

Governor's Energy Policy Task Force

Meeting Summary

6 June, 2008

Chattanooga, TN

Introduction

Governor Bredesen began the meeting by welcoming participants, and making note of the process webpage, and that the meeting was being recorded for internet broadcast.

- The Governor went on to say that he hoped that this process would result in a set of attainable goals and action items for the short- and medium-term, and would not try to do too much too soon
- Gov. Bredesen then laid out his 4 goals for the process:
 1. A Lead-by-Example plan for state government
 2. Policies and programs to encourage efficiency and conservation for citizens and businesses
 3. A plan to better use TN's resources to drive clean energy development and industry growth ('green jobs')
 4. Expand the use of alternative and renewable fuels and energy technologies

Harold DePriest, EPB (Chattanooga Electrical Distributor)

Mr. DePriest, a representative from EPB, the local electrical distributor in Chattanooga, presented on the current energy efficiency programs that EPB is engaged in, including installation of a "Smart Grid" and a low-income energy efficiency program.

- Energy efficiency helps local businesses to stay in business
- Chattanooga's electricity load is 60% industry, 40% residential. Much of this electricity is lost to waste, especially on the industry side. Total electrical load currently is 1,300 MW
- EPB is conducting audits of industry users; audits identified > \$100k worth of compressed air leaks, \$100k in inefficient lighting in 3 months of auditing. Equivalent to the total energy load from 1,000 homes
- EPB is working on a pilot program to provide energy efficiency upgrades to low-income households--especially important because energy costs are higher a percent of income in these households
- EPB, in partnership with TVA, is installing a 'Smart Grid' in Chattanooga. Installation will begin within 1 year, and be complete in 3-5 years. Program features include:
 - Automatic meter reading: no need for meter-reading personnel, and will reduce annual VMT by 750,000, saving \$3 million annually
 - Meter reading every 15 minutes will identify anomalous users, and allow EPB to take steps to address these
 - Network will include 170,000 'smart meters', capable of time-of-use billing. These can remotely control heating, cooling, appliances and water heating – 75% can also do voltage control.

- Smart meters each cost \$100-200. Total cost of 5-year Smart Grid program \$17-25 million
- As a part of this program, EPB has committed to reducing electricity use by 100 MW over 5 years
 - TVA total electrical load is growing by 600 MW/year; ½ the size of Chattanooga’s load

Joe Hoagland, Vice President for Energy Efficiency, TVA

Mr. Hoagland briefly presented on how TVA views energy efficiency, and what its goals are in that area.

- TVA anticipates ~10,000 MW load growth in the next 10 years (from slide)
- TVA’s energy efficiency goals:
 - Reduce overall electricity load (“lower the curve”)
 - Demand response (“cut off the peak”)
- Energy efficiency is a “high priority” resource for TVA, comparable to new generation (Need to make energy efficiency economically worthwhile to TVA and local distributors; to align the costs and benefits).
- TVA is beginning to align wholesale and retail electricity rates. This will require time-of-use metering.
- TVA’s energy efficiency goal is to reduce load growth by 1400 MW over the next 5 years.
- Currently renewable sources only make up 480 MW of TVA’s total load (1.5%), well short of any potential Federally-mandated Renewable Portfolio Standard.

Questions From Task Force

- Why not use money that would otherwise be spent on new generation instead to incentivize residential renewables?
 - The state should provide incentives in the short term; longer-term, utility prices will remove the need for incentives.
- Most people in TN, including contractors, architects, etc. don’t have a great understanding of energy efficiency. What can we do about that?
 - TVA is setting up a trade ally network, of contractors, architects and other building trades across TN who are trained in building techniques and technologies.
 - Support and education could be a great role for local distributors to play.
 - Green Building network in Tennessee is growing: currently more than 600 members. Though there are only 9 certified LEED buildings in the TN currently, and there are 80 projects registered for certification.
- Governor asked about an energy efficiency rating system for buildings, to be presented as a certificate when buildings are sold
- Is there currently a good source of information out there about energy efficiency retrofitting for consumers?

