the proposal were submitted during the February 2 hearing but they may also be submitted through e-mail or written comments until March 5, 2010.

## MIDWESTERN STATES

### MICHIGAN

On January 19 the Michigan Public Service Commission (MPSC) staff filed its annual net metering program report, which shows that the number of net metering customers in Michigan has more than doubled from July 1, 2008 through June 30, 2009.

In May 2009, the MPSC adopted net metering and interconnection rules for small, renewable electric generation projects, as required by Public Act 295 of 2008. This latest report said the number of net metering customers increased from 53 in the 2007-2008 year to 137 in the 2008-2009 period. Wind proved the most popular with the number of installations increasing from 29 to 96 during the period, while solar installations increased from 23 to 39 during the same time period. Net metering customers are located throughout the state.

Source: [Michigan PSC Press Release](#). This press release accompanied an interesting power point presentation that provides more information on the [background and status of net metering](#) in the state.

## SOUTHERN

## STATES

### FLORIDA

The [Florida Keys Electric Cooperative](#) has given authorization their community solar program for the middle keys. The Simple Solar Program is available only to FKEC members. Co-op members who support alternative energy but are not interested in designing, permitting, building, maintaining and insuring their own residential solar arrays can now lease panels in FKEC's existing array. In return for leasing one or more panels for \$999 each, members receive monthly bill credits for the full retail value of the electricity generated by their leased panel(s) for 25 years. Each 175-watt panel will generate around \$36 in bill credits in the initial year. Assuming a 3% annual increase in the retail price of electricity, the \$999 investment per panel should return about \$1,280 in total credits. Source: [Florida Keys Electric Cooperative News](#).

## WESTERN STATES

### CALIFORNIA

In mid-January the [Sacramento Municipal Utilities District \(SMUD\)](#) issued a [Feed in Tariff](#) based on time-differentiated avoided-cost calculation. It was available to all technologies, for systems sized up to 5 MW. Within one week the utility received applications that exceed the program's 100 megawatt capacity, all for PV projects, and closed the [queue for projects](#). According to [SMUD's FIT pricing guidelines](#), all renewable prices are levelized rates that do not vary over the term of the Power Purchase Agreement

whereas CHP rates are annual prices with a fixed escalation factor of 2.74% to the prior year's rates.

On January 26, the CPUC issued a decision approving [Pacific Gas and Electric's 500 MW solar PV DG proposal](#). This follows on the CPUC's decision to approve the final details of Southern California Edison's 500 MW proposal the previous week. The PG&E program includes 250 MW of utility-owned generation and 250 MW of PPAs.

In its decision, the CPUC rejected PG&E's proposal to use fixed-pricing for the PPA portion and instead decided that procurement of PPAs should be through competitive bid. Importantly, the CPUC also limited PG&E's cost recovery to no more than the average cost of PPA winning bids.

This decision brings to light the significant impacts of the passage of SB 32, feed-in tariff legislation that expands the state's current feed-in tariff program priced at the Market Price Referent (MPR) to systems up to 3 MW (the limit was formerly 1.5 MW). The CPUC has determined that with the passage of SB 32, the competitive bid portion of the PG&E program is only available to systems from 3-20 MW. PG&E had proposed that systems in the 1-20MW range be allowed to participate. Staff had proposed that systems 1-10 MW be allowed to participate. This may leave the most ideal size range for PV installations (those that are large enough to get economies of scale but small enough to be deployed on distribution lines) off the table. The only policy support for systems in this size range may be MPR pricing, which has failed to bring any so-

lar PV projects online over the last couple years.

In an attempt to rectify this situation, CPUC President Peevey proposed an alternate decision that would include systems from 1-3 MW. The alternate decision also allows up to 5% of the utility-owned generation capacity authorized under this program to be from facilities less than 1 MW in size and/or roof-mounted. The proposed decision does not allow these types of projects to be pursued under the program.

### COLORADO

On January 19, the Fort Collins, CO City Council gave initial approval to an ordinance formally adding a net metering provision into city code. The ordinance passed unanimously. The council also approved an ordinance setting standards for connecting electricity-generating facilities to the city's power system.

The ordinance would limit net metering to 120 percent of a customer's annual consumption. The figure matches the limit set by the Colorado Public Utilities Commission for customers served by investor-owned utilities. The utility has practiced net metering since 2005. The city currently has 46 net-metered customers, primarily homes.

Source: [The Coloradoan website](#)

### UTAH

On January 7, the Utah PSC posted changes to the proposed rule for interconnection under [Rulemaking Docket R746-312](#). The proposed rule specifies the application procedures, technical requirements, evaluations, inspections and main-

tenance requirements, fees and timelines which pertain to interconnection. Notably this new strawman proposal revised a few items of interest, including:

- Limiting study fees to within 125% of the utility's non-binding good faith estimate
- Allowing the customer and utility to mutually agree to terms other than those specified in the standard form interconnection agreement, (but these terms are subject to commission approval)
- Limiting spot network interconnections to 5% of a spot network's maximum load or 50 kilowatts.

