Xcel Energy
Colorado DSM Roundtable Discussion

February 13, 2013
1:00pm to 4:00pm
1800 Larimer, Room 03G01
Welcome and Introductions

Contact Info: Neil Cowan
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Agenda

1:00 – 1:05  Welcome, Introductions
1:05 – 1:15  Regulatory Update
1:15 – 2:15  DSM Program Highlights
2:15 – 2:30  Break
2:30 – 3:30  Product Development
   - Settlement Related Development (Current RFP Status, EE Financing, Waste to Energy)
   - Pilot Updates
   - Ongoing Development (Upcoming 2012 60 Day Notices, New Ideas)
3:30 – 4:00  Wrap-up/Open Discussion
Regulatory Update
Presented by:
Neil Cowan

Compliance information is available at Xcel Energy’s DSM Website:
http://www.xcelenergy.com/About_Us/Rates__Regulations/Regulatory_Filings/CO_DSM
Recent Filings – Q4 2012

10/10/2012
Energy Efficiency Financing Product
Docket No. 12A-1083EG

10/1/2012
11/1/2012

11/1/2012
Notice of Specific Plan to Meet 11.2 GWh Shortfall
Docket No. 11A-631EG

12/1/2012
12/31/2012
60-Day Notices

First Quarter 2012
- In Home Smart Device Pilot – March 1

Second Quarter 2012
- ENERGY STAR New Homes – June 27

Third Quarter 2012
- ES New Home
- Low-Income SF Weatherization
- 2011 Low-Income SF Weatherization (Eval.)
- 2011 Bus. Heating Efficiency (Eval.)
- 2011 Self-Direct (Eval.)
- 2011 Showerhead (Eval.)
60-Day Notices (cont…)

Fourth Quarter

- 2012 A/C Tune-up (RFP Response)
- Process Efficiency
- EE Financing Application
- Computer Efficiency
- Lighting Efficiency
- Low-Income Kits
DSM Program Highlights

Presented By:
Shawn White
David Hueser
Jennifer Elling
DSM Evaluations & Portfolio Achievements Update

Presented By:
Shawn White
DSM Process & Impact Evaluations 2012

- **Residential High Efficiency Air Conditioning**
  - Update NTG from .89 to .68.
  - Consider removing SEER 14.5-14.9 equipment incentives.
  - Explore the costs and benefits associated with a tiered early retirement incentive approach.

- **Low Income Energy Savings Kits**
  - Did not evaluate NTG due to nature of program.
  - Consider additional ways to market the program through LEAP, local assistance agencies, and the Low Income Weatherization Program.
Business Process Efficiency

- Program performed well and most recommendations centered on continuing with existing processes.
- No change to the current stipulated net-to-gross ratio of 0.90
- Implemented recommendation to expand program to include commercial customers in addition to industrial customers.
DSM Process & Impact Evaluations 2013

- Three programs under evaluation
  - Residential Home Performance
  - Business Segment Efficiency
  - Business Compressed Air

- Evaluations kicked off in Q1, completed by year end
Preliminary Fourth Quarter 2012 DSM Achievements, Total DSM Portfolio

- 2012 Electric Targets: 79.3 MW; 329.3 GWh; $78.1M
- Electric Achievements: 90.1 MW; 396.6 GWh; $79.4M

- Gas Goals: 435,504 Dth; $13.2M
- Gas Achievements: 435,028 Dth; $12.5M
2012 Electric Energy Savings (kWh) exceeded 2011 by 27%

Colorado DSM Portfolio 2011/2012 Cumulative Electric Achievement, Quarterly Comparison
DSM Program Overview, Business Energy Efficiency Program Highlights

Jennifer Elling
Business Programs: Noteworthy Updates

- **Cooling Efficiency** – 60-Day Notice filed 1/25/2013 to add new Direct-Evaporative Pre-cooling for Air-Cooled Condensers. Measure focuses on retrofits for existing RTUs. Rebate = $100/ton of cooling for the installation.

- **Standard Offer** – Efforts to improve program in 2012 saw limited activity and project little potential for 2013. Closely reviewing our options for 2013.

- **Energy Design Assistance** – Launching new “open EDA” track mid-2013 to qualified modeling companies in addition to the contracted consultants. New track is expected to increase participation.
Residential and Low-Income Program Highlights

David Hueser
Insulation Program Modifications

Program changes posted Jan. 2, effective Feb. 7, 2013
Goal: deeper savings per customer; quality over quantity

**Increased Quality Assurance**
- Air sealing **required** (unless NACH .45 or better)
- Pre- and Post-project blower door testing
- Combustion Appliance Zone (CAZ) safety check-off
- Building Performance Institute (BPI) Certification required for participating contractors

**Technical changes**
- Air sealing, weather stripping savings, air flow calculations, incremental costs

**2012 Contractor Training**
Heating System Rebates

2012 participation lower than in past years
Stable program spending in 2013

- **Program participation**
  - Vast majority (95%) of furnace rebates paid at the highest efficiencies of 94% AFUE rating or higher.
  - 800 contractors registered with the program