- The state might use a large event or conference to publicize and launch a good energy efficiency information source for the public. He suggests bringing in a big name speaker such as William McDonough.
- TVA wonders about the best way to educate the public. Behavior change will be brought about through higher costs at peak hours, with smart metering. TVA wants to be involved with outreach/education, but notes that, “It’s got to be more than just us.”
- Gov. Bredesen says that he is looking for measures with broad applicability; asks about low-hanging fruit in building codes
 - TVA says that the codes aren’t the problem (a little behind, but not too bad). The lack of enforcement is the issue
 - In order to get the new building codes passed in the legislature recently, it was necessary to promise a “light hand” on enforcement: no new budget or increase in personnel for inspections
- TVA’s average cost of production (not including capital cost) is \$60/MWH: breaks down as follows: Nuclear \$15/MWH; Coal \$15-65/MWH; Natural Gas \$100+/MWH
 - Governor Bredesen asks what the cost is for new Nuclear production, and whether or not pending carbon legislation will significantly affect the above production costs
 - Federal carbon cap and trade or carbon tax legislation would likely have a significant effect on the production costs of various fuel types
 - Governor also questions how energy efficiency works for generators: What is their incentive to essentially cut down their own demand base?
 - There is a general agreement that alignment of incentives for government, public and power providers, such that efficiency makes economic sense for everyone involved.

Cindy Weiss, Energy Efficiency/Demand Response Coordinator for TVA

Ms. Weiss presented the case of the 1997-2004 energy retrofits of 2 state-owned buildings in Nashville. This case is an example of a successful collaboration between the state, TVA and the local distributor, and resulted in significant energy savings and yearly cost-savings for the state.

- In 1997, TVA, NES and the State of TN worked collaboratively on an energy efficiency retrofit to two state-owned buildings, the Andrew and Rachel Jackson buildings (in Nashville). Project is known as “the 42% Solution.”
 - The two buildings comprise about 620,000 ft².
 - Building audits were completed in 2000.
 - A 5-year simple payback measure was used to determine cost-effective upgrades, which included mostly lighting, HVAC and an on-site energy management controls
 - Work was completed in Sept. 2004.

- Since project completion, the buildings have consumed 42% less electricity, and 55% less overall energy.
- Total cost of the project was \$4 million, resulting in an annual energy savings of about \$800,000
- After this first collaborative project, the state initiated a bidding process for further projects, which other ESCOs bid for, but TVA did not bid.
- Governor Bredesen suggests that it is within the state's capabilities to manage the retrofitting process itself and thereby to capture all of the project's value and savings, rather than sacrificing some of this to ESCOs. Also, the cost of capital is relatively low for the state, and bonding capacity is large.
- The payback potential of these projects (e.g. \$800k annually, project payback in ~5 years, and continued savings from that point on) is exciting. Several Task Force members agreed that projects like this one need to get done.
- Governor notes that, in his time as Governor, he has seen a lot of spending proposals, and he has never seen a proposal with a guaranteed payback in 4-5 years. "These are no-brainers."

Ryan Gooch, TN ECD

Mr. Gooch presented a set of slides put together by Dr. Jonathan Raab, Raab Associates and MIT, regarding the current conditions around energy in state-owned buildings and vehicle fleets, and some measures that the state might take to improve the energy situation in Tennessee.

- The Raab Associates presentation slides come out of several meetings with General Services, F&A, the first Task Force meeting, and meetings with a number of state agency representatives
- TN has about 90 million ft² in state-owned and leased buildings. Approximately 1/3 of this total is in general government 1/3 in the UT system, and 1/3 in The Board of Regents system
 - Total 2007 state government (including UT and The Board of Regents) energy expenditures were approximately \$129 million
 - General government controls only about 1/3 of overall state government space, but accounts for almost 1/2 of the energy expenditure
- The state does not currently have any long-term energy savings goals or targets, nor does it have a systematic data tracking system for energy consumption; not all buildings are separately metered.
- The State Architect, with its own task force, has been developing new Sustainable Design Guidelines for state buildings.
- Lighting is the "lowest of the low-hanging fruit": lots of T-12 fluorescent lamps still around, no LED exit signs.
- Collaborative retrofit project with TVA had very positive results, but experiences with ESCOs so far hasn't been as successful
- Energy use at the Capitol building (Nashville) is especially high per square foot.

