<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 – 1:10 p.m.</td>
<td>Welcome and DSM Regulatory Updates</td>
</tr>
<tr>
<td>1:10 – 2:10 p.m.</td>
<td>DSM Programs: Q4-2014</td>
</tr>
<tr>
<td></td>
<td>» Business Update</td>
</tr>
<tr>
<td></td>
<td>» Residential and Low-Income</td>
</tr>
<tr>
<td>2:10 – 2:45 p.m.</td>
<td>Pilot Updates: Q4-2014</td>
</tr>
<tr>
<td></td>
<td>» Special Presentation: Final Results – EV Charging Station Pilot</td>
</tr>
<tr>
<td>2:45 – 3:00 p.m.</td>
<td>-- Networking Break --</td>
</tr>
<tr>
<td>3:00 – 3:20 p.m.</td>
<td>Product Development: Q4-2014</td>
</tr>
<tr>
<td></td>
<td>» Stakeholder Idea Submissions</td>
</tr>
<tr>
<td>3:20 – 3:40 p.m.</td>
<td>Special Presentation:</td>
</tr>
<tr>
<td></td>
<td>PD Express &amp; Custom-to-Prescriptive Pipeline</td>
</tr>
<tr>
<td>3:40 – 4:00 p.m.</td>
<td>Special Presentation:</td>
</tr>
<tr>
<td></td>
<td>2014 Comprehensive Evaluations Summary</td>
</tr>
</tbody>
</table>
DSM PLAN UPDATE

• 2014 DSM Plan continuing
• 2015/16 DSM Plan Procedural Schedule:
  – Application and Direct Testimony Filed – Oct. 30
  – Supplemental Direct Testimony Filed – Feb. 6
  – Answer Testimony Due – Feb. 13
  – Rebuttal Testimony / Cross-Answer Testimony Due – Mar. 13
  – Stipulations / Settlement / Motions / Corrections Due – Mar. 16
  – Hearing – Mar. 30-31
  – Statements of Position – April 14
  – Statutory Decision Deadline – July 8
60/90-DAY NOTICES

• Lighting Efficiency
  – *Posted:* Nov. 26, 2014
  – *Implemented:* Dec. 29, 2014

• ENERGY STAR New Homes
  – *Posted:* Dec. 1, 2014
  – *Implemented (with changes):* Jan. 29, 2015

• Energy Feedback Residential
  – *Posted:* Dec. 3, 2014

• Ground-Source Heat Pumps
  – *Posted:* Dec. 23, 2014
UPCOMING DSM FILINGS / MEETINGS

- April 1, 2015
  2014 DSM Annual Status Report
- May 6, 2015:
  Q1-2015 DSM Roundtable Meeting
DSM ACHIEVEMENTS
Q4-2014

BILL CONRAD
Manager, Energy Efficiency Marketing
Q4-2014 ACHIEVEMENT HIGHLIGHTS

Electric Portfolio
- 394.7 Net Gen GWh (102% of Target)
- 81 MW (94% of Target)
- $76M Spend (87% of filed budget)

Business Programs
- Data Center Eff. – 171% of Target
- Computer Eff. – 178% of Target
- Process Efficiency – 117% of Target

Residential Programs
- ENERGY STAR New Homes – 129% of Target
- Home Lighting – 161% of Target
- Residential A/C – 123% of Target

Gas Portfolio
- 606,787 Net Dth (97% of Target)
- $12.5M Spend (102% of filed budget)

Business Programs
- Custom Efficiency – 282% of Target
- EMS – 299% of Target
- New Construction – 171% of Target

Residential Programs
- EE Showerheads – 208% of Target
- HPwES – 180% of Target
- Heating Systems – 114% of Target
Q4-2014 CUSTOMER & TRADE EVENTS

**Business Trade Events**

- 2014 Plan Build Thrive Event Series for Business Development
- Haynes Mechanical Lunch & Learn
- WestEx Restaurant Trade Show – Sysco Foods 2014
- Denver City Energy Project Trainings
- Colorado Counties, Inc. (CCI) Annual Winter Conference
- IECC 2015 Energy Codes Forum
- 2015 Colorado Business Economic Outlook Forum
- Small Business Development Center World Economic Outlook Forum
- SimClub Energy Modeling Trade Meeting

**Residential Trade Events**

- Q4 transitioned to new “ResCalendar” hosted by CGBG
- cgbgonline.org/scholarships
- Calendar of Events For Contractors
- NATE test reimbursement scholarships continue
DSM BUSINESS PROGRAM
Q4 HIGHLIGHTS

JENNIFER ELLING
Team Lead, DSM Marketing
• **Energy Analysis 2014**
  - Nearly 100% increase in participation from 2013 to 2014 (86 electric participants in 2013, 165 in 2014)
  - 2014 increase - result of March/April email campaigns, June/July bill onsert campaigns, and September/October direct mail campaigns
  - Program identified more than 6 GWhs of prescriptive energy conservation opportunities in 2014 (mostly Lighting, Cooling, Motors & Drives ECOs)

• **Energy Analysis 2015**
  - “Ring in the New Year with savings” campaign
  - First 100 customers to submit an Energy Analysis application in 2015 are eligible to receive a $100 onsite energy audit
  - Energy audit report includes identified ECOs with associated payback, savings, costs, and available Xcel Energy rebates
Energy Design Assistance – Process Improvements

- **Improve customer satisfaction** – use one modeling platform (OpenStudio) to allow more energy modeling consultants
  - Outcome - Now 8 consultants versus 2. More projects

- **Reduce costs** – create on-line, automated project tracker
  EnergyDesignAssistance Project Tracker (EDAPT)
  - Outcome - Saving about $500,000 in admin costs

- **Align goals** – move to pay for performance for energy consultants
  - Outcome – energy consultants more incentivized to help customer maximize energy savings, cost effectively
Parametric Analysis Tool results and QA/QC checks are uploaded to EDAPT.

