



Q1-2021 COLORADO DSM ROUNDTABLE

05.12.2021

Agenda

- 1:00 – 1:15 p.m. Welcome and DSM Regulatory Updates
- 1:15 – 1:45 p.m. DSM Programs: Q1-2020 Update
 - Q1 Achievement and Highlights
 - Q1 Performance Deep Dives
- 1:45 – 2:30 p.m. 2021-22 DSM Plan Highlights
- 2:30 – 2:50 p.m. Product Development Update
- 2:50 – 3:00 p.m. *Break*
- 3:00 – 3:30 p.m. AC Rewards Evaluation (Guidehouse)



DSM Regulatory Updates Q1-2021

**George McGuirk
DSM Regulatory**

Introductions

- Nick Mark
 - DSM Strategy and Policy Manager
- Ryan Bruers
 - Demand Management Manager

60/90-Day Notices

- 2020 Product Evaluation Updates – To be filed soon
 - 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

60/90-Day Notice Impacts

2021 Plan Year	Settlement Filing		Evaluation Modifications		% Change	
	Energy Savings	Budget	Energy Savings	Budget	Energy Savings	Budget
Electric Energy Efficiency	537,639,070 (kWh)	\$ 89,954,799	529,562,737 (kWh)	\$ 89,954,799	-1.50%	0.00%
Electric Demand Response	94,410 (kW)	\$ 23,384,188	94,410 (kW)	\$ 23,384,188	0.00%	0.00%
Natural Gas Energy Efficiency	780,872 (Dth)	\$ 18,499,094	779,224 (Dth)	\$ 18,499,094	-0.21%	0.00%

2022 Plan Year	Settlement Filing		Evaluation Modifications		% Change	
	Energy Savings	Budget	Energy Savings	Budget	Energy Savings	Budget
Electric Energy Efficiency	522,789,432 (kWh)	\$ 89,960,142	514,844,196 (kWh)	\$ 89,960,142	-1.52%	0.00%
Electric Demand Response	116,098 (kW)	\$ 23,820,175	116,098 (kW)	\$ 23,820,175	0.00%	0.00%
Natural Gas Energy Efficiency	799,708 (Dth)	\$ 18,498,555	797,912 (Dth)	\$ 18,498,555	-0.22%	0.00%

2021-22 Stakeholder Engagement Updates

- Stakeholder Engagements
 - Demand Response Working Group
 - Kick-off mid June
 - On-Bill Financing Working Group
 - Kick-off late June
 - Income-Qualified Beneficial Electrification Pilot
 - In development
 - Green/Stretch Codes Evaluation
 - Reviewing vendor proposals
 - Will coordinate with interested parties after vendor selection

DSM Regulatory Calendar

- Upcoming Meetings – Save the Date!
 - Q2-2021 DSM Roundtable Meeting
 - Wednesday, August 11, 2021
 - Demand Response Working Group
 - Kick-off mid June – Meeting invite to come
 - On-Bill Financing Working Group
 - Kick-off late June – Meeting invite to come



DSM Achievements Q1-2021

**Mark Schoenheider
Manager, Customer Energy Solutions**

2021 Q1 Achievement Highlights

Electric Portfolio

- 142.4 GWh (26% of 537.6 GWh Target)
- 24.2 MW (24% of 101.7 MW Target)
- \$18.6M (21% of \$90M Budget)

Business Programs

- 68.8 GWh (20% of Target)
- New Construction 18 GWh (39%)
- Business HVAC+R Systems 5 GWh (16%)
- Small Business Solutions 9.4 GWh (20%)

Residential / LI Programs

- 73.6 GWh (39% of Target)
- Home Lighting & Recycling 49 GWh (64%)
- ENERGY STAR New Homes 1.8 GWh (18%)
- Residential Heating & Cooling 1 GWh (7%)

Gas Portfolio

- 263,495 Net Dth (35% of 755,934 Target)
- \$2.9M Spend (16% of \$17.6M Budget)

Business Programs

- 51,545 Net Dth (48% of Target)
- New Construction 44,755 Dth (66%)
- Business HVAC+R Systems 4,357 (29%)
- Small Business Solutions 697 Dth (6%)

Residential / LI Programs

- 211,950 Net Dth (33% of Target)
- ENERGY STAR Homes 32,285 Dth (28%)
- Residential Heating & Cooling 41,804 Dth (25%)
- Insulation & Air Sealing 6,792 Dth (17%)