- **Technical assumptions**
  - DOE shelved May 1, 2013, furnace standards increase
  - No changes to 2013 assumptions or rebates

- **Cost effectiveness**
  - Full-year 2011 Gas MTRC ratio on par with 2011 goal
  - Over half of 2012 spend was rebates (56%)
Low Income Energy Savings Kits

Program changes posted Nov. 26, effective Dec. 27, 2012
Met natural gas savings goal at reduced spending level

- **Technical Assumptions**
  - Align showerhead kWh and Dth savings with standalone program
  - Water heater fuel type split: 89% gas, 11% electric; slight decrease in electric spending/increase in gas spending accordingly
  - Incremental cost for kit measures updated per 2012 and 2013 vendor pricing

- **Driving Program costs down in 2012 and 2013**
  - Cost for kit elements negotiated down
  - Cost per Dth improved (decreased) by one third vs. 2011
DSM Product Development Update

Presented by:
Kevin Schwain, Andre Gouin and Pat Goggin

DSM Website provides program idea submission forms at:
http://www.xcelenergy.com/About_Us/Rates&_Regulations/Regulatory_Filings/CO_DSM
Product Development Team

- **10 Resources able to flex across 3 Platforms**
  - Energy Efficiency
  - Renewable Energy
  - Demand Response
- Manager: Kevin Schwain, 612-330-5961
- Colorado Team Lead: Pat Goggin, 303-294-2370
- Pilot Lead: Andre Gouin, 303-294-2975
Settlement Development Update
Innovative Technology RFP Update

- Selected 3 to fill 2013 gap
  - Pool Pump Efficiency – final contract negotiations
    1.9 GWh | residential segment
  - Cooling Efficiency – Evaporative Pre-cooling for Air-Cooled Condensers measure
    2.5 GWh | business segment
  - Refrigeration Efficiency
    Final technical assumptions under development
    ~9.1 GWh | business segment | subject to review
Energy Efficiency Financing

- Worked with Stakeholders to define product
- Filed Application and Received Order
- Phase One Launched –
  - Marketing Existing Energy Efficiency Loan Products
    - Boulder and Denver Counties and their lender Elevations Credit Union
    - Working with Eagle and Garfield Counties for similar product
- Phase Two-
  - Facilitate Creation of Energy Efficiency Loan Products
    - Target Under Served Areas within Xcel Service Territory
    - Working with Interested Lenders and Credit Enhancers
    - Reaching out to other Potential Lenders
- Maintaining Touch Points with Significant Participants
Waste to Energy Projects

Purpose:
- To implement a program applicable to Eligible Energy Resources installed on customer premises.

2012 Activities:
- PUC Staff initiated an investigation into combined heat and power (CHP) systems, likely to encompass Waste to Energy projects
- Company agreed to delay filing until April 1st 2013
- Workshop held on December 4th, 2012. Focus was standby tariff.
- Company intends to comply with the April 1st filing
Commercial RTU Early Retirement

- Significant time/effort modeling complex options, no consistent methodology across industry
- Best results are marginally cost effective under optimistic assumptions
- Continue exploring but do not expect to offer specific Cooling Efficiency measure for early retirement
- Looking into other marketing offers to support early retirement this summer
Pilot & Study Update
Energy Feedback Pilot

- 50,000 Colorado participants; 40k print reports, 10k e-mail reports
- Savings in line with original projections (2% print, 1% email)
- Opt out rate < 1% annually
- Annual participant savings ~ $28, Program cost ~ $9.80/participant
- Program expanded to an additional 50,000 participants in January 2013

14.6 GWh cumulative savings
72,524 DTh cumulative savings
Home Energy Report (HER)

Home Energy Report
Report period: 11/07/12-01/10/13

We are pleased to provide this personalized report to help you save energy.

The purpose of this report is to:
- Provide information
- Help you track your progress
- Share energy efficiency tips

If you have questions about these reports or would like to no longer receive them, you can contact us at (800) 324-1948 or energysmart@xcelenergy.com.

This information and more is available at www.xcelenergy.com/energyreport

Last 2 Months Neighbor Comparison
You used 35% MORE energy than your neighbors.

- Efficient Neighbors: 9.57 kWh
- All Neighbors: 5.19 kWh
- YOU: 6.65 kWh

*This energy index combines electricity (kWh) and natural gas (therms) into a single measurement.

Are we comparing you correctly?
Tell us more about your home: www.xcelenergy.com/energyreport

Last 12 Months Neighbor Comparison
You used 15% MORE energy than your neighbors. This costs you about $178 EXTRA per year.

Quick Fix: Something you can do right now
- Turn off lights in unoccupied rooms
- Use only the light you need
- Reconnect plan to run only full loads in your dishwasher
- Clothes washer, and dryer.

Program your thermostat to reduce heating costs
- A programmable thermostat can automatically turn down your heating system when you’re away, then return to your preset temperature when you’re home to enjoy.
- Decrease the temperature by at least 10°F when you’re away or asleep. Set a comfortable temperature for when you’re at home: as a guideline, the U.S. Department of Energy suggests 68°F or lower during the winter.
- Consult your manual or call the manufacturer if you need assistance.

