Securing Funds for Energy Efficiency

Moderator, Maureen McNamara, US EPA

Panelists:
Richard Spellman, GDS Associates
Michael Winka, New Jersey Clean Energy Program
Richard Cowart, Regulatory Assistance Project
Stephen Cowell, Conservation Services Group
Important Time

- Convergence of environmental and economic issues
  - High natural gas prices -- demand ahead of supply
  - Large transmission investments
  - Reliability
  - Electricity competition did not deliver everything
  - Environmental issues -- air, GHG, water

- Major opportunity
  - Provide clean, low-cost, reliable power
  - Better integrate energy efficiency into resource mix
Focus on Energy Efficiency

- Frequently Overlooked
- Now -- Have More Than a Decade of Experience
  - Reliable, low-cost resource
  - Lower emissions
- Tremendous Potential to Meet New Demand
  - Can provide 30%, 50%, or more of expected load growth
- Can Help Reduce Gas and Electricity Prices
  - direct use of natural gas
  - reducing electricity consumption, especially at peak
EE Lowers Energy Prices

- Impacts of Reducing Electricity Demand by 5% by 2015

Energy Efficiency Impact on Natural Gas Generation and Price

Energy Efficiency Impact on Electricity Price
EE is Competitively Priced with New Power

Sources: EIA 2004, ACEEE 2004
Recent PBF Experience

.8 to 1% per year of electricity savings yields

- 3-5% savings in 5 years
- 7-10% savings in 10 years
- more in peak demand with targeted programs

Source: ACEEE, 2004
Large Opportunity for Savings

New England
- with Net Benefits of $13 - 25 billion thru 2013
- reduced air emissions
EE Opportunity -- From 11 Studies

ACEEE, 2003
Which Funding Mechanism?

- **Public benefit/systems benefit charge**: typically a mills/kWh charge assessed to customer bill by distribution or integrated utility.

- **EE portfolio/procurement mandate**: requires x% of future demand be met through energy efficiency.

- **Hybrid portfolio and public goods approach**: e.g., California.

- **RTO investment** in efficiency resource as part of transmission planning e.g., CT example.
A wealth of new funding opportunities

1. Utility resource procurement
2. CEPS--Clean Energy Portfolio Standard includes EE and RE
3. FERC, RTO, wholesale markets
   - Resource adequacy payments
   - Transmission “open season” and the Efficient Reliability Standard
4. Carbon allowances for efficiency
5. Distributed utility planning
   - Efficiency avoids
6. Rate design for efficiency
7. And more...
Which Administrative Paradigm?

- Utility/PUC
- State agency
- NGO or third party efficiency utility
(1) Back to basics: Procurement

Regulators now see (or can be shown):
- Standard Offer/ Default Service is the new utility franchise
- Restructuring-- artificial price reductions are ending
- Natural gas prices are rising

Regulatory answers:
- Reinventing IRP – Portfolio Management
- “Efficiency first” loading policies
- Gas DSM now obviously valuable
(2) Clean Energy Portfolio Standards

- Irony of efficiency and renewables today
  - How about a production tax credit for EE?
  - Texas EPS: small % of load growth

- Another solution: extend RPS to a CEPS
  - Irony - Tiers may be needed to protect RE
  - A variant: Vermont Senate - S.52 (2005)
    - RPS must meet all *net* load growth (*up to* x%)
    - Thus, efficiency is automatically valued at its resource avoidance cost
(3) New opportunities at the wholesale level

- $100 billion needed for new wires?
- FERC’s policy schizophrenia:
  - LMP reveals locational value of resources BUT
  - Rolled-in regional transmission tariffs mask those values, promote supply-side solutions
- DOE National Grid Study: explore non-transmission alternatives to transmission upgrades
- All-resource planning and acquisition process
- Open Season for Reliability and Congestion Relief
  - Efficient Reliability Standard
  - Resource parity – best, cheapest solution wins and gets equal security of cost recovery
- Example: BPA’s Non-Wires Solutions
Transmission and Non-Wires Choices: The “Efficient Reliability” Test

Before “socializing” the costs of a proposed reliability-enhancing investment through uplift or tariff, decision-makers (RTOs, PMAs, PUCs and FERC) should require a showing:

(a) that the relevant market is open to demand-side as well as supply resources;

(b) that the proposed investment is the lowest cost, reasonably-available measure to correct a remaining market failure; and

(c) that benefits will be widespread, and thus appropriate for broad-based funding.
Regional Resource Adequacy Payments for Efficiency

- **Opportunity**: FERC and RTOs are paying for forward capacity

- **Why resource adequacy requirements?**
  - Stable reserve margin needed
  - Boom-bust not good enough for power grid
  - Investors need predictable payments

- **Key point**: Demand reduction through **efficiency** also adds to reserve margin
  - Neutral rules should support both demand reductions and supply additions that add to the reserve margin
(4) Carbon allowances for efficiency

- State and regional cap-and-trade systems are emerging
- Efficiency is the low-cost carbon answer
- Design allowance systems to support efficiency:
  - Load-side cap and trade – automatically gives carbon value to load reductions
  - In a supply-side cap system – award at least 50% of credits to consumers
- Big opportunity: $1 Billion for efficiency?
Which Benefit-Cost Test(s)?

