


Surveying DSM Programs Nationwide: Is There Money on the Table?

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DSM and Energy Efficiency Are Back!

- 2003 \$1.45 billion spent on DSM by utility ratepayers and states (ACEEE)
- Consistently High Activity Areas (estimated 2005 expenditures):
 - Northeast (New York, New Jersey and New England States) \$500 million
 - California \$400 million plus
 - Texas \$80 million
 - Northwest (Idaho, Oregon, Washington) \$85 million



Policies Driving Investment

- System Benefit Charges (AZ, CA, DC, DE, IL, OR, OH, MD, MI, MN, MT, NJ, NY, WI, all New England states)
- Energy Efficiency Performance Standards (Texas)
- IRP or DSM plans (HI, ID, IA, MN, NV, UT, WA)
- Portfolio Management/ Procurement Standards
 - AZ, CA, MT
 - NE-ISO SW CT RFP)
- Climate Change & other Regional Initiatives



Legislation

New Mexico

- 2005 Law HB 32, “The Energy Efficiency and Renewable Energy Bonding Act”
 - \$20 million in bonds for EE in schools and state buildings – savings buys renewable energy resources
 - First-come; first served -- ESCOs can contract to do the work and can aggregate projects
- 2005 Law SB 644, “Efficient Use of Energy Act”
 - Increased spending on DSM for gas and electric utilities up to 1.5% of revenues
 - Spending growth from \$2 million per year to ~\$18 million per year, or about \$750 million through 2020.



Legislation & Regulatory Action Arizona

- 2003 law HB2324 requires state-owned facilities to achieve a 10% reduction in energy use per unit of floor area by 2008, and a 15% reduction by 2011
- 2004 law HB 2703 removed a key obstacle inhibiting performance contracting by state government
- ACC Order re: APS requires over \$13 million in DSM program expenditures (not counting M&V and incentives)
- DSM resources will be invited to participate APS RFP and other competitive solicitations
- Evaluation by APS must be “consistent and comparable”

California

Energy Efficiency Goals

- Dramatically increase EE spending over the next 15 years.
- At least 20% of CA's \$325 million (and growing) annual EE budget will be put out to competitive bidding.
- Many other opportunities for ESCOs to participate in dozens of utility-run efficiency and demand response programs.



Pennsylvania

- Development of a system generating “alternative energy credits” from DSM programs
- Credits can be purchased by utilities to meet Alternative Energy Portfolio Standards goals



Colorado

- XCEL coal plant construction settlement
- By January 1, 2014 the Company will have achieved a cumulative level of 320 MW of total demand reduction and 800 GWh of annual energy savings
- Spending up to \$196 million total



Massachusetts

- Energy efficiency budget \$155-120 million (2.5 mill/kWh)
- Programs approved by DPUC, administered by utilities, designed by utilities with assistance from Efficiency Collaborative & Division of Energy Resources
 - Targeted to all customer classes
- Cost-effectiveness measures: total resource cost test
 - No IRP process
- In 2002, 82% of expenditures for competitively procured services
- Performance incentives:
 - After-tax rewards of 5-5.5% of budget for savings achievements of 75-110% of targets
 - No net lost revenue recovery



Connecticut

- Conservation and Load Management Programs
- Budget of \$86.45 million, actually ~\$65 million (3 mill/kWh)
- Programs approved by DPUC, administered & designed by utilities with assistance from the Energy Conservation Management Board
- Programs targeted to all customer classes
- Cost-effectiveness measures: total resource test and utility test
 - No IRP process, but there is a comprehensive state energy plan
- Performance incentives:
 - Pre-tax rewards of 2-8% of C&LM budget for savings achievements of 70-130% of targets; no net lost revenue recovery

Maine

Efficiency Maine

- Funded by surcharges on retail sales, capped at 1.5 mills/kWh - 2005 budget: \$10.5 million
- Programs approved and administered by PUC
 - Programs designed through a docketed process
 - PUC may use third-party administrator but done in-house to date
 - Administration budget: \$700,000 in 2003
 - Programs delivered through third-party contractors
 - Programs for all customer classes with minimum spending limits for low-income and small commercial
- Cost-effectiveness measures: modified societal benefits test
- No IRP process
- No Performance incentives

