



Q3 – 2021 COLORADO DSM ROUNDTABLE

November 10, 2021



AGENDA

- 1:00 – 1:15 p.m. Welcome and DSM Regulatory Updates
- 1:15 – 2:00 p.m. DSM Programs: Q3-2020 Update
Q3 Achievement and Product Highlights
- 2:00 – 2:15 p.m. Product Development Update
- Break --
- 2:30 – 2:45 p.m. Codes & Standards Update
- 2:45 – 3:45 p.m. Potential Study Update



DSM REGULATORY UPDATES

Q3 – 2021

George McGuirk | DSM Regulatory

Q2 60/90-Day Notices

2020 Product Evaluation Updates – 5/14/2021

- Lighting Efficiency LED Instant Rebate
- Lighting – Small Business
- Energy Efficient Shower Heads
- Refrigerator & Freezer Recycling

CPP Advice Letter (21AL-0091E)

- Effective by operation of law on April 30, 2021

Q3 60/90-Day Notices

Energy Star New Homes

- Posted: 9/3/2021
- Implemented: 10/5/2021

Whole Home Performance (HPwES)

- Posted: 9/3/2021
- Implemented: 10/5/2021

IQ Single-family Weatherization

- Posted: 9/3/2021
- Implemented: 10/5/2021

Lighting Efficiency

- Posted: 9/3/2021
- Implemented: 10/5/2021

Multifamily Buildings

- Posted: 9/3/2021
- Implemented: 10/5/2021

Residential Heating and Cooling

- Posted: 9/3/2021
- Implemented: 11/5/2021

Q3 60/90-Day Notice Impacts

2021 Plan Year	Q2 Evaluation Modifications		Q3 Modifications		% Change	
	Energy Savings	Budget	Energy Savings	Budget	Energy Savings	Budget
Electric Energy Efficiency	529,562,737 (kWh)	\$ 89,954,799	530,042,572 (kWh)	\$ 89,933,997	0.09%	-0.02%
Lighting Efficiency	93,506,351 (kWh)	\$ 12,221,449	93,618,663 (kWh)	\$ 12,230,044	0.12%	0.07%
Energy Star New Homes	9,912,052 (kWh)	\$ 2,848,628	9,839,519 (kWh)	\$ 2,803,076	-0.73%	-1.60%
Multifamily Buildings	13,048,472 (kWh)	\$ 2,858,997	12,988,002 (kWh)	\$ 2,846,712	-0.46%	-0.43%
Residential Heating & Cooling	14,057,658 (kWh)	\$ 8,988,318	14,069,696 (kWh)	\$ 9,017,318	0.09%	0.32%
Whole Home Efficiency	481,429 (kWh)	\$ 200,358	488,764 (kWh)	\$ 200,458	1.52%	0.05%
IQ Single-family Weatherization	22,894,895 (kWh)	\$ 2,447,676	23,376,049 (kWh)	\$ 2,447,526	2.10%	-0.01%
Electric Demand Response	94,410 (kW)	\$ 23,384,188	94,410 (kW)	\$ 23,384,188	0.00%	0.00%
Natural Gas Energy Efficiency	779,224 (Dth)	\$ 18,499,094	789,787 (Dth)	\$ 18,588,604	1.36%	0.48%
Energy Star New Homes	129,214 (Dth)	\$ 3,171,630	135,749 (Dth)	\$ 3,215,744	5.06%	1.39%
Multifamily Buildings	34,522 (Dth)	\$ 849,461	35,889 (Dth)	\$ 861,558	3.96%	1.42%
Residential Heating & Cooling	177,967 (Dth)	\$ 3,006,642	180,289 (Dth)	\$ 3,036,642	1.30%	1.00%
Whole Home Efficiency	6,973 (Dth)	\$ 146,893	7,277 (Dth)	\$ 148,692	4.36%	1.22%
IQ Single-family Weatherization	59,762 (Dth)	\$ 4,457,876	59,798 (Dth)	\$ 4,459,376	0.06%	0.03%

