

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF  
COLORADO DOCKET NO. 07M-230E**

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**IN THE MATTER OF THE COMMISSION ADOPTING POLICIES AS  
REQUIRED BY HOUSE BILL 07-1228.**

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7/20/2007

**REPLY COMMENTS OF THE COLORADO ENERGY INDUSTRIES ASSOCIATION**

The Colorado Energy Industries Association (CoSEIA) appreciates the opportunity to reply to comments made by others on policy development as called for by House Bill 07-1228 (HB 1228). CoSEIA members include several hundred solar sales and installation companies and employees in Colorado. We represent a thriving and rapidly growing industry, particularly in the area of solar electric installations.

*Statewide Net Metering*

Almost all of the comments including comments from GEO, Interwest, Southwest Windpower, Rocky Mountain Farmer's Union, and, of course, CoSEIA strongly request statewide, true net metering as implemented in the Commission's net metering policy under the renewable energy standard (RES).

*REC's Must be Purchased*

CoSEIA agrees with Interwest that RECs are a valuable resource that must not be held "hostage" as a requirement to participate in a utility's net metering program. Distributed

Generation RECs must be purchased by a utility from the REC's owner in a voluntary program. Net metering must not be contingent upon utility REC ownership. This is the Commission's policy for IOUs and needs to become statewide policy.

### *RECs and Thermal*

Public Service states a "concern about how a 'credit program similar to the renewable energy standard' will work with technologies that do not produce electricity." Public Service then expressed concern that a RECs current definition as "the renewable attributes of electric generation" precludes their use for renewable thermal. In fact, solar thermal RECs are completely reasonable and possible, and, in addition, CoSEIA believes it would be relatively straightforward to include solar thermal in the Renewable Energy Standard (RES).

In practice in many other parts of the country solar thermal RECs are allowed. For example:

Lakeland Electric, a municipal utility serving about 100,000 customers in Lakeland, FL, announced an agreement with Sterling Planet to market up to 330,000 kWh of renewable energy certificates (RECs) derived from solar water heating and photovoltaic (PV) systems to other utilities and corporate customers. The deal is believed to be the nation's first involving RECs derived from solar water heaters.

The utility employs special meters to measure the thermal output of the solar water heating systems and converts the thermal energy to an electricity-equivalent.

Arizona, Hawaii, Illinois, Missouri, Nevada, New Hampshire, Pennsylvania, Texas, and Vermont all include solar hot water in their renewable portfolio standard. At least Arizona and Nevada pay for hot water rebates from funds collected on electric bills.

These policies use a definition of 3412 BTUs per kWh. Lakeland Electric, counts only useful energy actually delivered to the end user by using a BTU meter calibrated in kWh.

However, this meter and the costs of reading the meter monthly are high for relatively small systems. CoSEIA believes that the policy adopted for small PV systems for the RES of using a reasonable estimate of RECs delivered to the customer will work just as well for solar thermal. As mentioned in CoSEIA's original comments, PVWatts provides estimates of kWh production for PV systems, RETSCREEN can provide estimates of kWh delivered for solar thermal systems.

Metering will need to be used where thermal RECs from medium and large systems will possibly be sold to others.

## Solar Thermal in the Renewable Energy Standard

40-2-124 is a renewable energy standard. While much of the policy is specific to electricity, we believe it would be fairly easy and very appropriate to add solar thermal into the existing RES. In addition to the title itself (A “Renewable Energy Standard”, not a renewable electricity standard) all of the legislative intent voted on by the public fits solar thermal perfectly well.

The steps needed to put distributed solar thermal into 40-2-124 include:

1. Define solar thermal as an eligible energy resource.
2. Define 3,412 BTUs of thermal energy delivered to a customer as equivalent to 1 kWh.
3. Declare that for small thermal systems that generate domestic hot water and space heat a reasonable estimate of delivered energy based on a family of four is acceptable in place of an actual meter.
4. Define a solar onsite thermal standard. For example, set-aside 2% of the 10 or 20% overall standard.
5. Consider increasing the overall standard and increasing the cost-recovery cap.