Upload format is open to allow use of other tools.

EDAPT automatically documents project data & OpenStudio output.
• Working to expand EDAPT to other Xcel Energy commercial whole building programs (1st up - Recommissioning program)

• DOE and NREL - Currently transitioning EDAPT to other utilities (Austin, CPS, and Duke Energy)

• In discussions with Energy Trust of Oregon, National Grid, NYSERDA, and CPUC
Lighting Efficiency - Midstream
  • Colorado Business LED Instant Rebate launched on 1/15/2015
  • 50 plus participating Distributors (enrolled in the program)
  • Distributor finder: [http://businessledinstantrebate.com/Locator/Distributors](http://businessledinstantrebate.com/Locator/Distributors)

<table>
<thead>
<tr>
<th>Qualifying Lamp Category</th>
<th>Rebate Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED Interior Lamp - PAR38</td>
<td>$15</td>
</tr>
<tr>
<td>LED Interior Lamp - PAR30</td>
<td>$11</td>
</tr>
<tr>
<td>LED Interior Lamp - PAR20</td>
<td>$9</td>
</tr>
<tr>
<td>LED Interior Lamp - PAR16</td>
<td>$6</td>
</tr>
<tr>
<td>LED Interior Lamp - BR40</td>
<td>$8</td>
</tr>
<tr>
<td>LED Interior Lamp - BR30</td>
<td>$8</td>
</tr>
<tr>
<td>LED Interior Lamp - R20</td>
<td>$9</td>
</tr>
<tr>
<td>LED Interior Lamp - MR16</td>
<td>$5</td>
</tr>
<tr>
<td>LED Interior Lamp - GU10</td>
<td>$5</td>
</tr>
<tr>
<td>LED Interior Lamp - A19</td>
<td>$5</td>
</tr>
<tr>
<td>LED Interior Screw In Fixture Retrofit</td>
<td>$12</td>
</tr>
</tbody>
</table>
## 2014 RESIDENTIAL/L.I. MODIFICATIONS
### 2015 PROPOSALS

2014 snapshot of product modifications completed, 2015 initiatives planned

<table>
<thead>
<tr>
<th>Residential/Low Income Program</th>
<th>Measures added</th>
<th>Measures eliminated</th>
<th>Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating System Rebates</td>
<td>EC Motors added 5/1/14 NATE Gas Heating Trade Partner Certification</td>
<td>92% and 94% AFUE Furnaces (95% new min)</td>
<td>ECM Electric-Only + Non-XE Gas Utility partnerships Residential boilers, retire rebates in 2015</td>
</tr>
<tr>
<td>High Efficiency Air Conditioning</td>
<td>Western Cooling Control (WCC) Device</td>
<td></td>
<td>17 SEER, up to $1,150 14.5 SEER, retire in 2015 WCC trade training</td>
</tr>
<tr>
<td>School Education Kits</td>
<td>1 LED Lamp, Showerhead, Aerators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Efficient Showerheads</td>
<td>Aerators added to Kits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Heater Rebate</td>
<td></td>
<td>.62 and .65 Energy Factor (.67 new minimum)</td>
<td></td>
</tr>
<tr>
<td>Energy Feedback</td>
<td>Expansion to 400K homes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
107% of 2014 budget expenditures in 2014, 161% of kWh target, primarily driven by CFLs, including multipack sales.

- CFLs accounted for 83% of total kWh, 58% of rebates in 2014. However, CFL kWh achievement declined 10% vs. 2013
- LED proportion of total kWh 17% in 2014; compares to 4% in 2013
- LED proportion of total rebates 42% in 2014, 15% in 2013
- LED unit prices appear to be leveling off per recent WECC pricing scan
- Sales of certain specialty CFLs are tapering off and some manufacturers are discontinuing models
- Manufacturers and retailers more prominently displaying LED lamps, promoting benefits

Feit 23W Mini Twist, 100W replacement, 6-packs Costco
CREE 9.5W 60-watt replacement, Home Depot
2014 participation decreased over the previous year
97% of 2014 budget expenditures in 2014, 76% of kWh target

- Contingency plan including 30% customer rebate bonus implemented August 1 – November 30 to help drive more units
- Increased trade incentive accompanied customer bonus
- Increased marketing efforts did not make up for slower unit sales
- Program bright spots in 2014
  - Western Slope sales, partnerships
  - Higher proportion of premium units
  - Trade partner training well received
# COMPARISON OF ENERGY-SAVINGS MEASURES IN SINGLE FAMILY HOMES