Marketing Campaigns & Trade Outreach

Business

- Small Business Forum at IECRM with speakers from Denver Metro SBDC & Chamber of Commerce Jan. 14
- ENERGY STAR 3-part Webinar training: using Portfolio Manager, Benchmarking compliance, understanding building performance Jan.
- Commercial Financing workshops/Webinar in Feb. to EOC, CLEAResult and March to commercial trade partners with NEIF
- Denver Strategic Electrification working group ongoing every ~6 weeks
- Webinar: Energy Impacts of COVID-19: Solutions to Offset Increased Energy Expenses Feb. 11
- HVAC+R and Compressed Air training Feb.
- Compiled 2021 Energy Efficiency Partner Awards
- Energy Efficiency Business Coalition (EEBC) quarterly, presented DSM filing updates effective April 1 (March 18)

Residential

Marketing

- HPWH direct mail in partnership with AO Smith
- Email promoting smart thermostats around Black Friday/Cyber Monday aligning with manufacturer sales
- Showerhead email campaign

Trade ally/stakeholder outreach

- Continued AC AHRI waiver due to supply chain issues
- Beneficial Electrification (BE) discussions
 - Energy Efficiency Business Coalition (EEBC) quarterly panel presentation – December
 - Garfield, Eagle, Pitkin Counties beneficial electrification meeting
 - Colorado Energy Office/Beneficial Electrification League
 - City/County of Boulder, Denver
 - Identification of early adopter trade partners

Foodbank Lighting Giveaways

Helping customers keep bills low, address food insecurity

- Long standing relationships with foodbanks through United Way, charitable giving and Day of Service
- While the pandemic limited access to income-qualified homes, expanding foodbank relationships to include giveaways presented an effective way to help customers lower bills with measures like LEDs they can install.
- Lessons learned in 2020 are being applied to the 2021-22 DSM biennial
 - Time is needed between bulk shipment to warehouse locations, delivery to partner food shelves and getting energy-saving measures into customers' hands
 - The norm for some partner agencies is customer pick-up from their facility, which adds a lag between measure delivery, pick up by customer, installation in homes
 - Foodbank of the Rockies reported 30% of 2020 patrons had not needed the aid before, indicating an on-going need for partnership, addressing customer needs

Enhanced Gas DSM



- New gas system constraints identified
- New opportunities for enhanced DSM
- Phase 1 efforts
 - Audits/Squad
 - Weatherization
 - DI Thermostats
 - Gathering information to evaluate future market potential for large gas equipment replacements & B/E



Current Actions

West Colfax



Commercial
Residential



Summit County

Build upon what we know

- Leveraging regional influencers
- Getting comfortable being uncomfortable
- Identify new sources for business leads
- Building new tools
- Attract dispatchable load





2021-22 DSM Plan Highlights

**Product Managers
Customer Energy Solutions**



Residential Heating & Cooling

- This program offers a comprehensive approach to several programs which were previously separate – Evaporative Cooling, High Efficiency Air Conditioning, Residential Heating, Thermostat Optimization, and Water Heating.
- The program was updated in the filing to include beneficial electrification measures for heat pumps and heat pump water heaters for the first time.
- Following settlement, rebates for several measures were changed, and rebates for cold climate heat pumps were added.
- The company has been coordinating with other utilities and trade allies to develop quality installation parameters specific to air source heat pumps.
- The company has provided trainings for trade allies specific to heat pumps including installation best practices and how to sell the benefits of heat pumps to customers.

Residential Heating & Cooling - Rebates

Evaporative coolers	Standard (2500+ CFM)	\$300
	Premium (85% media saturation, purge pump, thermostat)	\$675
	Multi-ducted premium (3 ducts minimum, at least one new)	\$1,200
Central air conditioners	Up to 14.99 SEER, any EER with Quality Installation	\$200
	15+ SEER, 12.5+ EER with Quality Installation	\$500
Air source heat pump (ASHP)	15+ SEER, 12.5+ EER with Quality Installation	\$800
Cold climate air source heat pump (ccASHP)	18+SEER, 12.5+ EER, 10.5+ HSPF with Quality Installation ¹	\$1,000
Mini-split heat pump (MSHP)	15+ SEER, 11+ EER, 9+ HSPF	\$500
Cold climate mini-split heat pump (ccMSHP)	18+ SEER, 11+ EER, 10.5+ HSPF ¹	\$600
Ground source heat pump (GSHP) with Quality Installation	14.1+ EER, closed loop, had gas heat as the primary heat source previous to the GSHP installation, or for new homes	\$400 per heating ton, maximum \$2,000
	14.1+ EER, closed loop, with electric resistance heat as previous heat source	\$300 per ton, maximum \$2,500