- Participant test
- Rate Payer Impact test
- Total Resource Cost test
- Societal test
- Program Administrator test
## Benefit-cost tests -- benefits

<table>
<thead>
<tr>
<th>Test</th>
<th>Partic.</th>
<th>RIM</th>
<th>TRC</th>
<th>Societ.</th>
<th>Prog. Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in utility bill</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Reduction in TD&amp;G</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Reduced enviro. damage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Partic. incentive</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased revenue</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
## Benefit-cost tests -- costs

<table>
<thead>
<tr>
<th>Test</th>
<th>Partic.</th>
<th>RIM</th>
<th>TRC</th>
<th>Societ.</th>
<th>Prog. Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost paid by partic.</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Participant incentive</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(cancel)</td>
<td>X</td>
</tr>
<tr>
<td>Program admin</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Decreased revenue</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Increased supply cost</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Dick Spellman: Which Benefit Cost Tests are Used

- GDS conducted a survey of regulatory commissions in all 50 States in 2004
- Most states use the Total Resource Cost Test as a mandatory test
- Three states (all in the South) use the RIM test as a mandatory test
  - Arkansas, Florida, and South Carolina
Dick Spellman: Why RIM is wrong

- It is an extreme screening test
- Prevents integrated resource planning
- Not a test of economic efficiency
- Lost revenues are a myth in a growing service area
- RIM never applied to supply-side investments
- Load building programs pass the RIM test, but it is rare that energy efficiency programs do
Dick Spellman (cont.)

- Many factors exist to eliminate or counterbalance lost revenues
- Rate impacts of DSM programs are negligible
- RIM ignores important benefits of EE
- RIM test encourages load building programs
- RIM test ignores needs of low income and senior citizen customers
Dick Spellman (cont.)

- Utility customers want Energy Efficiency instead of new generation and new transmission lines
- Only one or two State regulatory commissions use RIM as a mandatory test
Overcoming utility resistance

- Throughput disincentive
- Performance incentives
- What will it do for my service territory?
Key challenge: Make Efficiency Profitable for Utilities

- In between rate cases (i.e., all the time), extra sales are profitable to utilities
- In many places: each saved kWh can save customer $.10, but cut $.04 from utility profits
- **Efficiency programs cutting sales by 5% can cut profits by 23%**
- Needed: rate policies to make efficiency profitable to utilities
- Key concepts: decoupling and PBR
Other barriers

- Overcoming industry resistance
- Overcoming rate advocate objections
- Countering the participant/nonparticipant argument
- Countering the "extra tax" argument
Politics and raid proofing strategies

- Showing economic value
- Demonstrating job growth
- Demonstrating job loss prevention
Stephen Cowell

- Get involved early, we got caught flat footed in CT
- Stay active after initial effort
- Support program designs that are defensible politically
- Goal: restore the 12 million per year cut after 2 years
Measurable Results: verified impact on use

Deliver programs through contractor infrastructure: outsource to efficiency industry

Focus on services to customers and produce near term political support

Program admin is important but needs to be coordinated with efficiency industry to produce jobs and benefits
Stephan Cowell

- Jobs
- Keep the lights on
- Lower electric costs for all ratepayers
- Environmental benefits
- It’s not about the administrator
Dick Spellman

- Need to make a “business case” for Energy Efficiency – prove that it is the most cost effective resource, and show real case studies with proven results and proven savings
- Need to have broad support from many interested stakeholders from as many customer classes as possible
- EE supporters must have a large presence in regulatory proceedings, on an on-going basis
- EE supporters often must work hard to gain support of local electric and gas utilities
Efficiency top ten list

- Restore efficiency in resource procurement
- Reform default service purchase rules
- Adopt “efficiency first” loading rules
- Remove the throughput incentive
- Compensate efficiency for the value of carbon avoidance
Top ten (con’t)

- Expand the RPS to include efficiency
- Rate design for efficiency
- Resource adequacy -- regional capacity payments for efficiency
- Apply the Efficient Reliability Standard in transmission expansion decisions
- Require least-cost expansion planning for distribution utilities
For more information...

RAP papers on these topics:
• Portfolio Management
• “Profits and Progress” (decoupling sales and profits)
• Load-side cap and trade
• “Efficient Reliability: The Critical Role of Demand-Side Resources in Power Systems and Markets” (NARUC 2001)

Web link at www.raponline.org
Email questions to RAPCowart@aol.com