- State should consider tracking and benchmarking building energy consumption, agency by agency, and standardizing and formalizing the roles for agencies and individuals in LBE process
- Uniform Policies & Standards: Consider setting energy reduction objectives, and requiring purchasing of Energy Star appliances and equipment.
 - ORNL & GE partnering to produce the first Energy Star hot water heater
- State fleets: Public Chapter 489 directs agencies to have plans to reduce fuel use by 20% by 2010
- State owns about 10,000 vehicles; 85% by general government
 - Fuel expenditures in 2007 were \$22 million, plus \$27 million in personal vehicle reimbursement
 - Fuelman program provides tracking and benchmarking data for fleets energy consumption
- Vehicle purchasing based solely on lowest first-cost, does not consider fuel efficiency or vehicle lifetime costs
 - State has purchased a number of flex-fuel vehicles, and will continue to purchase FFVs for the light-duty fleet
 - Utilization of flex fuel capacity has been poor
 - The state does provide a number of VMT-reduction options (van pools, transit passes) for state employees' commutes
- The personal auto reimbursement policy is something that should be reevaluated with energy consumption in mind
- Governor Bredesen suggests that what is needed are policies that could incentivize agencies or individuals to find and exploit energy savings, possibly by allowing agencies to keep some amount of the cost savings in their budgets
- Secretary Kisber points out that agencies are charged for energy and other costs (through a central office) in a bundled per ft² of space they occupy. *They do not ever see their own energy costs.*

Darren Springer, Senior Policy Analyst, National Governor's Association

Mr. Springer presented a number of best practices from other states dealing with energy issues.

- Nationally, energy costs may consume as much as 10% of a state's budget
- Some states have been successful at retrofitting by using state-issued bonds to set up a public corporation that manages the retrofit process and other energy efficiency measures for the state
- Some states that have been successful with energy efficiency retrofits of state buildings:
 - Kansas – 50% of state's 40 million ft² have been audited; retrofits of space are generating savings of \$8 million per year. The work was conducted through 4 separate ESCOs, using a 20-year payback criteria
 - Iowa used public funding to pay for retrofitting costs (rather than a shared-savings contract), and was able to pay off the bond 1 year early. Retrofits now generate cost-free savings

- Ohio requires all state agencies to audit their buildings and reduce energy consumption by 15% in the next 4 years
- New York set a 35% energy reduction goal for the state to meet by 2010, and is on-track to meet that goal
- Pennsylvania and Florida require life cycle cost analysis as a part of all Lead-by-Example purchasing and retrofit decision-making. PA also has a target of purchasing 28% of its energy from renewable sources
- Massachusetts aggregates all state purchasing and requires agencies to purchase from a list of approved energy-efficient products, procured centrally by the state
- Minnesota has a baseline vehicle fuel efficiency requirement for state purchasing

Governor Bredesen

The Governor closed the meeting by laying out a few priorities for both the larger Task Force, as well as for the ad hoc working group, established at this meeting.

- The Governor established a smaller working group, chaired by John Noel and composed of Task Force members (John Noel, Sen. Rosalind Kurita, Rep. Les Wittingham, Michael Vandenberg) to move forward with next steps for state LBE process, with a presentation of recommendations at July 16th Task Force meeting
- Governor Bredesen also asked that Task Force members work on putting together a list of all cost-effective measures that may be taken in the short- and medium-term to improve the state's energy efficiency and reduce costs-- leaving the financing challenges to his office to figure out