<table>
<thead>
<tr>
<th></th>
<th>Home Energy Squad</th>
<th>Low Income Single Family Weatherization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target residence</strong></td>
<td>Residential, Single Family</td>
<td>Low Income, Single Family</td>
</tr>
<tr>
<td><strong>Direct Install measures</strong></td>
<td>CFLs Showerheads Aerators Thermostat install or setback Water Heater blanket Water Heater setback</td>
<td>CIFLs Showerheads Aerators LEDs in 2016, when cost-effective</td>
</tr>
<tr>
<td><strong>A la carte measures</strong></td>
<td>LEDs TV/peripherals timer Second Thermostat Second Weather-stripped door</td>
<td>Wall/Attic/Crawl Space Insulation Air Sealing Weather-Stripping Storm Windows</td>
</tr>
<tr>
<td><strong>Weatherization</strong></td>
<td>Weather-stripped door</td>
<td></td>
</tr>
<tr>
<td><strong>Appliances</strong></td>
<td>Refrigerator Replacement Furnace, EC Motor Water Heater</td>
<td></td>
</tr>
</tbody>
</table>

- Available for purchase during visit
• Both Electric (153%) and Gas (158%) achievement exceeded in 2014
• Shifted expenses from other Low Income programs (especially Low Income Kits, where cost savings were realized) to over-spend in order to achieve higher goals
• Comprehensive Product evaluation in 2014
  – Outreach beyond metro area
  – Clear role definitions
• Expanded Energy Outreach Co. partnership with Single Family weatherization
• Expanded measure parameters in 2015
## COMPARISON OF ENERGY-SAVINGS MEASURES IN MULTIFAMILY BUILDINGS

<table>
<thead>
<tr>
<th></th>
<th>Multifamily Buildings Pilot</th>
<th>Low Income Multifamily Weatherization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target residence</strong></td>
<td>Residential, Multifamily</td>
<td>Low Income, Multifamily</td>
</tr>
<tr>
<td><strong>Direct Install measures</strong></td>
<td>CFLs, LEDs, Showerheads, Aerators, LED Exit Signs, Water Heater blankets</td>
<td>Common, bundled measures: CFLs, Showerheads, Aerators</td>
</tr>
</tbody>
</table>
- Gas savings at 180% of filed goal; deeper savings per household
- Electric savings goal met – 127%
  - Increased HVAC participation vs. 2013
  - Energy Advisor conversion activities yielding good results

- Primary Gas measures
  - Ceiling/Attic Insulation
  - Air Sealing
  - Wall Insulation
- Primary Electric measures
  - Lighting/CFLs
  - Thermostats
• Achieved full subscription September 18, 2014  
  – All submitted homes received a rebate
• 3,295 total homes successfully completed program  
  – 97,733 Dths savings (103% of YE target)  
  – 2,186,473 kWh savings (129% of YE target)
• 2015 enrollments opened December 11
• Posted 60-Day Notice December 1  
  – Goal was to implement Plan (program) changes in order to keep program open all year  
  – Comments received by stakeholders  
  – Notice, including modifications resulting from stakeholder comments, implemented January 29
DSM PILOT UPDATES
Q4 HIGHLIGHTS

Kerry Klemm
Manager, Product Development
WHAT MAKES A PILOT A PILOT?

1. Small scale
2. Short term
3. Allows us to…
   - Test logistics
   - Prove value
   - Reveal flaws

...before spending a significant amount of time, energy and/or money on a large-scale program
<table>
<thead>
<tr>
<th>PILOT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Feedback</td>
<td>To Program in 2015</td>
</tr>
<tr>
<td>Business Energy Feedback</td>
<td>In Progress</td>
</tr>
<tr>
<td>Building Optimization</td>
<td>Filed</td>
</tr>
<tr>
<td>Small Business Smart Thermostat</td>
<td>Filed</td>
</tr>
<tr>
<td>Multifamily</td>
<td>Launch Q2 2015</td>
</tr>
<tr>
<td>Residential Smart Thermostat</td>
<td>Launch March 2015</td>
</tr>
<tr>
<td>Electric Vehicle Charging Station</td>
<td>Complete Finalizing Report</td>
</tr>
<tr>
<td>Community Energy Efficiency Planning</td>
<td>Complete Finalizing Report</td>
</tr>
</tbody>
</table>
ENERGY FEEDBACK PILOTS
• Added 400,000 new participants in Jan 2015
• 2014: 27.8 Net Gen GWh and 91,789 Dth
  – 50% more electricity savings and 29% more gas savings than in 2013
• Three My Energy emails delivered to around 300,000 customers
• No savings measurement yet
• Third-party evaluation taking place in Q1 2015
## DSM PILOT UPDATES

### MY ENERGY

<table>
<thead>
<tr>
<th></th>
<th>MN</th>
<th>CO</th>
<th>NMx</th>
<th>TX</th>
<th>MI</th>
<th>SD</th>
<th>ND</th>
<th>WI</th>
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<tbody>
<tr>
<td>Unique Visitors</td>
<td>95,293</td>
<td>114,749</td>
<td>4,841</td>
<td>11,289</td>
<td>467</td>
<td>6,375</td>
<td>9,929</td>
<td>18,540</td>
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<tr>
<td>Average Time On Site</td>
<td>2:59</td>
<td>2:51</td>
<td>2:38</td>
<td>2:49</td>
<td>3:52</td>
<td>2:56</td>
<td>2:56</td>
<td>3:16</td>
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<tr>
<td>Green Button Downloads</td>
<td>3,586</td>
<td>4,279</td>
<td>8</td>
<td>67</td>
<td>3</td>
<td>16</td>
<td>56</td>
<td>7,962</td>
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<tr>
<td>Web Audits*</td>
<td>14,900</td>
<td>15,776</td>
<td>753</td>
<td>1,777</td>
<td>64</td>
<td>1,109</td>
<td>1,731</td>
<td>3,259</td>
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<tr>
<td>Commitments*</td>
<td>1,250</td>
<td>1,092</td>
<td>50</td>
<td>123</td>
<td>5</td>
<td>99</td>
<td>113</td>
<td>248</td>
</tr>
</tbody>
</table>

Note: Results shown are between November 2013 and December 2014. *Percentages based on unique visitors. Green Button Downloads based on total downloads.