Save up to $90 per year
- Save a lot by spending a little

Smart Purchase
- Save a lot by spending a little

Savings by spending a little
- Weatherstrip windows and doors
- Windows and doors can be expensive for up to 25% of heat loss in winter for a typical home.
- If you’re comfortable doing the task yourself, you can weatherize your home in just a few hours. Seal windows for about $1 each with rope caulk, or install more permanent weatherstripping for $8-$10 per window. Also, install sweeps at the bottom of exterior doors.
- A professional can help you with this work if you prefer.
Energy Feedback Pilot

Cross promotion of other EE programs

Recycling that pays off
A little space in your garage isn’t the only perk of recycling your fridge or freezer. Check out our free fridge recycling program—here’s how it works:

- We pick up and recycle your old fridge or freezer*
- You’ll receive a $50 rebate and two free CFL bulbs
- Plus, you’ll save up to $100 per year in energy costs

Schedule your free pick-up today: Call us toll-free at (866)552-8755

*Participation in this program is subject to important rules and eligibility requirements. Visit ResponsibleByNature.com/Fridge to learn more.
Energy Feedback Pilot

HER’s drive higher participation in other EE Programs

![Bar chart showing participation rates in different EE programs.](chart.png)
Energy Feedback Pilot – on line

On line application allows greater customization…
Energy Feedback Pilot – on line

...and more in-depth analysis
Xcel In-Home Smart Device Pilot (Q4)

**Pilot Status**
- End of year customer survey provided valuable insights
- Preparing a preliminary evaluation report

**Customer Survey Results**
- High response rate (51%)
- 89% responded that they are satisfied with their ‘In–Home’ devices
- Customers generally found the energy usage information provided on the Home Base or web portal helpful (80%)

**Next Steps**
- Developed the 2013 Customer outreach plan
- Adjust pilot with input from the preliminary evaluation report

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Survey results - additional

**How much would you be willing to pay?**

- Less than $150: 84%
- Up to $300: 14%
- Up to $500: 2%
- More than $500: 0%

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Survey results - additional

**During Control Events, did you do any of the following?**

- Heat with a heater: 70%
- Turned off lights: 50%
- Turned off computers: 40%
- Turned off the TV: 30%
- Wash clothes: 20%
- Wash dishes: 10%
- Washed hands: 10%
- Turned off power strips: 10%
Building Code Support Pilot

Status:
- Training delayed but progressing in several jurisdictions
- Impact potential, methodology evaluation completed June 2013
- Actual impact completed later in 2013
EV Demand Response Pilot

Determine demand response opportunity available through control of electric vehicle charging stations and better understand:

- Customer’s willingness to allow interruption of charging
- Available load coincidence with peak demand

Purpose

Status

2012 activities focused on evaluation and testing of load control devices, scoping potential participant pool, re-evaluating how to reach pilot objectives.

2012

- Installed 3 Canon EV load control devices
- Hardware and communications costs prohibitive
- Limited device availability / functionality

2013 - 2014

In development:
- EV Owner Participation Surveys
Ongoing Development Update
Product Development Process

Opportunity Identification

Framing

Opportunity Approval

Prioritization Approval

Concept Approval

Filing & Launch Approval

Concept Evaluation

Development

Launch

# of Ideas

Level of Effort per Idea
Product Pipeline: Business

Framing:
- Motor system components
- Green Motor Rewind
- Compressed Air - Demand Reduction
- Server Closet Virtualization
- Compressed Air - Alternative Air Flow Supply
- Pneumatic to Electric Conversion
- Compressed Air - Artificial Demand
- Compressed Air - Pressure Drops
- VFDs and Controls for RTUs
- Data Center Efficiency Audit
Product Pipeline: Business

- Concept Evaluation:
  - 2x2 and 2x4 LED fixtures
  - More LED fixtures
  - HID to CFL retrofit
  - CFL to LED retrofit
  - LED Parking Garage fixtures
  - Motor system components
  - Green Motor Rewind
  - ECM for HVAC
  - ECM refrigeration condenser fans
  - Building Tune-up
  - ENERGY STAR Servers
Product Pipeline: Residential

- Framing:
  - Cable TV Set Top Boxes
  - Appliance Standards
- Concept Evaluation
  - Residential Online Energy Feedback
Aeroseal

- Discussed product with submitter
- Explained development process
- Previous efforts to develop Duct Sealing measures have failed Cost Benefit Analysis (mTRC approximately .50)
- Further discussions are being scheduled
New Ideas?

- **CO Roundtable Ideas**
  - Submit complete Roundtable Idea Form at least 90 days prior to a CO Roundtable Meeting in order for an analysis to be presented at that meeting.
  - Incomplete Idea Forms will be returned to submitter for completion.
  - 90 Day window starts when form is complete.
- **Roundtable Idea Form:**
Wrap-up / Open Discussion

Upcoming Roundtable Schedule:

May 15, 2013
August 21, 2013
November 13, 2013