Residential Heating & Cooling - Rebates

Gas furnace	95%+ AFUE	\$300
Smart thermostat	ENERGY STAR®, eligible to enroll in AC Rewards (see website for eligible models) ²	\$50
Smart thermostat enrolled in AC Rewards	Eligible thermostats only (see website for details)	\$75 bill enrollment credit, \$25 bill credit/year
Water heater	.64 UEF, medium draw; 55 gallons or less	\$50
	.68 UEF, high draw; 55 gallons or less	\$50
Tankless gas water heater	.87 UEF, medium or high draw	\$100
Electric heat pump water heater	ENERGY STAR® rated with mixing valve	\$600
	ENERGY STAR® rated, with mixing valve, and CTA-2045 compatible with Xcel Energy (see website for eligible models)	\$800
Electric heat pump water heater enrolled in Demand Management	Eligible CTA-2045 compatible water heater, enrollment in demand management	\$75 bill credit; \$25 bill credit/year

Business HVAC+R Systems

- The Business Heating, Ventilation, Air Conditioning, and Refrigeration (“HVAC+R”) Systems product combines Heating Efficiency, Cooling Efficiency, and Motors, Drives and Pumps, and C&I Refrigeration measures into an integrated demand side management product.
- The Business HVAC+R Systems product encourages commercial gas and electric customers to consider all high-efficiency options at a system level when choosing to replace existing mechanical systems.
- The Business HVAC+R Systems product will focus on customer needs which will drive deeper penetration of energy efficiency measures and provide opportunities to integrate demand management and load management strategies.
- HVAC+R Prescriptive Rebates are now available for up to 24 months from invoice date.
- Online only application process.

Business HVAC+R Systems - Offerings

- CO - HVAC+R Cooling – Prescriptive/Custom
- CO - HVAC+R Heating – Prescriptive/Custom
- CO - HVAC+R Motors – Prescriptive/Custom
- CO - HVAC+R Refrigeration – Prescriptive/Custom

Business HVAC+R Systems – 2021 Changes

- CO - HVAC+R Cooling – Prescriptive/Custom
 - Anti-Sweat Heaters deleted. Already in the Prescriptive Refrigeration product
- CO - HVAC+R Refrigeration – Prescriptive/Custom
 - Floating head pressure controls
 - Walk-in freezer defrost controls
 - Permanent magnet synchronous motors (PMSMs) Display Case

Business HVAC+R Systems – 2021 Changes

- CO - HVAC+R Heating – Prescriptive/Custom
 - Charbroilers
 - Combi Ovens
 - Convection Ovens
 - Pasta Cookers
 - Steam Cookers
 - Rotating Rack Ovens
 - Destratification Fans
 - Linkageless Controls
 - Turbulators



Business HVAC+R Systems – 2021 Changes

- CO - HVAC+R Motors – Prescriptive/Custom
 - Path A and Path B motors discontinued. Currently one rebate path
 - Clean Water Pumps PEI (Pump Efficiency Index)
 - Fan Efficiency Index (FEI)
 - ECM Circulator Pumps and HVAC Fans
 - Enhanced Motor Prescriptive HP range extended to 500hp

Small Business Energy Solutions

- The Small Business Solutions product is designed to engage small business customers in deploying DSM measures that will lower their energy consumption and demand. The product offers rebates and support for energy efficient upgrades to Public Service's small- and mid-sized business customers with annual peak demand of up to 400 kW.
- The product offers small business customers the following components:
 - Outreach
 - A free walk-through assessment (onsite or remote)
 - Rebates
 - Implementation support



Small Business Energy Solutions

- Premium trade partner network
 - Created so that we can provide additional resources for small business customers.
 - To join the premium trade partner network trade partners must:
 - Provide certificate of insurance
 - Attend a program orientation
 - bring one customer lead to the program a year
 - Benefits to the trade partner are:
 - Receive customer referrals from the walk-through assessments
 - Be listed on a trade partner directory available on the SBES program webpage

The screenshot shows a web-based application form for Xcel Energy's Premium Trade Partner program. The form is titled 'Commercial Streamlined Assessment and Small Business Energy Solutions Premium Trade Partner Application'. It includes fields for company name, address, primary contact name, phone, email, and website. There are checkboxes for 'Residential' and 'Commercial' services, and a section for 'Which technologies do you work with?' with checkboxes for various energy services like Cooling, Heating, Lighting, Refrigeration, Motors, Drives, and Pumps, among others. The Xcel Energy logo is visible in the top right corner.