7% Of Colorado Customers
DSM PILOT UPDATES
ENERGY FEEDBACK - BUSINESS

- Started in July
- Four reports in 2014
- 10,000 small businesses
- First savings measurement Nov 2014
  - 1.53 Net Gen GWh
  - No Dth measurement yet
- Third-party evaluation Q1 2015
Adding outreach in 2015

Opening and reading the report

72% of customers remember receiving reports, with 94% readership

Reaching the energy decision maker

Layered email

Activating them to save energy

EE program promotions

Taking an EE action

Employee engagement poster

Getting everyone on board
COMMUNITY ENERGY EFFICIENCY PLANNING PILOT WRAP-UP
• Held community meeting to present evaluation results on 12/10/14
• Pilot is now complete – implementation activities continue
• Final Evaluation Report Q1 2015
• Best practices incorporated into Partners In Energy
BUILDING OPTIMIZATION
(NEW FOR 2015 PLAN)
WHAT DO WE WANT TO LEARN?

1. What level of demand response does this technology deliver (kW/sf)?
2. Can this demand response be reliably and repeatedly deployed?
3. Can this resource be used for short notice events (< 10 minutes)?
4. What level of energy savings can be attributed to optimization software?
5. Is the value of energy savings sufficient for customers to subscribe to the software?

✓ Filed in CO 2015/2016 Plan
✓ 2-year pilot, 10 bldgs.
✓ Budget: $464,163
UPDATES

• Met with BuildingIQ
• Query to E Source and additional research to find similar vendors
• Still on track to be ready for the summer control season
SMALL BUSINESS SMART THERMOSTAT

WHAT DO WE WANT TO LEARN?

1. What level of DR does this technology deliver (kw/ton); a) when using a cycling strategy for cooling? b) when enabling pre-cooling and temperature set-up strategy?

2. Will customers consistently participate in DR events a) without an incentive beyond the value of the smart thermostat? b) with a pay-for-performance compensation structure?

3. Are small business customers interested in this type of program?

4. Can a direct install deployment method be cost-effectively administered?

5. Could smart thermostats be effectively delivered within SB Lighting’s direct install approach?

- Filed in CO 2015/2016 Plan
- 2-year pilot, 100 bldgs.
- Budget: $ 561,976
- Tie in with Residential Smart T-stat DR pilot
MULTIFAMILY PILOT
MULTIFAMILY PILOT

WHAT DO WE WANT TO LEARN?

1. How can we best engage multifamily building owners/property managers?

2. What motivates building owners/property managers to pursue energy efficiency projects?

3. What is a reasonable savings range to be expected for existing multifamily buildings?

4. Does starting with an energy assessment and direct-install package lead to larger capital projects?

5. Do energy efficiency projects have any effect on occupancy rates, rental rates and/or overall building value?

✓ 60-Day Notice filed Aug 2014
✓ 2-year pilot
✓ Budget $613,850
✓ Energy Assessment → Direct-Install → Traditional Energy Efficiency Improvements
UPDATES

- Anticipated launch Q2 2015
- Back-office process and procurement efforts underway
- February request for information (RFI) for implementation support services
- Late February request for proposal (RFP)
RESIDENTIAL SMART THERMOSTAT
WHAT DO WE WANT TO LEARN?

1. What level of energy savings can be attributed to smart thermostats?

2. Will a $50 rebate encourage customers to purchase and install a smart thermostat?

3. Can we create a cost-effective DSM product using the resulting deemed energy savings values?

4. Will a pay-for-performance format encourage participation in demand response events?

5. What incentive levels will optimize participation and demand savings during control events?

6. Are customers interested in a BYOD demand response program model?

✓ 60-Day Notice filed Aug 2014
✓ 2-year pilot
✓ Budget $1,158,500
✓ $50 rebate
✓ $25 DR incentive
✓ $2.50 or $5 bill credit
RESIDENTIAL SMART THERMOSTAT

CONTRACTS

MARKETING PLAN

OPERATIONS

CUSTOMER EXPERIENCE

ANTICIPATED LAUNCH: EARLY Q2 2015
A NEW CUSTOMER EXPERIENCE

1. EASE

2. OPPORTUNITY

INTRODUCING THE SMART THERMOSTAT PROGRAM

COOL TECHNOLOGY JUST GOT CLOSER TO HOME!