Q3 60/90-Day Notice Impacts

2022 Plan Year	Q2 Evaluation Modifications		Q3 Modifications		% Change	
	Energy Savings	Budget	Energy Savings	Budget	Energy Savings	Budget
Electric Energy Efficiency	514,844,196 (kWh)	\$ 89,960,142	515,519,231 (kWh)	\$ 89,954,354	0.13%	-0.01%
Lighting Efficiency	93,510,554 (kWh)	\$ 12,116,819	93,847,489 (kWh)	\$ 12,142,604	0.36%	0.21%
Energy Star New Homes	10,361,702 (kWh)	\$ 2,807,953	10,289,169 (kWh)	\$ 2,763,428	-0.70%	-1.59%
Multifamily Buildings	10,982,228 (kWh)	\$ 2,505,013	10,897,633 (kWh)	\$ 2,490,027	-0.77%	-0.60%
Residential Heating & Cooling	14,050,068 (kWh)	\$ 9,135,054	14,062,106 (kWh)	\$ 9,164,054	0.09%	0.32%
Whole Home Efficiency	696,826 (kWh)	\$ 262,869	698,861 (kWh)	\$ 262,458	0.29%	-0.16%
IQ Single-family Weatherization	22,887,193 (kWh)	\$ 2,448,633	23,368,347 (kWh)	\$ 2,448,483	2.10%	-0.01%
Electric Demand Response	116,098 (kW)	\$ 23,820,175	116,098 (kW)	\$ 23,820,175	0.00%	0.00%
Natural Gas Energy Efficiency	797,912 (Dth)	\$ 18,498,555	812,675 (Dth)	\$ 18,588,096	1.85%	0.48%
Energy Star New Homes	154,836 (Dth)	\$ 3,053,505	165,415 (Dth)	\$ 3,096,719	6.83%	1.42%
Multifamily Buildings	34,522 (Dth)	\$ 870,941	35,889 (Dth)	\$ 881,956	3.96%	1.26%
Residential Heating & Cooling	170,237 (Dth)	\$ 2,862,451	172,559 (Dth)	\$ 2,892,451	1.36%	1.05%
Whole Home Efficiency	9,098 (Dth)	\$ 194,389	9,522 (Dth)	\$ 196,700	4.66%	1.19%
IQ Single-family Weatherization	59,762 (Dth)	\$ 4,458,569	59,834 (Dth)	\$ 4,461,596	0.12%	0.07%

2021-22 Stakeholder Engagement Updates

Stakeholder Engagements

- Demand Response Working Group
 - Kick-off/Strategy Overview – June 16, 2021
 - Industrial Deep Dive – July 21, 2021
 - Commercial Deep Dive – August 19, 2021
 - Residential Deep Dive – September 22, 2021
- On-Bill Financing Working Group
 - Kick-off/Scope and Objective setting – July 9, 2021
 - Preliminary Findings – August 19, 2021

DSM Regulatory Calendar

Upcoming Meetings – Save the Date!

- Demand Response Working Group
 - Wrap up – [Thursday, November 18, 10am](#)
- On-Bill Financing Working Group
 - Third Meeting – [Mid-December](#)
- Q4-2021 DSM Roundtable Meeting
 - [Wednesday, February 9, 2022](#)

DSM Regulatory Calendar

Upcoming Filings – Preliminary Schedule

- PUC Clean Heat and Gas Planning Rulemaking – Proceeding No. 21R-0449G
 - Remove fuel switching prohibition and align DSM rules with Clean Heat targets (SB21-264)
 - Comments in Miscellaneous Proceeding due [November 19, 2021](#)
 - Hearing scheduled for [February 17-18, 2022](#)
- Winter Storm Uri – Proceeding No. 21A-192EG
 - Hearing scheduled for [January 26-28, 2022](#)
- DSM Strategic Issues + Beneficial Electrification
 - Goal setting for Electric and Natural Gas DSM as well as Beneficial Electrification
 - [March 1, 2022](#)
- 2023 DSM Plan + Beneficial Electrification
 - [July 1, 2022](#) (deadline, may be filed earlier in Q2 2022)



