NorthWestern Energy
DSM Disincentives: How Can We Overcome Them?

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Delivering a Bright Future
The Issues

- Front loaded DSM spending … “DSM Program Costs”
  - Expense (investment) happens at beginning (Year 0)
  - Energy savings occur over lifetime of DSM measures
  - Treatment of DSM Program Costs as expense ($-for-$ pass through) is break even

- Traditional Ratemaking: Revenues depend on sales, creating a “Throughput Incentive / Disincentive”
  - Volumetric rates and the “revenue-sales link” creates “DSM Lost Revenues”
  - Fixed costs are recovered through unit rates ($/kwh, $/dKt)
  - Fixed Cost Recovery depends on energy sales volumes used (test period) when rates were established

- More DSM = less sales volume = less fixed cost recovery = Lost Revenues

- “The Faster I Run, the Behinder I Get”, Planck, M.S.M.E. Rivhard Everett
Breakeven: DSM Program Costs + Lost Revenue Recovery

- DSM Program Costs + Fixed Return on DSM Expenses: $0.002/kwh
- Lost Revenue (Delivery T&D): Delivery (T&D) rate = $0.06/kwh
- Break Even: DSM Program Costs + LRAM: Delivery (T&D) rate = $0.06/kwh

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Options for mitigating disincentives

- **Lost revenue adjustment mechanisms (LRAM)**
  - allow utilities to recover contributions to authorized fixed costs as well as profits that are lost due to sales-reducing effects of energy-efficiency programs.

- **Decoupling** sales from profit and recovery of fixed costs
  - Decoupling mechanisms also seek to reduce the linkage of revenue requirement to sales,
  - Unlike LRAM, decoupling is applied to all changes in utilities’ sales, whether from energy-efficiency programs or other causes.
  - Decoupling methods include, for example, mechanisms to determine revenue per customer or revenue requirement in regular rate cases.

- **Shifting more utility fixed costs into fixed customer charges**.
  - Retail rates traditionally recover a portion of utilities’ fixed costs in volumetric charges.
  - A shift of such costs toward fixed customer charges can mitigate concerns regarding lost revenues due to energy efficiency programs.
  - As this option is not a regulatory mechanism, *per se*, but is instead a matter of rate design, the evaluation team did not closely investigate.

- **Capitalizing** DSM Program Costs

- **Performance Incentives** ... ROR adder, Shared Savings, Annual Targets
Around the U.S.

- **States with LRAM**
  - Ohio
  - Kentucky
  - Montana

- **States with Decoupling**
  - California
  - Connecticut
  - Delaware
  - Maryland
  - Massachusetts
  - Minnesota
  - New Hampshire
  - New York
  - Oregon
  - Vermont
  - Wisconsin

Source: Lost Revenue Adjustment & Revenue Decoupling Mechanisms for Electric Utilities by State; The Edison Foundation Institute for Electric Efficiency, May 2009
NorthWestern’s LRAM in Montana

- Reported Energy Savings
- Adjustment Factor(s): (15-17% reduction in Reported Energy Savings)
  - Factors to be applied to reported energy savings to adjust for Free Riders, Spillover, lack of persistence.
  - These factors are taken from the findings and conclusions of the 2007 DSM Evaluation.
- T&D rates that are in effect at time of calculation (annual tracker filing)
- Accumulating Energy Savings and Lost Revenues each year until new rates are set
- Lost Revenue amount is added as a line item to the energy supply tracker each year … added to the energy supply rate

**Basic LRAM formula:**

\[
[(\text{MWH savings}) \times (\text{Adjustment Factor}) \times (\text{Rate})] = \text{Lost Revenue}
\]
Example calculation

### SD DSM Electric DSM Lost Revenues

#### Year 1

### Residential

<table>
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<tr>
<th>Bill Line Item</th>
<th>Gross Program ($ per kwh)</th>
<th>Gross Program Savings (kwh)</th>
<th>Savings Adjustment Factor</th>
<th>Net Program Savings (kwh)</th>
<th>Estimated Lost Savings Revenue ($)</th>
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<td>Transmission Energy</td>
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*Sub Total Residential: 1,909,680 $95,484*

### Commercial & Industrial

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<th>Bill Line Item</th>
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*Sub Total Commercial & Industrial: 0 $ -

*Year 1 Totals: 1,909,680 $95,484*

Note 1: using rates in effect at the time (see Rates tab)
Readings & Sources


Contact Information

Questions & Comments

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