- Set your temperature on your schedule
- Can be controlled via your smartphone
- Enjoy $50 DISCOUNT INSTANT REBATE!*
**CO RESIDENTIAL SMART THERMOSTAT**

<table>
<thead>
<tr>
<th></th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
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<tbody>
<tr>
<td><strong>CONTRACTS</strong></td>
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<tr>
<td>• MANUFACTURER</td>
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<td>• DEMAND RESPONSE</td>
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<td>• M&amp;V</td>
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<td><strong>MARKETING</strong></td>
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<td></td>
<td>PLAN &amp; DEVELOP</td>
<td>SIGN OFF</td>
<td>DESIGN</td>
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<tr>
<td><strong>OPERATIONS</strong></td>
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<td>• CUSTOMER CARE</td>
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<td>DEVELOPMENT</td>
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<td>• BILLING</td>
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<td>SET UP</td>
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<td>• REBATE</td>
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<td>FORM AND PROCESS FRAMEWORK</td>
<td>DESIGN</td>
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<td>• LOAD MANAGEMENT</td>
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<td>FORM AND PROCESS FRAMEWORK</td>
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<td>• CRM</td>
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<td><strong>STOREFRONT</strong></td>
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<tr>
<td>• SITE DEVELOPMENT</td>
<td>COPY/CONTENT</td>
<td>SIGN OFF</td>
<td>UAT</td>
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<tr>
<td>• CUSTOMER CARE</td>
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<td>CO-DEVELOPMENT</td>
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<tr>
<td>• PR/MEDIA/SOCIAL</td>
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<td>CONTENT &amp; PLACEMENT</td>
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</table>
ELECTRIC VEHICLE CHARGING STATION PILOT FINAL RESULTS

Eric Van Orden
Product Developer, Marketing
New nameplates added each year…
## ELECTRIC VEHICLE CHARGING STATION

### WHAT DID WE WANT TO LEARN?

1. When are customers charging?
2. What is the EV load profile?
3. How much do EV’s contribute to System peak load?
4. How are the charging stations being used?
5. What is the load factor for EV’s?

- CO 2012/2013 DSM Plan
- 2-year pilot, 20 participants
- Budget: $ 69,871
### PHASE I
- **ChargePoint**
  - Completed 2014 load control events (9 events)
  - Increased control period to 6 hours
  - One customer opted-out for 2014

### PHASE II
- **Consert**
  - Completed 2014 load control events (10 events)
  - Increased control period to 6 hours
  - One customer moved, so was not included for 2014

### PHASE III
- Partnering with GM OnStar
- Waiting for signature of Agreement from OnStar

**CANCELLED**
### Average kW Demand per vehicle

<table>
<thead>
<tr>
<th></th>
<th>PILOT peak time</th>
<th>PILOT peak (kW)</th>
<th>SYSTEM peak time</th>
<th>PILOT kW at Sys Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
<td>10/1</td>
<td>11 PM</td>
<td>1.34</td>
<td>10/15</td>
</tr>
<tr>
<td>Nov</td>
<td>11/9</td>
<td>4 AM</td>
<td>1.31</td>
<td>11/21</td>
</tr>
<tr>
<td>Dec</td>
<td>12/12</td>
<td>2 AM</td>
<td>1.32</td>
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<tr>
<td>Jan</td>
<td>1/17</td>
<td>7 PM</td>
<td>1.16</td>
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<tr>
<td>Feb</td>
<td>2/11</td>
<td>8 AM</td>
<td>1.32</td>
<td>2/5</td>
</tr>
<tr>
<td>Mar</td>
<td>3/5</td>
<td>6 PM</td>
<td>1.28</td>
<td>3/1</td>
</tr>
<tr>
<td>Apr</td>
<td>4/17</td>
<td>12 AM</td>
<td>1.43</td>
<td>4/13</td>
</tr>
<tr>
<td>May</td>
<td>5/1</td>
<td>11 PM</td>
<td>1.57</td>
<td>5/28</td>
</tr>
<tr>
<td>Jun</td>
<td>6/29</td>
<td>8 PM</td>
<td>1.24</td>
<td>6/30</td>
</tr>
<tr>
<td>Jul</td>
<td>7/17</td>
<td>8 PM</td>
<td>1.31</td>
<td>7/7</td>
</tr>
<tr>
<td>Aug</td>
<td>8/16</td>
<td>12 AM</td>
<td>1.25</td>
<td>8/13</td>
</tr>
<tr>
<td>Sep</td>
<td>9/6</td>
<td>11 AM</td>
<td>1.22</td>
<td>9/3</td>
</tr>
</tbody>
</table>

**CONCLUSIONS**

- EV charging peak does not coincide with Xcel Energy system peak
- Non-coincident peak load factor = 19.5%
- The average demand (kW) savings per vehicle on a System peak day is around 0.28 kW

Wide variety of times

Different peak days 5 pm – 9 pm
EV Charging Load Profiles – Average of all pilot participants

Average
Minimum
Maximum
System Peak Window

KW
Average EV Charging profile on System peak day each month

System Peak Window

kW

0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00
Average EV Charging profile on System peak Day: July vs. December

System Peak Window

July
December
Individual Station Example

Winter Avg (All days)
Spring Avg (All days)
Summer Avg (All days)
Fall Avg (All days)

System Peak Window
PILOT PARTICIPANT SURVEY

• Half own; half lease
• Most do not have access to EV charging at work
• 2/3 mildly inconvenienced by the control events
• 12 control events per season was reasonable
• Right amount of communication
• 2/3 thought $100 incentive was enough
• Overall happy with the pilot

Expected Length of Ownership

- <1 year
- 1-3 years
- >3 years
EV OWNERS’ SURVEY
Objective: Gauge interest in participating in future utility pilots.

- Most EV drivers (56.1%) use Level II charging at home.
- ~75% of charging takes place in homes; ~15% at work
- High percentage participate in renewables
EV OWNERS’ SURVEY

- Willingness to participate in future EV-related pilots

![Bar chart showing willingness to participate in future EV-related pilots for EV Drivers and Non-EV Drivers.]