DSM ACHIEVEMENTS

Q3 – 2021

Mark Schoenheider | Manager, Customer Energy Solutions

2021 Q3 Achievement Highlights

Electric Portfolio

- 316.2 GWh (59% of 537.6 GWh Target)
- 60.5 MW (59% of 101.7 MW Target)
- \$51.3M (57% of \$90M Budget)

Business Programs

- 159 GWh (46% of Target)
- New Construction 45 GWh (98%)
- Business HVAC+R Systems 15.9 GWh (50%)
- Small Business Solutions 19.7 GWh (43%)

Residential / IQ Programs

- 135 GWh (83% of Target)
- Home Lighting & Recycling 101 GWh (131%)
- Income Qualified SF Weatherization 20.3 GWh (89%)
- Multifamily Buildings 4.1 GWh (32%)
- Residential Heating & Cooling 4.9 GWh (35%)

Gas Portfolio

- 536,191 Net Dth (71% of 755,934 Target)
- \$9.7M Spend (55% of \$17.6M Budget)

Business Programs

- 152,452 Net Dth (142% of Target)
- New Construction 114,378 Dth (169%)
- Business HVAC+R Systems 8,892 (58%)
- Small Business Solutions 1,200 Dth (11%)

Residential / IQ Programs

- 383,738 Net Dth (59% of Target)
- ENERGY STAR Homes 69,098 Dth (60%)
- Residential Heating & Cooling 103,878 Dth (63%)
- Insulation & Air Sealing 19,169 Dth (49%)
- Income Qualified SF Wx 1,710 Dth (3%)

Marketing Campaigns & Trade Outreach

Business

ESOURCE Annual Forum, Denver

- September 28th – October 1st
- On-site and virtual

Trade Events

- IECRM Independent Electrical Contractors Rocky Mountain 40th Anniversary Open House and sponsorship July 26-29
- Long Building Technologies Open House July 29, Fan & Drive manufacturers' meetings
- Broncos Sponsorship for top trade partners and forward-looking business discussions – mainly lighting trade
- 2021 Energy Efficiency Partners Awards, mix of in-person and some remote presentations
- EEBC Quarterly Membership Meeting Sept 16
- Denver Strategic Electrification working group ongoing (7/19)
- Data Center Advisory Board Meeting Sept 24
- Lighting Controls Workshop
 - The Lighting Agency – Sept. 22
 - Pair with PSCo Account management staff meetings
 - Business Energy Assessments and Small Business Solutions product team presentations

Residential

Marketing

- Direct mail sent to customers without email addresses, promoting smart thermostat and lighting offerings
- Refrigerator Recycling Facebook campaign with video
- Residential HVAC customer email promoting cooling season rebates
- Evaporative Cooling Digital marketing campaign results
- Home Energy Squad's EV's launched, monthly email campaign

Trade ally/stakeholder outreach

- Customer and contractor experiences
 - GFCI outdoor breaker issue
 - Supply chain disruptions
- BEL-CO collaboration hosted distributor-manufacturer [meeting](#)
- Weekly meetings with stakeholders regarding heat pump market readiness
- Fall heat pump sales-marketing training development

Energy Star New Homes

Awards delivered for top builders & raters

- Best builder: Lastis Custom Homes
- Best home: Thrive Home Builders





DSM PRODUCT DEEP DIVES

Product Managers | Customer Energy Solutions

Business Energy Assessments

New holistic Approach

- Assessments expanded:
 - Operational (RCx-type) *and* capital investment opportunities identified in a prioritized list
 - Operational opportunities implemented at the time of the assessment or at the time of the report readout
 - Assessments with various levels of detail and cost to customer, ensuring every interested business has an appropriate assessment option
- Implementation support included with every assessment:
 - Customer decision meeting facilitation, bid gathering, proposal review, and more
 - Implementors continue to engage with XE Program Manager and customer until no more items are left or customer declines to proceed
- Benefits implementors, too
 - Serve as single point of contact for customer
 - Build a stronger customer relation that supports greater implementation of assessment recommendations