On February 1, Rocky Mountain Power submitted comments and a proposed standard form agreement for: (1) Interconnection Facilities Study Agreement Level 3 Net Metering Interconnection Review; (2) Impact Study Agreement Level 3 Net Metering Interconnection Review; (3) Interconnection and Net Metering Service Agreement for Net Metering Facility Level 1 Interconnection; (4) Interconnection and Net Metering Service Agreement for Net Metering Facility Level 2 Interconnection; and (5) Interconnection and Net Metering Service Agreement for Net Metering Facility Level 1 Interconnection. Rocky Mountain Power did not submit its standard form agreements for interconnection, which have already been approved for use by the Federal Energy Regulatory Commission. For links to these proposed forms, see the Utah PSC docket 09-R312-01.

## OTHER STATES

### ALASKA

On January 15 the Alaska RCA issued an order adopting finalized net metering rules. As we mentioned in previous IREC posts, these regulations allow net metering up to 1.5% of each electric utility's average retail demand (roughly equivalent to 1% of peak demand). Systems must be owned or leased, and operated, by the consumer, and have a cumulative nameplate capacity 25 kW or less. Net metered systems must be used primarily to offset part or all of the customer's requirements for electricity and be controlled by an inverter or switchgear. No month-to-month rollover is allowed of excess credits, rather month-end excess is credited at the utility's avoided cost rate on the customer's next bill. Utilities may not assess additional charges or fees for net metering customers and must pay for the purchase and installation of any additional metering equipment that they deem necessary.

One additional issue to note is that, according to a footnote in the rules, only 5 of the 21 communities served by Alaska Power Company are subject to the rule. For a list of utilities affected by this rule, please see the following table:

### [Alaska Utilities Required to Allow Net Metering](#)

To view the entire net metering rule, please refer to the following attachment:

### [Alaska Net Metering Rule Adoption 1/15/10](#)

## MISCELLANEOUS NEWS

### NREL RELEASES FEED-IN TARIFF

**REPORT** State decision makers have encountered arguments that state-level feed-in tariffs (FITs) are preempted by federal law. These arguments arise because the FIT transaction is a wholesale sale of electricity, from renewable seller to retail utility (which could trigger the Public Utility Regulatory Policies Act of 1978 (PURPA) and/or the Federal Power Act of 1935 (FPA)). Each of these statutes does in fact limit the discretion of state-level tariff designers. State utility commissions, in conjunction with the National Association of Regulatory Utility Commissioners (NARUC), asked the National Renewable Energy Laboratory (NREL) to explore how states can lawfully implement feed-in tariffs. This report seeks to reduce the legal uncertainties for states contemplating feed-in tariffs by explaining the constraints imposed by federal statutes. [[Download the full report](#)]

### PRESIDENT'S OFFICE REQUESTS INPUT ON SMART GRID

The Office of Science and Technology Policy (OSTP) within the Executive Office of the President is requesting input from the public regarding the consumer interface with the modernized electric grid (Smart Grid), which is a vital component of the President's comprehensive energy plan. In particular, it is seeking comments on issues related to Smart Grid implementation options, including the ways in which each option would support open innovation in home energy services. This Request for Information

(RFI) will be active from February 10, 2010 to February 19, 2010. Respondents are invited to respond online via the Smart Grid Forum. [[See the OSTP announcement](#)]

### SAN FRANCISCO LAUNCHES PACE FINANCING PROGRAM

San Francisco, often an environmental trendsetter, is launching what could be the largest U.S. program that allows businesses and homeowners to finance green upgrades through their property taxes. Mayor Gavin Newsom signed legislation that creates a citywide special tax district to finance energy efficiency, renewable energy and water conservation improvements. The loans, which will be attached to the property -- not the owner, will be paid back through property taxes. Beginning in March, San Franciscans will be able to seek financing from the Property Assessed Clean Energy (PACE) program, which will make \$150 million in bonds available. [Source: [USA Today](#)]

## UPCOMING EVENTS

### Renewable Energy World North America

Organized by: REW  
February 23-25, 2010  
Austin, TX  
<http://www.renewableenergyworld-events.com/index.html>

### Building Energy 10

Organized by: NESEA  
March 9-11, 2010  
Boston, MA  
<http://www.nesea.org/buildingenergy/>

### American Solar Energy Society Conference

Organized by: ASEA  
May 17-22, 2010  
Phoenix, AZ  
<http://www.solar2010.org/>

### Windpower 2010

Organized by: AWEA  
May 23-26  
Dallas, TX  
<http://www.windpowerexpo.org/>

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