- Very willing
- Somewhat willing
- Not willing
- Not sure

EV Drivers
Non-EV Drivers
EV OWNERS’ SURVEY

- Greatest motivation to participate in future EV pilots/programs:

  - No upfront cost for charging or other equipment (44%)
  - Monetary award provided for each year of participation (35%)
  - Program and market information shared during program participation (18%)
  - Gift award for participation (3%)
What does this all mean?
• Controlling EV charging does work
• DR has minimal impact to customers
• Lower charging peaks in summer vs. winter
• Customers asking for EV rate

Where are we headed next?
• Still an evolving industry
• Ongoing exploration & development
- Networking Break -
DSM PRODUCT DEVELOPMENT
Q4 HIGHLIGHTS

PAT GOGGIN
Team Lead, Product Development
• What we said we’d develop at the 2014 Q1 Roundtable

<table>
<thead>
<tr>
<th>Products</th>
<th>GWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED Troffers</td>
<td>2.5 GWh</td>
</tr>
<tr>
<td>Midstream LED Lighting</td>
<td>3.0 GWh</td>
</tr>
<tr>
<td>Large C&amp;I Data Analytics (EMIS)</td>
<td>6.0 GWh</td>
</tr>
<tr>
<td>Holistic Multifamily</td>
<td>4.5 GWh</td>
</tr>
<tr>
<td>Smart Thermostats</td>
<td>2.5 GWh</td>
</tr>
<tr>
<td>SME Direct Install</td>
<td>3.9 GWh</td>
</tr>
<tr>
<td>LED Area lighting</td>
<td>2.0 GWh</td>
</tr>
<tr>
<td>Upstream Strategy &amp; DOE RTU Challenge</td>
<td>0.0 GWh</td>
</tr>
<tr>
<td>PE for SMB</td>
<td>6.0 GWh</td>
</tr>
<tr>
<td>Convenience Store Comprehensive Offering</td>
<td>4.4 GWh</td>
</tr>
<tr>
<td>Advanced Lighting Design</td>
<td>2.5 GWh</td>
</tr>
<tr>
<td>Whole House Revamp</td>
<td>1.0 GWh</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38.3 GWh</strong></td>
</tr>
</tbody>
</table>

- Early projections of savings may change during development
- Not all concepts will progress into filed products
2014 Recap: What we said might go PD Express at the 2014 Q1 Roundtable

**PD Express Products**

- Western Cooling Control Device
- LED high bay lighting
- Energy recovery ventilators
- Home Energy Squad
- LED area lighting
- EC plug fans in data centers
- Mini-split ductless AC (not cost-effective)
- DEPACC for refrigeration
- Commercial refrigerator/freezer rebates
- Rooftop unit controls
- Air source heat pump to replace electric resistance heat

- Not all concepts will progress into filed products
## DSM PRODUCT DEVELOPMENT
### 2014 PRODUCTS DEVELOPED

<table>
<thead>
<tr>
<th>Products</th>
<th>GWh</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED Troffers</td>
<td>2.5 GWh</td>
<td>258</td>
</tr>
<tr>
<td>Large C&amp;I Data Analytics (EMIS)</td>
<td>4.7 GWh</td>
<td>4</td>
</tr>
<tr>
<td>Western Cooling Control Device</td>
<td>0.0 GWh</td>
<td>7</td>
</tr>
<tr>
<td>Smart Thermostats</td>
<td>0.7 GWh</td>
<td>5,000</td>
</tr>
<tr>
<td>Multifamily</td>
<td>0.6 GWh</td>
<td>751</td>
</tr>
<tr>
<td>SME Direct Install</td>
<td>2.3 GWh</td>
<td>130</td>
</tr>
<tr>
<td>PE for SMB</td>
<td>2.2 GWh</td>
<td>4</td>
</tr>
<tr>
<td>Midstream bus lighting (incremental)</td>
<td>13.0 GWh</td>
<td>1,305</td>
</tr>
<tr>
<td>Energy Feedback Expansion</td>
<td>22.9 GWh</td>
<td>500,000</td>
</tr>
<tr>
<td>Company owned LED Street Lighting</td>
<td>12.8 GWh</td>
<td>23,635</td>
</tr>
<tr>
<td>LED Area lighting</td>
<td>5.6 GWh</td>
<td>103</td>
</tr>
<tr>
<td><strong>Evaluated and Rejected or on hold</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Custom</td>
<td>Not cost effective</td>
<td></td>
</tr>
<tr>
<td>Convenience stores</td>
<td>Included in Commercial Refrigeration Product</td>
<td></td>
</tr>
<tr>
<td>Energy Recovery Ventilator (ERV)</td>
<td>Not cost effective</td>
<td></td>
</tr>
<tr>
<td>Whole House Revamp</td>
<td>Test HES first</td>
<td></td>
</tr>
<tr>
<td>Ground Source Heat Pumps</td>
<td>Not cost effective</td>
<td></td>
</tr>
<tr>
<td><strong>PD Express</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Energy Squad</td>
<td>2.8 GWh</td>
<td>1,600</td>
</tr>
<tr>
<td>VSD Air Compressor HP Reduction</td>
<td>0.1 GWh</td>
<td>6</td>
</tr>
<tr>
<td>EC Plug Fans</td>
<td>2.0 GWh</td>
<td>15</td>
</tr>
<tr>
<td>Advanced Lighting Design turned into</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Lighting Sensors</td>
<td>0.2 GWh</td>
<td>64</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>75.4 GWh</strong></td>
<td><strong>532,883</strong></td>
</tr>
</tbody>
</table>
• Looking toward the future
  – Kicking off the phase of idea selection
    • Start in February
    • Finalize in Q2
    • A lot of research, assessment and validation in between
  – New products for 2017-2018 Biennial
  – Now is the best time to submit ideas
<table>
<thead>
<tr>
<th>Concept Selection Criteria</th>
<th>Attributes</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated size of opportunity (electric)</td>
<td>GWh</td>
<td>SCORE</td>
</tr>
<tr>
<td>&lt;5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5 to 10</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10 to 15</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>15 to 25</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>25+</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Estimated size of opportunity (gas)</td>
<td>Dth</td>
<td>SCORE</td>
</tr>
<tr>
<td>&lt;25,000</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>25,000 to 50,000</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>50,000 to 75,000</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>75,000 to 100,000</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>100,000+</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Strategic Fit</td>
<td>Increase portfolio KPIs and cost effectiveness</td>
<td>20%</td>
</tr>
<tr>
<td>Product Advantage</td>
<td>Appeal in the marketplace</td>
<td>15%</td>
</tr>
<tr>
<td>Feasibility</td>
<td>Cost &amp; ease of development / approval</td>
<td>15%</td>
</tr>
<tr>
<td>Customer Choice</td>
<td>Significant new customer choice? Underserved market?</td>
<td>15%</td>
</tr>
</tbody>
</table>
DSM STAKEHOLDER IDEA SUBMISSIONS

