



# Q4 – 2021 COLORADO DSM ROUNDTABLE

February 9, 2022



## AGENDA

1:00 – 1:15 p.m.

Welcome and DSM Regulatory Updates

1:15 – 2:00 p.m.

DSM Programs: Q4-2020 Update

2:00 – 2:10 p.m.

Marshall Fire DSM Response

2:10 – 2:20 p.m.

Product Development Update

-- Break --

2:30 – 3:15 p.m.

2021 Evaluation Findings

3:15 – 4:15 p.m.

Potential Study Update



# DSM REGULATORY UPDATES

## Q4 – 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

# Q4 60/90-Day Notices

## Errata

- Posted: 11/30/2021
- Implemented: 1/4/2022

## Lighting Efficiency

- Posted: 11/30/2021
- Implemented: 1/4/2022

## IQ Beneficial Electrification

- Posted: 11/30/2021
- Implemented: 1/17/2022

# Q4 60/90-Day Notice Budget Impacts

2022 Plan Year	Q3 Modifications		Q4 Modifications		% Change	
	Energy Savings	Budget	Energy Savings	Budget	Energy Savings	Budget
<b>Electric Energy Efficiency</b>	<b>515,519,231 (kWh)</b>	<b>\$ 89,954,354</b>	<b>515,601,236 (kWh)</b>	<b>\$ 90,452,930</b>	<b>0.02%</b>	<b>0.55%</b>
Lighting Efficiency	93,847,489 (kWh)	\$ 12,142,604	93,847,489 (kWh)	\$ 12,142,604	0.00%	0.00%
IQ Single-family Weatherization	23,368,347 (kWh)	\$ 2,448,483	23,440,850 (kWh)	\$ 2,674,831	0.31%	9.24%
IQ Multifamily Weatherization	2,051,058 (kWh)	\$ 1,150,104	2,058,722 (kWh)	\$ 1,364,271	0.37%	18.62%
IQ Non-Profit	1,701,175 (kWh)	\$ 1,120,472	1,703,014 (kWh)	\$ 1,178,032	0.11%	5.14%
<b>Electric Demand Response</b>	<b>116,098 (kW)</b>	<b>\$ 23,820,175</b>	<b>116,098 (kW)</b>	<b>\$ 23,820,175</b>	<b>0.00%</b>	<b>0.00%</b>
<b>Natural Gas Energy Efficiency</b>	<b>812,675 (Dth)</b>	<b>\$ 18,588,096</b>	<b>814,477 (Dth)</b>	<b>\$ 18,973,020</b>	<b>0.22%</b>	<b>2.07%</b>
IQ Single-family Weatherization	59,834 (Dth)	\$ 4,461,596	60,514 (Dth)	\$ 4,596,248	1.14%	3.02%
IQ Multifamily Weatherization	8,554 (Dth)	\$ 657,414	9,459 (Dth)	\$ 859,247	10.58%	30.70%
IQ Non-Profit	4,005 (Dth)	\$ 439,235	4,222 (Dth)	\$ 487,674	5.42%	11.03%

# 2021 Stakeholder Engagements

- On-Bill Financing Working Group
  - Kick-off/Scope and Objective setting – July 9, 2021
  - Preliminary Findings – August 19, 2021
  - Preferred Offering Structure – January 21, 2022
  
- 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
  - Wrap Up & Findings – November 18, 2021



# 2022 DSM/BE Strategic Issues Filing Update

- Granted filing extension until July 1, 2022
  - Gas NOPR, ERP, Winter Storm Uri
- Interest from ERP in third-party Demand Response study
  - Study to compliment work already done in Potential Study
  - Inform discussion of appropriate goals for Demand Response

# 2022 DSM/BE Strategic Issues Topics

- Goal Setting
  - Energy Efficiency (Electric and Gas), Demand Management, Beneficial Electrification, etc.
- Avoided Cost Methodologies
  - Electric marginal energy and capacity costs
  - Natural Gas capacity cost
- Demand Response/Demand Management
  - Dispatch Framework/Methodology
  - ISOC re-evaluation
  - Natural Gas/Heating Season programs
- Company Incentive Structure