Business Energy Assessment Products

- **Streamlined Assessments \$**
 - Agricultural Energy Efficiency (Outdoor)
 - Indoor Agriculture
 - Commercial
- **Building Assessments \$\$**
- **Targeted Building Assessment \$\$\$**
- **Choosing the right assessment – several variables**
 - How much time does the customer have?
 - How engaged do they want to be?
 - How much do they want invest?

Prioritized recommendations for operational adjustments and equipment repairs, tune-ups and upgrades, including estimates of:

- Electricity savings
- Dollar savings
- Demand charge savings (if applicable)
- Eligible equipment rebates
- Gas savings

Residential Heating & Cooling

- Quality installation practices for a central air source heat pump include all of the QI requirements for an air conditioner.
- The Company is evaluating additional QI guidelines for heat pump installations, such as:
 - Confirming the selected system's balance point vs. Manual J load calculation.
 - Verifying the balance point is appropriately followed in the controls for dual fuel cutover.
 - Verify refrigerant charge is appropriate for both hot weather and cold weather operation. This typically requires a second visit in the opposite season to the original installation.
 - Verify that heating airflow is adequate
 - Ensuring the home is sufficiently weatherized and insulated to reduce the size of the heat pump needed
- The Company is working with Center for Energy and Environment (CEE), a company with experience with cold climate heat pump research in Minnesota and the Beneficial Electrification League of Colorado (BEL-CO) to provide training to contractors. Four days of trainings were provided in October.
- The Company is partnering with Consortium for Energy Efficiency (CEE) on a project regarding ASHP quality installation.
- The Company is working on a study of cold climate heat pump performance, with the goal of reaching 40-50 participants.

Residential Heating & Cooling

	Electrification	Non-Electrification	Total		Traditional
Mini-Split HP	108	193	301	Central AC	4,770
CC Mini-Split HP	55	12	67	Evap Cooler	3,295
HP Water Heater	1	40	41	NG Furnace	3,363
Central ASHP	6	29	35	NG Storage Wtr Htr	126
GSHP	0	3	3	NG Tankless Wtr Htr	482
CC Central ASHP	2	0	2		
Total	172	277	449		

Residential Heating & Cooling

The Company filed a 60-Day Notice for energy-efficient natural gas boilers.

- Additional measure for boilers with a sidearm water heater
- Provides additional savings and receives an additional rebate
- Based upon feedback...
 - Minimum qualifying AFUE will be 95% (instead of 90%)
 - 50% bonus offered on qualifying heat pump for customers who also install qualifying boiler
 - Customers who only receive electric service from XE can still get beneficial electrification rebates for space heating (company will only claim the cooling savings)

Targeted efforts for areas such as Summit County

- Gas capacity constraints and high penetration of boilers in Summit County
- Incentivize switch to a more efficient unit or replace a boiler and water heater with one combined piece of equipment

These rebates will be available statewide

- Will be more heavily promoted in Summit County and other areas with a comparable climate

Streamlined Weatherization Upgrades

- Evaluate the potential for streamlined weatherization upgrades, including, but not limited to, developing standardized pricing options and participating contractor lists
 - Included in roadmap for Simplified Residential Solutions
 - Contractor scheduling through Xcel Energy store
 - Streamlined bid process for customers

- Updates:
 - Meeting scheduled with contractors and stakeholders
 - Evaluate and design from that point

Weatherization Pay-for-Performance Incentive Levels

- Evaluate the potential to launch a new offering for weatherization pay-for-performance incentive levels through a 60-Day Notice
 - Analyzing offering rebates at 70-80% of Avoided Revenue Requirements (ARR)
 - Include within Whole Home Efficiency product design

- Updates
 - Meeting scheduled with contractors and stakeholders
 - Internal analysis in progress
 - Evaluator review will follow

Weatherization Pay-for-Performance Design Considerations

- Not all improvement units are created equal – dependent on starting R-value
- Should there be a minimum or maximum rebate level?
- How will customers and trade allies know in advance what the rebates will be?
- How can the design and criteria be made friendly to customers and trade allies?