PAT GOGGIN
Team Lead, Product Development
Q4 IDEA SUBMISSIONS

1. LED Bulbs for Low-Income Program
   via Colorado Energy Office
2. Energy Efficient Stove Tops
   via Pioneering Technologies

Program ideas can be submitted on Xcel Energy’s DSM website at:
1. LED BULBS FOR LOW-INCOME

Received Nov. 18, 2014

• **Description:**
  – Include LED bulb replacement in the low-income DSM program.

• **Evaluation Result:**
  – We used the submitter’s assumptions to determine the energy savings and an estimated cost effectiveness.
  – Estimated Energy Savings:
    • 9 kW
    • 0.082 GWh

  – *Close to cost effective – need prices to decline some more.*
  – *Potential PD Express*
• Received Dec. 11, 2014

• Description:
  – A device that controls the temperature of the electric coils to below 662 F. It helps prevent cooking fires and reduces the amount of energy used when cooking.

• Evaluation Result:
  – We used the submitter’s assumptions to determine the energy savings and an estimated cost effectiveness.
  – Estimated Energy Savings based on 1,000 participants:
    • 74 - 342 kW dependent on coincidence factor
    • 0.199 GWh
  – Early assessment shows potential to be cost effective.
  – There are a number of assumptions that need to be determined or validated such as coincidence factor.
  – We will include it in our Stage 1 and 2 processes for prioritization.
WHAT IS PD-XPRESS?

• Alternative path for smaller, simpler, straightforward projects to become new prescriptive products.

• Goals:
  – Streamline the approval process for new prescriptive measures
  – Make easier for customers & vendors to participate in our programs
  – Make as many prescriptive measures as possible

• Initiated in the 2nd Quarter of 2014
WHAT’S NEW?

• As of August 2014, Managed by a 3-person team consisting of Product Portfolio Managers and Energy Efficiency Engineers

• Custom Project Archive
  – A formalized process that documents all new custom project characteristics, ultimately benefiting our customers.
  – Creates real-time pipeline for PDXpress
  – The archive went live 1/1/15
CUSTOM PROJECT ARCHIVE

- As 2000+ custom projects are analyzed each year, results are collected
- Counts reveal new technology-adoption trends of our customers
- Once we get enough repeatable and cost-effective projects, project characteristics will emerge
SUCCESS THUS FAR…

<table>
<thead>
<tr>
<th>Program</th>
<th>Product</th>
<th>Measure</th>
<th>State</th>
<th>Projected Completion Date</th>
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</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>Data Centers</td>
<td>EC Plug Fans</td>
<td>CO</td>
<td>In CO 2015/16 Filing</td>
</tr>
<tr>
<td>Commercial</td>
<td>Lighting Efficiency</td>
<td>Integrated Sensors</td>
<td>CO</td>
<td>In CO 2015/16 Filing</td>
</tr>
<tr>
<td>Commercial</td>
<td>Compressed Air</td>
<td>downsize of compressor.</td>
<td>CO</td>
<td>In CO 2015/16 Filing</td>
</tr>
<tr>
<td>Commercial</td>
<td>Computer Efficiency</td>
<td>High-efficiency Servers</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Attic Insulation &amp; Air Sealing</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Furnace</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Programmable Thermostats</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Boiler</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Water Heater</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Faucet Aerators</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Showerheads</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>Water heater blankets</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Residential</td>
<td>Low Income Multi-Family</td>
<td>External door weather stripping</td>
<td>MN</td>
<td>February 2015</td>
</tr>
<tr>
<td>Commercial</td>
<td>Lighting Efficiency</td>
<td>LED highbays</td>
<td>MN / CO / NM</td>
<td>March 2015</td>
</tr>
<tr>
<td>Commercial</td>
<td>Lighting Efficiency</td>
<td>LED tubes</td>
<td>MN / CO / NM</td>
<td>March 2015</td>
</tr>
<tr>
<td>Residential/Low Income</td>
<td>Residential/Low Income</td>
<td>Furnace ECM Rebate</td>
<td>NM</td>
<td><strong>Begin</strong>: February 2015</td>
</tr>
<tr>
<td>Low Income</td>
<td>Kits/Single Family</td>
<td>LED bulbs</td>
<td>CO</td>
<td>On Hold</td>
</tr>
<tr>
<td>Residential</td>
<td>Home Performance</td>
<td>LED bulbs</td>
<td>CO</td>
<td>On Hold</td>
</tr>
<tr>
<td>Commercial</td>
<td>Lighting Efficiency</td>
<td>Integrated Sensors</td>
<td>NM</td>
<td>March 2015</td>
</tr>
<tr>
<td>Commercial</td>
<td>Lighting Efficiency</td>
<td>LED Troffers</td>
<td>NM</td>
<td>March 2015</td>
</tr>
</tbody>
</table>

