



**State Clean Energy-Environment Technical Forum**  
**Energy Efficiency Portfolio Standards**  
**May 16, 2006**  
**Call Summary**

**Participants:** 47 participants from 18 states and several national organizations (see the participants list at <http://www.keystone.org/html/documents.html>.)

**Background Materials:** “Energy Efficiency Portfolio Standards” and EPA’s “Clean Energy-Environment Guide to Action” (available at <http://www.keystone.org/html/documents.html>)

**Key Issues Discussed**

- Determining EEPS targets
- Integrating EEPS in an RPS
- Monitoring and verification of EEPS
- Non-compliance and incentives for meeting EEPS
- Environmental benefits of EEPS

**Summary of Presentations**

*Note: All of the presentations from this call are available for download at <http://www.keystone.org/html/documents.html>. Please refer to these documents for additional detail on the presentations.*

**A. Welcome – Julie Rosenberg, U.S. Environmental Protection Agency (USEPA)**

This issue was first discussed on this call in April, 2006. Energy efficiency portfolio standards (EEPS) refer to a variety of approaches to designating a set amount of energy efficiency to be achieved statewide. EEPS can take the form of a number of kilowatt hours (kWh) or British thermal units (BTUs) or a percentage of demand or projected demand growth that must be met with efficient or renewable energy. This is a market-based approach that is fundamentally different from previous spending requirements on efficient and/or renewable energy. Several states currently have some form of EEPS: California, Colorado, Connecticut, Hawaii, Illinois, Nevada, New Jersey, Pennsylvania, Texas, and Vermont. Today’s call will explore the approaches taken in Nevada, Connecticut, and Vermont.

**B. Energy Efficiency Resource Standards: A Powerful Policy Tool – William Prindle, American Council for an Energy Efficiency Economy (ACEEE)**

- **What is EERS?**
  - Energy efficiency resource standards (EERS) involve **setting a quantitative target for end-use efficiency programs**, particularly in the electricity sectors (though it is sometimes used for natural gas as well)
  - EERS are **top-down overall goals** that drive energy program outcomes
  - **Different states take different approaches to EERS.** Some states have stand-alone targets for electricity or natural gas (or both), some have efficiency resource targets in addition to a public benefits spending program, and some blend efficiency targets with renewable energy targets

- **How Does EERS Differ from Past Approaches?**
  - In the last 10 years, public benefits in 10 states have been driven by public spending levels set by legislation and negotiation to try to **preserve energy efficiency (EE) benefits that were occurring under the regulation of the demand-side management (DSM) era**. DSM was a bottom-up approach that allowed utilities to build up a portfolio and, from that, create a resource target.
  - **Restructuring has taken away the framework for integrating efficiency in resource plans.**
  - EEPS is based on the **same kind of analysis as regulated utility DSM programs**, even though it is administered from the top down. However, **EEPS timeframes tend to be longer**—ten years instead of 2 to 5 years. This is important, because it takes time for EEPS to really affect the energy market.
- **What Are the Advantages of EERS?**
  - It **rebalances energy markets** in states
  - It is a **clear policy tool**
  - It can be **linked to other policy goals** (reliability, emissions reductions, etc.)
  - It can be based on **well founded quantitative analysis** similar to that used in traditional integrated resource planning projects
- **Potential EERS Impacts**
  - ACEEE has done an analysis to see what would happen if a national EERS were instituted. This study indicated that **a national EERS would:**
    - Reduce demand growth by 25%
    - Eliminate the need for over 400 power plants
    - Provide \$64 billion in net benefits
    - Save twice as much as all the EE and renewable energy (RE) elements in the Energy Policy Act (EPAAct) of 2005
- **Where Is EERS Being Used/Developed?**
  - Ten states: California, Colorado, Connecticut, Hawaii, Illinois, Nevada, New Jersey, Pennsylvania, Texas, and Vermont
  - Abroad: United Kingdom, Italy, France, and Belgium
  - ACEEE report on EEPS is available on its website at [www.aceee.org](http://www.aceee.org)
- **EERS Developments**
  - There is **new legislation in Congress** this week that seeks additional EPAAct funding for EERS provisions
  - Several states are looking at EERS as a post-restructuring adjustment that will allow them to **moderate demand growth**
  - The Regional Greenhouse Gas Initiative (RGGI) in the Northeast is looking at using EERS as a parallel policy approach to **addressing climate change**

### C. EEPS in Nevada – Jon Wellinghoff, Attorney, Beckley Singleton, NV

Note: This presentation was not accompanied by a slide presentation. However, additional materials are available at the website noted above. Also, ACEEE will soon be publishing a related paper in their summer proceedings. The title of this paper is **“AB3 Legislation Drives Market for Energy Efficiency in Nevada.”** Individuals who are interested in learning more about EEPS in Nevada are invited to look for this paper at [www.aceee.org](http://www.aceee.org) in the summer.