Income Qualified Beneficial Electrification

Leverage Residential Heating & Cooling BE measures with higher incentive levels to encourage adoption and participation in the Income Qualified Single Family Weatherization, Multifamily Weatherization, and Non-Profit products

- Scope will include heat pump water heaters, air source heat pumps, and mini split heat pumps
- Q4 2021 60-Day Notice
- Budget will be at least \$250,000 per year towards heat pump offerings

Expansion of electric health & safety measures to assist with wiring and panel upgrades in Single Family installations

Income Qualified Beneficial Electrification

Keep bills low, examine impact to IQ customer energy burden

- Partnership with Group14 Engineering to conduct third party Quality Install Verification and 12 months of post-install bill analysis
- Analysis to study multiple scenarios: heat pump with gas backup, full system replacement, and heat pump with electric resistance backup
 - Three multifamily properties targeting each scenario above have been identified for 2021/2022 review and potential implementation

Cold Climate Air Source Heat Pump Study

This is a Colorado based project to investigate the use of cold climate air source heat pumps (ccASHP) for Beneficial Electrification in partnership with National Renewable Energy Laboratory (NREL)

The goals of the Project are to answer questions about the heating capabilities, impacts on energy cost, and impacts on comfort.

The result will help Xcel educate and support residential customers as they make decisions about heating system replacements

The result will help Xcel share information with trade partners about best practices for sizing and system setup

Cold Climate Air Source Heat Pump Study

The Project will have two main components

- Laboratory testing of two select systems
- Field commissioning and monitoring of up to 40 systems installed in the homes of existing natural gas and electric customers.
 - The field monitoring will last for three years and be accompanied with customer surveys at key points throughout the study
 - The field monitoring data will be analyzed by NREL and summarized in annual reports

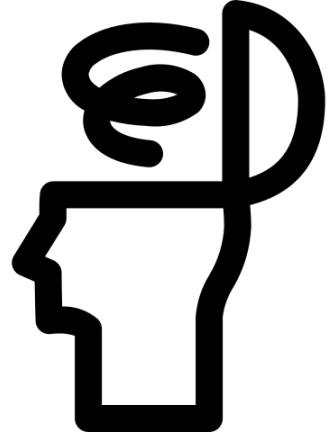


DSM PILOT & PRODUCT DEVELOPMENT Q3 – 2021 HIGHLIGHTS

Thor Bjork | Team Lead, C&I Product Development

Behavioral Demand Response Update

- BDR Pilot ran from Aug to Sept 2021
- 18,000 total participants
- We called 4 events in CO
- Post-event survey to BDR participants to be sent in next couple weeks
- Impact evaluation will be performed in Q4 2021
- Currently assessing plans for 2022 event season



Website Submissions to Product Development

Product	Description	Status
Automated shades	Automated cellular shades for DR and EE	Performed initial analysis, under review with vendor.
Real time carbon emissions monitor for DR	Report real-time carbon emissions to customers so that they can time their DER deployment for the least carbon footprint	Scored and entered into our database.
Ford F150 electric truck	Use the Ford F150 electric truck for home battery backup and DR	Scored and entered into our database.
SkyCool	Use passive radiative cooling for HVAC energy savings	Spoke with submitter and recommended our Custom Efficiency program as a path forward. If submitter doesn't have enough data for Custom Efficiency pre-approval, then Product Development can take another look.
EcoDryer	Heat register cover designed to dry wet hats/gloves in lieu of using a clothes dryer	Spoke with owner of the company and the device isn't a priority for us. If she gets the IL TRM updated with validated savings we can revisit.

Share your product ideas

www.xcelenergy.com/productideas



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