PDX ➔ **PASS (MTRC>1.0)** ➔ Customer
GOALS FOR 2015

• Move equivalent of 600 custom projects from 2014 (roughly 30%) into new prescriptive measures

• Complete the average PDX process within 4-8 Weeks
BENEFITS

• Customer
  – Portfolio strategies that are continuously aligned with current consumer demands
  – Increased Customer Choice in prescriptive measure offerings
  – Expected Ripple Effects:
    • Increase in customer participation
    • Generation of additional product input from trade partners

• Portfolio
  – Insight for managing measure mix and adoption rates
  – Reduced Engineering Time and Bottle-necks
  – Increased Energy Savings
2014 COMPREHENSIVE EVALUATIONS SUMMARY

BRUCE NIELSON
Market Research
QUICK OVERVIEW OF EVALUATIONS

- Use of Third Party Independent Evaluators
- Evaluation Objectives
  - Measure customer and trade partner satisfaction
  - Investigate whether program component upgrades or updates might better meet customer needs
  - Investigate additional research topics important to a program’s progress through its planning cycle life
  - Offer defendable plans to ascertain an assessment of the Net-to-Gross (NTG) ratio for impact studies including its component parts (free ridership and spillover values)
  - Deliver data-supported, actionable and realistic recommendations for improvements to program operations
EVALUATION STEPS

• Internal interviews
  – Management, program managers, engineers, channel managers, engineers, rebate processors, customer care
  – Identify current strengths and challenges of the programs
• Trade partner interviews
  – Uncover opportunities to improve coordination, education and communications
  – Assess program influence on trade partner practices
• Peer utility benchmark interviews
  – Similar offerings to identify best practices
  – Gather corroborative information for program attribution (NTG)
• Participant interviews
  – Identify satisfaction with the program, opportunities to improve
  – Assessment of program influence (NTG)
• Non participant interviews
  – Gauge program awareness
  – Identify barriers to program participation
1. LOW INCOME MULTI FAMILY EFFICIENCY EVALUATION

• Process only evaluation

• Key Findings
  – Effective partnership with Energy Outreach Colorado (EOC) allows participating customers and trade allies to easily engage in the program
  – The program encourages participants to take additional efficiency actions

• Recommendations
  – Investigate split incentives affecting landlords in rural and mountain areas to expand market opportunities
  – Continue to enhance communications with EOC and trade allies explaining roles, rules, protocols, benefits and bidding decision making
2. ENERGY MANAGEMENT SYSTEMS EVALUATION

• Process only evaluation
• Key Findings
  – Program is operating effectively and well positioned to promote implementation of EMS
  – Program successfully engages trade allies that play integral roles in customer recruitment and project implementation
  – Segregated trade markets limit integrating lighting and HVAC controls
• Recommendations
  – Encourage integration of trade partner solutions for lighting and HVAC controls
  – Continue ongoing education efforts to EMS contractors
  – Where cost effective, proceed with plans for an EMIS offering to address growing demand in CO informational systems market
  – Continue to monitor the program’s cost-effective delivery as a stand alone program vs. integrated delivery
3. ENERGY EFFICIENCY FINANCING EVALUATION

- Process only evaluation, impact portion of evaluation planned for 2016
- Key Findings
  - Satisfaction among customers using the program is high
  - Staff has effectively recruited allies, provided training and designed a strong marketing toolkit to target residential & business customers
  - Program participation in financing programs ramp up slowly during initial years of implementation
- Recommendations
  - Consider ways to increase contact and relationships between lenders and trade allies
  - Consider combining efficiency with solar incentives as a whole package of improvements
  - Adjusted goals are recommended to account for slow ramping up of financing programs
2015 EVALUATIONS

• Evaluations Planned for 2015
  – Process and Impact Evaluation for CO Home Lighting
    • Upstream rebates for purchasing through partnerships with participating retailers & manufacturers
    • Discounted bulbs include CFLs and LEDs including 3-way, dimmable, floods & globes
  – Process and Impact Evaluation for CO Business Lighting Efficiency
    • Prescriptive and custom rebates for wide range of projects & applications
    • Rebate categories include retrofits, de-lamping, new construction, custom applications and lighting redesign studies
  – Lighting Product Market Assessment
    • Understand ordering and stocking of residential and business lighting technologies, specifically the handling of remaining stock of inefficient bulbs
    • Possibly include efficient lighting saturation, recording lighting stock practices and identifying potential for efficient lighting technologies
THANK YOU