- In 2001, Nevada passed an EEPS law that required the state’s utilities to have **15% of their total load requirements from renewables (wind, geothermal, solar, and biomass) by 2013**. This new policy was widely supported and passed unanimously. Although the state encountered some challenges that slowed its implementation, the process is moving forward now.
- In the 2005 legislative period, **this law was expanded. Energy efficiency was added** under the definition of measures that could be taken to meet the target portfolio, and this was done in a way that **did not dilute the standards for renewables**.
- The original renewable standard **created a renewables market in Nevada**, with robust geothermal, some wind, and robust solar communities participating in the standard.
- **The state expects the new energy efficiency standards to similarly create incentives for developers to participate.**
- Utilities are incorporating additional funding into their own internal programs, because the standard allows them to meet **the overall portfolio standard at a lower cost than does the renewable standard**. Under the renewable-only legislation, utilities in the state were only spending \$6.5 to 7 million on energy efficiency. **The 2005 legislation has increased budgets by 10 times to \$65 to \$70 million.**
- The EEPS in Nevada is more than a target. **There are penalties for non-compliance--** utilities are fined if they do not meet the standard, unless they have a really good reason for being unable to do so.
- The Nevada EEPS is a market-driven process in which **utilities have invited bids from other entities for the lowest cost renewables package** that can help them meet their portfolio target. Utilities have also initiated in-house EE programs, but **it seems likely that there will be external entities that will offer lower bids for the EE aspect of the portfolio** as well. These external entities take a different approach to renewables and energy efficiency than the utilities traditionally pursue in-house.
- **Question: How does the amount of spending for EEPS next year translate into kilowatt hour savings?**
  - Not sure what the estimated savings are, but certain that it meets their target

#### D. EEPS in Connecticut – David Goldberg, Connecticut Public Utility Commission

- The state has had a renewable portfolio standard (RPS) for many years with targets for both resource categories: Class I (more common renewable resources) and Class II (trash-to-energy facilities, some biomass facilities, and some hydropower facilities)
- In 2005, the Connecticut legislature expanded the RPS to include targets for **“Class III” resources**, which allows the utilities to meet a portion of the target with combined heat and power (CHP), efficiency, and load management measures (1% by 2007; 2% in 2008; 3% by 2009; 4% by 2010)
- **One goal of the Act was to address reliability problems** through demand response, efficiency, and CHP. Connecticut is generation-deficient and transmission capacity-constrained.
- In order to meet the 2007 targets, Connecticut utilities would have to double energy efficiency and load management savings.
- The state has **avoided diluting the renewables market** by creating a stand-alone class for renewables and Class III resources.

- **Final Draft Guidelines** for Class III resources will be issued in May 2006. The state worked with a lot of stakeholders in the development of the guidelines.
- The statute lays out some program specifics, such as the requirement that CHP must meet a fuel conversion efficiency standard of 50% or greater.
- EE and load management projects that received funding under the existing state conservation and load management funding programs are eligible. Other non-fund projects that meet the monitoring and verification (M&V) protocols are also eligible.
- **Applicant projects must be certified** by administrators of the Conservation and Load Management Fund (Fund). Non-Fund project savings must be verified by an independent 3<sup>rd</sup> party. Aggregation of project savings is allowed.
- Applicants also have the **option to select the financial incentives or retain the rights to the Class III RPS credits**. Most parties will opt for funding and avoid having to deal with trading Class III credits in the marketplace. If they take the financial incentives from the Fund, they will have to give the rights to the credits to Fund administrators, who will sell the credits to load-serving utilities who have to comply with the RPS. There is also the potential of a hybrid approach in which the applicant could take some funding and some credits. Either way, this serves as a way to replenish the Fund's funding mechanism.
- To be certified for demand response, the **party must be a participant in the ISO-New England demand response program**. Eligible credits are based on metered reductions in load.
- **Only Commercial and Industrial (C&I) measures are eligible** in the first year. The state may consider allowing residential sector activities at a later point in time.
- There is **no fuel-input requirement** for Class III.
- The state is working to get Class III credits tracked through the Generation Information System (GIS) of the New England Power Pool (NEPOOL) to be traded like Class I and Class II credits.
- **Question: How did Connecticut address the potential impact of CHP and distributive generation expanding on the system?**
  - Over the last two years, the state has issued decisions on standby rates and interconnection rules, but there is still room for improvement. EPA requires states to review standby, interconnection, and backup charges. Recent decisions have offered improvements over how the state addressed these issues in the past.

#### **E. EEPS in Vermont -- Blair Hamilton, Vermont Energy Investment Corporation**

- Vermont still has vertically-integrated utilities and does not have retail competition. Six years ago the state implemented a **state-wide energy efficiency utility** that would be supported through a volumetric surcharge paid by all customers. This generates funds used to hire an EE performance contractor that serves the function of an EE utility for the state.
- **The performance contractor is selected through a competitive bidding process** which also results in specific megawatt hour (MWh) savings targets. Bids and negotiated contracts have 3-year goals **for megawatt hours, summer peak, and winter peak reductions**.
  - The board has exercised its right to renegotiate the contract in the past.