# 2022 DSM/BE Strategic Issues Topics

- Interaction with Clean Heat Plans
  - Regulatory cycle and implications of State emission targets
- Beneficial Electrification
  - Scale and scope; goal metrics
  - Treatment of non-grid connected customers
  - Sector specific needs (i.e. Oil & Gas)
- Emissions
  - Lifetime avoidance methodologies
  - Methane leakage rates

# DSM Regulatory Calendar

## Upcoming Filings – Current 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)
  - Hearing scheduled for February 17-18, 2022
- 2023 DSM Plan + Beneficial Electrification
  - June 1, 2022 (July 1 deadline)
- DSM Strategic Issues + Beneficial Electrification
  - Goal setting for Electric and Natural Gas DSM as well as Beneficial Electrification
  - July 1, 2022 – C22-0080 approved filing extension

# DSM Regulatory Calendar

## Upcoming Meetings – Save the Date!

- Q1-2022 DSM Roundtable Meeting
  - Demand Response study review
  - Wednesday, May 11, 2022



# DSM ACHIEVEMENTS

## Q4 – 2021

Mark Schoenheider | Manager, Customer Energy Solutions

# 2021 Full-Year Achievement (preliminary) and Highlights

## Electric Portfolio

- 481.5 GWh (90% of 537.6 GWh Target)
- 92.6 MW (91% of 101.7 MW Target)
- \$75.8M (84% of \$90M Budget)

## Business Programs

- 269 GWh (78% of Target)
- New Construction 65 GWh (143%)
- Business HVAC+R Systems 21.7 GWh (69%)
- Small Business Solutions 33 GWh (72%)

## Residential / IQ Programs

- 212.3 GWh (111% of Target)
- Home Lighting & Recycling 125 GWh (170%)
- Income Qualified SF Weatherization 36.3 GWh (159%)
- Residential Multifamily Buildings 6.4 GWh (49%)
- Residential Heating & Cooling 6.4 GWh (46%)

## Gas Portfolio

- 802,609 Net Dth (106% of 755,934 Target)
- \$17.4M Spend (99% of \$17.6M Budget)

## Business Programs

- 180,451 Net Dth (168% of Target)
- New Construction 160,345 Dth (237%)
- Business HVAC+R Systems 10,476 (69%)
- Small Business Solutions 1,640 Dth (15%)

## Residential / IQ Programs

- 648,656 Net Dth (104% of Target)
- ENERGY STAR Homes 129,064 Dth (112%)
- Residential Heating & Cooling 157,563 Dth (95%)
- Insulation & Air Sealing 28,401 Dth (72%)
- Income Qualified SF Wx 33,859 Dth (60%)

# Marketing Campaigns & Trade Outreach

## Business

### Trade Events and Meetings

- IECRM Independent Electrical Contractors Rocky Mountain national convention at CO Convention Center (Xcel Energy sponsorship) IECRM lunch & learn, both in October
- Broncos Sponsorship for top trade partners and forward-looking business discussions – mainly lighting trade, Oct-Dec.
- Eagle County DSM update presentation – Oct.
- Global Energy Managers' workshop 2021, Oct., facility managers, students, faculty share learnings, best practices about energy-saving, cost management, and carbon reduction strategies
- MEEA- hosted Webinar on Federal policy updates, infrastructure and reconciliation bills, Main Street Efficiency Act, HOPE for Homes Act and appliance standards, November.
- DSM Commercial Program updates to Partners in Energy Communities, December
- EEBC Quarterly Membership virtual meeting, Dec. 12
- Denver Strategic Building Electrification working group (ongoing)

## Residential

### Marketing

- Gas bills and how to save: Home Energy Squad banner ads, onsert, CBS4 coverage
- Income Qualified postcard – free energy savings kits
- Xcel Energy Marketplace email campaigns:
  - Energy Efficiency Day email – LEDs, Water Savings & Thermostats
  - Home Lighting – A-lines, 12 pack for \$10
  - Black Friday/Cyber Monday thermostat email campaign
- Showerheads - direct mail postcards
- Home Lighting Onserts: Reflector LEDs
- Summit and Grand County emails – Gas DR Study
- Summit County free smart thermostat email

### Trade ally/stakeholder outreach

- Sales/marketing heat pump training delivered via [webinars](#)
- Insulation-related settlement item: met with contractors and stakeholders
- Regional heat pump two-day meeting with distributor/manufacturer and dealers
- Beneficial electrification conversations ongoing