CoSEIA recognizes that much of the energy offset by solar thermal will not come from electricity. However, we also recognize that almost everyone that uses heat also uses electricity and that many solar thermal users will offset electricity. While in an ideal world, the cost-recovery needed for solar thermal incentives would come from the energy source that is offset (propane, natural gas, electricity), it may prove cheaper and easier in

the real world to simply collect the funds from electric bills – particularly given that CoSEIA feels that a \$2 to \$4 million per year rebate pool would be adequate to jumpstart the solar thermal market for the entire state (as compared to the \$16+ million or so per year being collected by the IOUs that is moving the PV market in less than 2/3s of the state).

Although it is difficult to quantify, solar thermal that replaces natural gas or propane will help reduce electricity costs by decreasing the price of natural gas.

While CoSEIA views putting solar thermal into the RES as a great way to incentivize solar thermal, there are other ways to create and fund solar thermal incentives. The key attributes for a successful incentive program for thermal are:

1. Establish a standard
2. Fund rebates
3. Identify an entity or entities responsible for meeting the standard.

Clearly the RES meets these three requirements, but other sources of funding and responsible entities are possible as well. For example:

1. Funding for solar thermal incentives could come from a small charge on the transport of gas. For example, a 1 cent adjustment per million BTU of natural gas would generate roughly \$2 million per year. Customers are paying between \$6 to \$10 a million BTU so this amounts to a very small 0.2% increase in rates.

2. Oregon has created the \$50 million per year Oregon Energy Trust with a system benefit charge (a fixed charge) on electric and gas bills for many of the utilities in the state. The trust is responsible for programs, rebates, and meeting standards.
3. In Colorado, we could change the current cost-recovery cap to a fixed percentage collected (e.g., 1 or 2% as suggested by others), move the funds to GEO's Clean Energy Fund (CEF), and allow utilities to choose to apply those funds themselves or have CEF run their program for them. With today's technology it would even be possible to have CEF web pages appear as if they came from the utilities themselves allowing a utility to keep the PR and good will that rebate programs create.

It seems likely that there are other possibilities. For example, City of Boulder voters passed measure 202 that creates a small carbon tax on electricity sales within the city to fund Boulder's climate action plan.

#### *Feed-in Tariffs and Other Rate Structures*

Several respondents suggested the use of feed-in tariffs and other kinds of rate structures (e.g., Time of Use rates (TOU)) as incentives. Feed-in tariffs have been quite successful in Europe and are being implemented in Canada and Washington State.

Time-of-use tariffs have been used to help incentivize solar PV in California.

However, complicated tariffs beyond true net metering should be offered as a customer

choice, never as a requirement. In California, recently passed legislation required those getting solar electric rebates to be on a TOU tariff. This effectively stalled almost the entire solar electric industry in California as ratepayers apparently mistrusted the more complicated rate structure. Emergency legislation had to be passed and signed to remove the TOU requirement.

CoSEIA believes that a very large part of residential and small business strong preference for true net metering is that it is the simplest billing system for customers to understand. Anything that requires customers to move to a more complicated billing scheme should be avoided.

### *Other Thoughts*

As we continue to explore these policies new thoughts present themselves. CoSEIA views the following as interesting ideas that, while not specifically reply comments, may prove interesting in-and-of themselves or may help spur additional and better ideas during the upcoming workshop:

1. For large thermal systems, rather than rely exclusively on estimates of production for an upfront rebate, or on actual production for a 20 year period which requires meter reading and check-writing for 20 years, consider half of the rebate paid upfront based on estimates, the balance paid based on actual first-year metered delivered energy at the end of the first year. This would incentivize large systems,

- encourage quality in design and implementation, while minimizing the overhead associated with 20 years worth of metering and REC payment checks.
2. Consider an additional rebate for new solar thermal systems where the consumer currently has electric heat because solar thermal reduces peak demand for electricity.

*Conclusion*

CoSEIA looks forward to participating in the next phases of this process.

Respectfully submitted this 20th day of July 2007.

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Lynn Hirshman  
Executive Director  
CoSEIA  
805 13th Street  
Golden CO 80401  
303 333-7342  
[lynn@coseia.org](mailto:lynn@coseia.org)