- 3-year goals have been met or exceeded (megawatt hours and megawatts delivered have increased).
- In the first year, 5% of the statewide electric load was delivered through EE, with additional 1% each year for last three years.
- The current contract requires that efficiency meet 1.1% of projected electricity demand this year and 1.2% the following year.
- Based on this, they expect to meet 75% of load growth for the next three years.
- **The EE investment target set by the public service board is based on:**
  - Statutory requirements to acquire all cost-effective energy efficiency
  - Statutory requirements on certain policy objectives, such as equity among social groups who differ according to ability to participate, financial ability to pay, and geographic location.
  - The statute requires a biannual EE audit, examining costs and savings delivered. It also requires that the savings potential be assessed every three years.
- Last year a law was passed requiring **the state's utilities to voluntarily meet all new electricity demand from renewables**. If the state's utilities cannot meet this target voluntarily, then there will be a mandatory RPS. EE can reduce demand growth and therefore can reduce the RPS target.
- Vermont is currently **considering a mid-year adjustment to the current investment** in energy efficiency, perhaps doubling the current level (or more). This decision will be made within the next 4 to 6 weeks.

### General Questions and Discussion

#### *Do you see any patterns in how states set targets?*

- State approaches tend to be based on economic and technical potential estimates, on what is reasonably achievable. States are not just pulling numbers out of thin air.

#### *How did you get consensus with utilities on structuring these programs?*

- In Vermont, it took two years of very involved discussion, negotiation, and deal making. There were compromises made by all parties to get to a settlement agreement on behalf of all state utilities, consumer groups, environmental organizations, etc. People seem to be happier now about the final settlement than they were at time they made it. In particular, the state's utilities are happy with the outcome. Vermont's small utilities did not think that they had a capacity to deliver EE well, and the consolidated state program made it more rational, reduced costs, and offered a higher-quality product. It allowed them to concentrate on getting electricity to customers and having someone else work with customers to reduce load.
- In Connecticut, the state has implemented limited decoupling of revenues from sales to remove some of the disincentives for utilities to reduce sales through efficiency. Rate recovery was an issue in getting utility buy-in to the program. The statute also gave the state authority to establish a non-compliance payment, which is 3.1 cents per kilowatt hour. The state will annually review this penalty payment.
- In Rhode Island, there are proposals in pending Senate Bills 2905 and 2906 that have provisions for funding of low-income EE heating bills.

***Are costs for Vermont's EEPS currently being recovered through a systems benefit charge?***

- Yes. It is currently the only cost recovery mechanism. The charge is now approximately 3% of an individual's bill. There will be a phased-in ramp-up over time. The current contract (2006-2008) system benefits charge is raising \$52 million.

***Does Vermont have a non-compliance penalty?***

- In Vermont a portion of the compensation to the contractor is contingent on meeting goals, subject to rigorous monitoring and verification process. If the contractor does not deliver, they lose a lot of money and will likely not get hired again by the state.

***What mechanisms exist for monitoring and verification of savings?***

Note: Monitoring and verification have been addressed in greater depth on previous calls.

Background materials, presentations, and summaries from these meetings may helpful and are available at the website indicated above.

- Connecticut is tapping into the existing programs for energy efficiency and conservation which have a technical reference manual that gives guidance on how to do it, including discount and realization rate factors. For CHP, participants have to provide evidence that they are meeting the 50% efficiency target on an annual basis. For thermal non-metered energy, the electricians' union sets the standards. Electricity has prescribed metering requirements, and the state has adopted the standard that the Federal Energy Regulatory Commission (FERC) implemented per the Public Utilities Regulatory Policies Act (PURPA).
- In Nevada, the same protocols are used for EERS that were used historically to substantiate DSM programs in the Integrated Resource Planning (IRP) process. It is a self-certifying process, though utilities usually hire independent contractors for the certification.

***Have states had opportunities to quantify the environmental benefits of EEPS?***

- Connecticut hopes to do this. 2007 will be the first year of its EEPS program. The state has an aggressive climate change plan, so it may be tracking that through Class III. To meet Regional Greenhouse Gas Initiative targets, Connecticut estimates it will need to double its energy efficiency.
- In Vermont, administrators who are operating statewide programs are tracking this either because it is required or because they just think it is a good idea. Tracking environmental impacts is a standard part of the state's approach to energy management.

**NEXT TECHNICAL FORUM CALL:** June 19th from 3:30 p.m. to 5:00 p.m. EDT  
**TOPIC:** Integrated Gasification Combined Cycle (IGCC) technology