Rhode Island

Energy Efficiency Programs

- Annual budget: 2% surcharge on retail sales
- Annual PUC plan approval
- Designed by utilities, administered by NGrid assisted by the Efficiency Collaborative
 - Legislation forbids third-party administration of programs
 - Programs targeted to all customer classes
- Cost-effectiveness measures: total resource test
- No IRP process
- Performance incentives: Up to \$750,000/yr in incentives for meeting or exceeding specified savings and other targets; no net lost revenue adjustment



Climate Change Initiatives

- NE Governors & Eastern Canadian Premiers
 - Goal: reduce GHG emissions to 1990 levels by 2010 and 10% below 1990 levels by 2020
 - Maine is the first state to set these goals into law.
- Austin, Texas
 - Reduce GHG emissions 20% below 1990 levels by 2010 using energy efficiency, renewable energy, combined heat and power and other strategies
- Carbon cap and trade initiatives
 - RGGI
 - West Coast



Regional Initiatives

- Western Governors' Association
 - Clean Energy Resolution sets goal to increase the efficiency of energy use in the western states by 20% by 2020
- New England Demand Response Initiative
- Mid-Atlantic Distributed Resources Initiative



Challenges Remain Broken Value Chains

- Vertically Unbundled Industry
 - Fragmented planning process
 - Market Power Solution = Market Barrier Problems
- Multi-faceted Values
 - Wholesale vs. Retail
 - Customer vs. Utility
 - Direct Participants vs. Unintended Beneficiaries



Relinking the Value Chain: Wholesale Policy Action

- Build the demand side into the market
 - Regional (ISO-sponsored) price-response programs
 - Demand bidding and demand-reduction bidding
 - DR for reliability: ancillary services, emergency curtailments
- Resource adequacy policies
 - Sufficiency of capacity over the longer term
 - Capacity credits, payments for customer efficiency
- Transmission: congestion relief, prices, and expansion plans
 - Least-cost, resource-blind solutions
- Emissions requirements, trading regimes
 - Output-based standards



Relinking the Value Chain: Retail Policy Action

- Performance-based ratemaking
 - Get the incentives right
- Pricing and advanced metering
 - Economically efficient pricing
- Long-term demand response
 - Funding comprehensive EE programs
- Renewable portfolio requirements and public benefits programs
 - Are there ways for CHP to participate?
- Integrated resource planning (vertically integrated utilities) and portfolio management (default service)
 - A company's least-cost plan of action should also be its most profitable



Customer-Sited Resources: The Ratemaking Problem

- Investments on the customer side of the meter generally reduce utility sales and profits
 - Rate design (\$/kWh and \$/kW) links profits to sales
 - Incremental revenues almost always exceed incremental costs;
 - Utility makes money even when the additional usage is wasteful, and loses it even when the reduced sales are efficient
- In three decades, the problem hasn't changed: how do we align utility incentives with the public good?
- Solutions still available but more complicated



Customer-Sited Resources: Ratemaking Solutions

- Decouple sales from profits with Performance-based regulation
 - Revenue (not price) caps that reward utilities for improving the efficiency of their customers' usage
- Maintain unit-based pricing, but with rate structures that better reflect the economics (including environmental costs) of generation and delivery
- TOU, critical peak, inverted block, real-time



Regulators Depend on Advocacy

- Primary communication channel for most regulators
- Participation in process is largely welcomed by regulators
- Recent activities have mostly trended toward informal collaborative processes rather than litigation or administrative proceedings



Additional Resources

- Website: <http://www.raponline.org>
- City of Austin: Carbon Dioxide Reduction Strategy”
<http://www.ci.austin.tx.us/sustainable/finalfeb.pdf>
- Maine: “A Climate Action Plan for Maine,”
www.maine.gov/spo/pubs/origpdf/pdf/ClimateReport.pdf
- Massachusetts: “2002 Energy Efficiency Activities”:
http://www.mass.gov/doer/pub_info/ee02-long.pdf
- Pennsylvania:
 - Legislative:
<http://www.dsireusa.org/library/docs/incentives/PA06R.pdf>
 - Bill summary:
<http://www.renewableenergyaccess.com/rea/news/story?id=19071>
- Colorado:
http://www.swenergy.org/news/XCEL_Energy_Settlement_DSM_Language.pdf
- SWEEP Website: <http://www.swenergy.org>