# DSM PRODUCT DEEP DIVES

Product Managers | Customer Energy Solutions

# 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

# Residential Heating & Cooling

	Electrification	Non-Electrification	Total		Traditional
Mini-Split HP	184	221	405	Central AC	6,747
CC Mini-Split HP	118	25	143	Evap Cooler	4,067
HP Water Heater	1	55	56	NG Furnace	4,859
Central ASHP	18	6	24	NG Tankless Wtr Htr	628
GSHP	2	3	5	NG Storage Wtr Htr	162
CC Central ASHP	4		4		
<b>Total</b>	<b>327</b>	<b>310</b>	<b>637</b>		

# Residential Heating & Cooling

The Company is undergoing many efforts to work on increasing participation, including:

- 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. This study is close to starting to recruit participants.
- The Company is working on market research to identify barriers to customer and contractor participation for heat pumps.
- The Company will likely be filing a 60-day notice in 2022 to reduce the minimum qualifying HSPF levels for cold climate heat pumps, which has been identified as a barrier to participation.

# Streamlined Weatherization Upgrades

- Evaluate the potential for streamlined weatherization upgrades, including, but not limited to, developing standardized pricing options and participating contractor lists
  - Met with contractors and stakeholders
    - Lack of support from contractors
    - Not scalable
- Updates:
  - Not moving forward with standardized pricing recommendation
  - Continue to pursue scheduling option through Xcel Energy Store

# 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 – attic insulation only
- Updates
  - Met with contractors and stakeholders
  - Preliminary internal analysis available
  - Evaluator review will follow

# Weatherization Pay-for-Performance Design Considerations

- Not all improvement units are created equal – dependent on starting R-value
- Setting up tiered rebates to match savings
- 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?

# Weatherization Pay-for-Performance: Proposed Rebate Examples

## Average Use Cases: Gas and Electric Customer

Proposed Rebate Tiers (Starting R Value)	Current Rebate Amount	Rebate/Added R Value/100 Sq. Ft.**	Proposed Rebate Amount
R-0 to <R-10	\$387.77	\$1.30	\$717.04
R-10 to <R-16	\$391.02	\$.65	\$371.30
R-16 to <R-20*	\$0	\$.65	\$270.95
R-20 to <R-30*	\$0	\$.35	\$191.52
R-30 and Above*	\$0	\$.20	\$143.05

\*Under current program rules these categories do not exist, R-15 is the cap, rebate levels equal 30% of incremental cost capped at \$400

\*\*Cap at 60% of incremental cost



# Income Qualified Beneficial Electrification

Q4 2021 60-DN notice was filed and implemented in January 2022

- Pilot scope encourages adoption of heat pump water heaters, air source heat pumps, and mini split heat pumps in the Income Qualified Single Family Weatherization, Multifamily Weatherization, and Non-Profit products
- Analysis will study multiple scenarios: heat pump with gas backup, full system replacement, and heat pump with electric resistance backup
- 2022 pilot budget of \$880,000
- Expansion of electric health & safety measures to assist with wiring and panel upgrades in Single Family installations

# Income Qualified Beneficial Electrification

## Project queue

- Analysis of first pilot project in progress
  - Mini split heat pumps with existing boiler back up
  - If project moves forward, 12-months of post install bill analysis and third-party quality install verification will be conducted
- Two more projects identified for potential analysis



# MARSHALL FIRE DSM RESPONSE

Product Managers | Customer Energy Solutions

# **XCEL ENERGY DSM GOALS FOR RECOVERY SUPPORT**

1. Support our customers impacted by the Marshall Fire.
2. Drive incremental energy-efficiency as structures are repaired and rebuilt.
3. Promote opportunities for beneficial electrification in a fashion that is complementary to our customers' needs and infrastructure capacity.

