

Update on Utility Energy Efficiency Programs in the Southwest

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Electric Utility Efficiency Programs in the Southwest

| State | Electric DSM Program Spending/Budgets (million \$ per year) | | | | | |
|---------------|--|-----------|-----------|------------|------------|---------------|
| | 2002 | 2004 | 2006 | 2007 | 2008 | 2009 (est) |
| AZ | 4 | 4 | 19 | 32 | 40 | 50 |
| CO | 11 | 21 | 18 | 32 | 28 | 51 |
| NV | 3 | 11 | 30 | 27 | 55 | 60 |
| NM | 1 | 1 | 1 | 4 | 10 | 16 |
| UT | 9 | 16 | 27 | 28 | 36 | 60 |
| WY | ~0 | ~0 | ~0 | ~0 | 1 | 3 |
| Region | 29 | 54 | 95 | 123 | 170 | 240 |

Source: SWEEP data

Per Capita Spending on Electric DSM Programs in the Southwest, 2008

| State | DSM Spending (million \$) | Population (million) | Spending Per Capita (\$) |
|---------------|------------------------------|-------------------------|-----------------------------|
| AZ | 40 | 6.50 | 6.2 |
| CO | 28 | 4.94 | 5.7 |
| NV | 55 | 2.60 | 21.2 |
| NM | 10 | 1.98 | 5.1 |
| UT | 36 | 2.74 | 13.1 |
| WY | 1 | 0.53 | 1.9 |
| Region | 170 | 19.29 | 8.8 |
| U.S. | 3,245 | 304.1 | 10.7 |

Trends in Energy Savings and Peak Demand Reduction

| Utility | 2006 | | 2007 | | 2008 | |
|-------------------------|------------------------------------|----------------------------|------------------------------------|----------------------------|------------------------------------|----------------------------|
| | First-year Energy Savings (GWh/yr) | Peak Demand Reduction (MW) | First-year Energy Savings (GWh/yr) | Peak Demand Reduction (MW) | First-year Energy Savings (GWh/yr) | Peak Demand Reduction (MW) |
| AZ - APS | 104 | 17 | 274 | 43 | 280 | 43 |
| CO – Xcel Energy | 43 | 27 | 119 | 38 | 141 | 37 |
| NV – NPC | 146 | 54 | 155 | 54 | 304 | 129 |
| NV – SPPC | 70 | 14 | 51 | 10 | 105 | 10 |
| UT – PacifiCorp | 113 | 45 | 139 | 36 | 180 | 40 |
| All | 476 | 157 | 738 | 181 | 1,010 | 259 |

Key Results

- ❑ Leading electric utilities (Nevada Power and Rocky Mountain Power-UT) are reducing electricity use by 1.0-1.3% per year
- ❑ Most electric utilities are implementing comprehensive DSM programs but CFLs are providing 30-65% of total electricity savings
- ❑ Program portfolios are very cost effective with a benefit-cost ratio of 2.0-3.0 and an average cost of saved energy of \$0.03-0.04 per kWh under the TRC test

Electricity Savings, Net Economic Benefits, and Avoided CO₂ Emissions from Utility DSM Programs in the Southwest

| Year | First Year Energy Savings (GWh/yr) | Energy Savings from Cumulative Programs (GWh/yr) | Net Economic Benefits from Annual Programs (Million \$) | Avoided CO2 Emissions (100 metric tons) |
|-------------------|---|---|--|--|
| 2003 | 175 | 175 | 113 | 122 |
| 2004 | 239 | 414 | 146 | 290 |
| 2005 | 280 | 694 | 189 | 486 |
| 2006 | 476 | 1,170 | 256 | 819 |
| 2007 | 743 | 1,913 | 332 | 1,339 |
| 2008 | 1,046 | 2,959 | 459 | 2,071 |
| 2009 (est) | 1,540 | 4,499 | 686 | 3,149 |
| Total | 4,499 | -- | 2,181 | 8,276 |

Assumes average benefit-cost ratio of 2.5 under TRC test and avoiding equal shares of coal-fired and natural gas-fired generation; 700 metric tons of avoided CO₂ per GWh saved.

Recent Developments

- ❑ Settlement in 2009 APS rate case includes savings goals of 1.0% of sales in 2010, 1.25% in 2011, and 1.5% in 2012— now under review by the AZ Commission
- ❑ Nevada Power expected to increase its DSM budget from \$50M to ~\$95M per year during 2010-2012; maintain energy savings of ~1%/yr in spite of diminishing role for CFLs
- ❑ Rocky Mountain Power received approval to increase its DSM tariff rider to 4.6% of retail sales revenue; RMP is saving 1.1% of sales as of 2009
- ❑ Shareholder incentive mechanism adopted in AZ (APS), CO and NV, and is pending in NM

Gas Utility Efficiency Programs in the Southwest

| State | Gas DSM Budgets (million \$ per year) | | |
|---------------|--|-------------|-------------|
| | 2007 | 2008 | 2009 (est.) |
| AZ | -- | 3.1 | 3.1 |
| CO | 2.2 | 2.2 | 15.8 |
| NM | 1.6 | 1.9 | 1.5 |
| NV | -- | 0.7 | 2.0 |
| UT | 7.5 | 18.1 | 48.0 |
| Region | 11.3 | 26.0 | 70.4 |

Key Issues and Challenges

- ❑ Can electric utilities sustain 1% or greater savings per year, year after year?
- ❑ How do we replace energy savings from CFLs after the federal lamp efficiency standards kick in?
- ❑ Can gas utilities ramp up to and sustain savings in the 0.75-1% per year range?
- ❑ What is a reasonable level of utility shareholder incentive, balancing utility and customer concerns?

Key Issues and Challenges (cont.)

- ❑ Will there be a customer backlash as DSM budgets reach or exceed $\sim 4\%$ of revenues?
- ❑ What role can emerging technologies and new program strategies play?
- ❑ Will greenhouse gas emissions caps be enacted and if so what will they mean for utility energy efficiency efforts? What about other elements of federal legislation such as RE/EE standards or use of proceeds from sale of emissions allowances?

Summary

- ❑ Budgets and impacts from utility DSM programs in the SW are growing rapidly
- ❑ Most electric utilities are now implementing comprehensive programs; some are striving to maximize energy savings
- ❑ Electricity savings are surpassing 1% per year for some electric utilities in the region
- ❑ Performance-based financial incentives for utility shareholders gaining acceptance
- ❑ Natural gas DSM is starting to have a significant impact especially in Utah

SWEEP:

Dedicated to More Efficient Energy Use in the Southwest

Resources available online at:

www.swenergy.org

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