# OVERVIEW OF MARSHALL FIRE SUPPORT

Program	Markets	Immediate	Short Term (3-6 months)	Long Term (6-24 months)	Extended (2-5 years)
New Construction	Residential - destroyed				
Codes Support	Local govt.				
Insulation/Air Sealing	Residential – smoke impacted				
Income Qualified	Residential				
Community Outreach (PiE) / Communications	Local Government				
Homeowner Education	Residential – destroyed/damaged				
Trade Support	Homebuilders, Insulation				

# INSULATION & AIR SEALING BONUS REBATES

- Program rebates doubled for four impacted zip codes (80303, 80305, 80020, 80027)
- Qualifying improvements made Jan. 1, 2022 – June 30, 2022, application deadline is July 31, 2022
- Rebate rules:
  - All existing rebate rules apply, with one exception: The pre-existing R-value for attic insulation can be greater than R-15. It cannot be greater than R-49.
  - Estimate existing attic insulation R-values Bring new insulation levels up to R-49 or greater
  - Because of smoke and ash, existing insulation must be removed Air sealing is required if the home is not already tight enough
    - In smoke damaged homes, remove the existing attic insulation before doing the blower door test

# INCOME QUALIFIED – ATTIC INSULATION REPLACEMENT

- Attic insulation rebates up to \$5000
  - Increased cap from existing amount of \$3500
- Qualified customers in four zip codes (80303, 80305, 80020, 80027)
  - Customers will be provided with contact information for qualification process
- Specific list of approved trade partners is in development

# PARTNERS IN ENERGY

- Providing communication collateral for communities to distribute information around Xcel Energy program bonuses
- Coordinate and support delivery of training and educational resources
  - Help residents make informed decisions around construction options
  - Provide training as appropriate to support builders in meeting market needs
- Facilitate communications planning and delivery across impacted communities and integrating in other 3<sup>rd</sup> party stakeholder's initiatives



# NEW CONSTRUCTION COMPONENTS

Assumes IECC 2021 is the base code

Proposed incentives are for rebuilding customers only

- Incentive package for new residents on fire affected parcels will be different



# NEW CONSTRUCTION COMPONENTS

## IECC 2021 Compliance Incentive

- Paid to any customer rebuilding in a jurisdiction subject to the IECC 2021 Energy Code

Measure	Rebuilding incentive
Code compliance incentive (CZ5)	\$7,500

# NEW CONSTRUCTION COMPONENTS

## High Performance Homes Incentives

Measure	Rebuilding incentive	Description
<b>ENERGY STAR® v3.2</b>	\$2,500	Identical to the builder's proposed 45L federal tax credit for ENERGY STAR®
<b>Zero Energy Ready Homes v2</b>	\$5,000	Identical to the builder's proposed 45L federal tax credit for ZERH
<b>ENERGY STAR New Certification Program</b>	\$10,000	Consistent with the pricing mechanism of doubling credits for higher criteria
<b>Passive House Institute US or Passive House Institute or performance equivalent</b>	\$30,000	50% of estimated incremental cost for an experienced builder & consistent with MassSave's PH incentive



# **DSM PILOT & PRODUCT DEVELOPMENT Q4 – 2021 HIGHLIGHTS**

**Thor Bjork| Team Lead, C&I Product Development**

**Julie Herman| Senior Product Developer, Product Development**

# Appliance Standards

## Working with 3<sup>rd</sup> party to Explore Near- and Long-Term Feasibility

### Supporting advances in equipment efficiency through technical assistance and information sharing

- Understand the landscape
  - Colorado
  - Other states
  - Federal/ENERGY STAR
- Identify Opportunities
  - ID appliances with most potential
  - ID potential benefits and models for claiming savings
  - ID delivery model



# Appliance Standards

## Literature review to understand opportunity & gaps



- Review Appliance Standards Awareness Project matrix of other state standards
- Compile list of ENERGY STAR certified products
- Identify products from above w/o Colorado standards
- Identify overlap between standards opportunities and current Xcel Energy Colorado product offerings

# Appliance Standards Next Steps

## Results and recommendations expected by April 2022

Prioritize investigation based on the following criteria:

1. No federal standard other states have standard
2. Old national standards with compliance dates prior to 2016. (With and without Energy Star specifications)
3. No national or statewide standards but do have EnergyStar specifications
4. Gas and water savings and other environmental benefits

### Next Steps

1. Interview CO stakeholders including SWEEP
2. Interview other utilities & market actors to explore best practices and delivery models.

Share your product ideas

[www.xcelenergy.com/productideas](http://www.xcelenergy.com/productideas)





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