Small Business Energy Solutions – Promotion

- Email Campaigns
 - Campaign to customers under 100 kW promoting direct install and walk-through assessments
 - Campaign to customers 400 kw – 100 kW promoting walk-through assessment and benefits of upgrading to energy efficient equipment
 - Segment specific campaigns to restaurants, religious organizations and retail customers.
- Trade training hosted on the premium trade network on 4/28

Income-Qualified Beneficial Electrification

Pilot implementation via 60-Day Notice in 2021

- Leverage Residential Heating & Cooling BE measures with higher incentive levels to encourage adoption and participation
 - IQ Electric DSM budget increased \$150,000 in both years
 - Air-source and mini-split heat pump rebates significantly increased
- Expansion of electric health & safety measures
- Pair weatherization upgrades with renewables, solar
- Keep bills low, examine impact to IQ customer energy burden
 - Targeting IQ customers to replace Electric Resistance heat a “quick win”
 - Examine BE scenarios including fuel switching to evaluate future, potential net benefits corresponding to these new measures

Residential Demand Response

- Settlement agreement raises targets by 15% from initial 2021-22 Plan
 - AC Rewards:
 - Effort to increase BYOT enrollments via increased marketing and improved Xcel Energy Store
 - Effort to increase Direct Install channel volumes
 - Active TV, Radio, and digital AC Rewards advertising campaigns in market to increase AC Rewards awareness and enrollments
 - Offering in Geotargeting Pilots
 - Saver's Switch:
 - Increased marketing effort for new installations
 - Direct mail and email campaign to launch later in May
 - Offering in Geotargeting Pilot



DSM Pilot and Product Development Q1-2021 Highlights

Jim Gebhard, Leslie Martel Baer, and Dan King

Solar + Storage Customer Research

- 17 organizations across CO were interviewed in Q4 2020
- High level of interest in Solar + Battery Storage by non-profit organizations across state
 - Many interviewed organizations had no backup generation solution on-site, felt vulnerable to mission disrupting outages.
 - Many were agnostic about solar + storage equipment ownership and control.
 - Funding is a common and chief barrier.
- Resiliency needs and solutions are likely to vary by location, customer type, customer mission and operation.



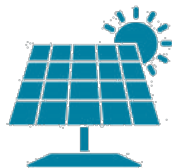
Renewable Supply Return

Demonstration Project Funded by R&D

Add-on Option
for C&I DM
Programs

Load
Reduction

DM
Portfolio



RSR Uses Day-Ahead Forecast of Low Marginal
System Price as Proxy for “RE Curtailment”

Custom electric-electric
measure at an incentive
rate of ~\$0.03/kWh

Dynamic
Load Shift

DM
Portfolio

RSR Demonstration Project	2021	2022	2023
Participants (cumulative)	~10	~20	~30
MW Shifted (annual)	1.3	1.2	1.2
Budget (annual)	\$124,000	\$133,000	\$125,000

Residential Battery Demand Response pilot

- Background:

- A pilot to test the ability of residential, customer-owned batteries to respond to demand response signals to reduce peak load, charge on demand, and shift solar export

- Status:

- Launched in Q1
- 113 customers enrolled, 7 customers pending enrollment after they complete their battery interconnection
- Company will begin calling DR events in June

Electric Vehicle Optimization

- Background:

- Dynamic Optimization pilot to test smart charging through vehicle telematics and Static Optimization to encourage customers to utilize an off-peak EV charging schedule

- Status:

- Performed RFP to identify Dynamic Optimization vendors that would allow the Company to enroll Tesla vehicles
- Selected third-party and should complete contracting and launch with third-party in Q2, while continuing to explore the possibility to add BMW, Ford, GM, and Honda to pilot
- Team launched an RFP in early Q2 to select Static Optimization vendors following an RFI to down-select the list of potential vendors

Water Heater Demand Response

- Currently in market, but...
- Having significant supply chain issues, module production delays
- Water heaters used as a form of thermal energy storage, to shift loads away from peak times
- Residential only
- For new heat pump water heaters



Product idea submissions

Share your Product Ideas:

www.xcelenergy.com/productideas



Gas Capacity Management Product Development

Adam White
Team Lead, Customer Energy Solutions

Today's top 3

- Our electric grid & gas piping networks have capacity limits that can inhibit customer choice & sales growth
- Demand side management presents an opportunity to manage these system limits for optimal customer outcomes
- For the past six months, the DSM team has collaborated with operations to enhance our system planning strategies
- It takes a village

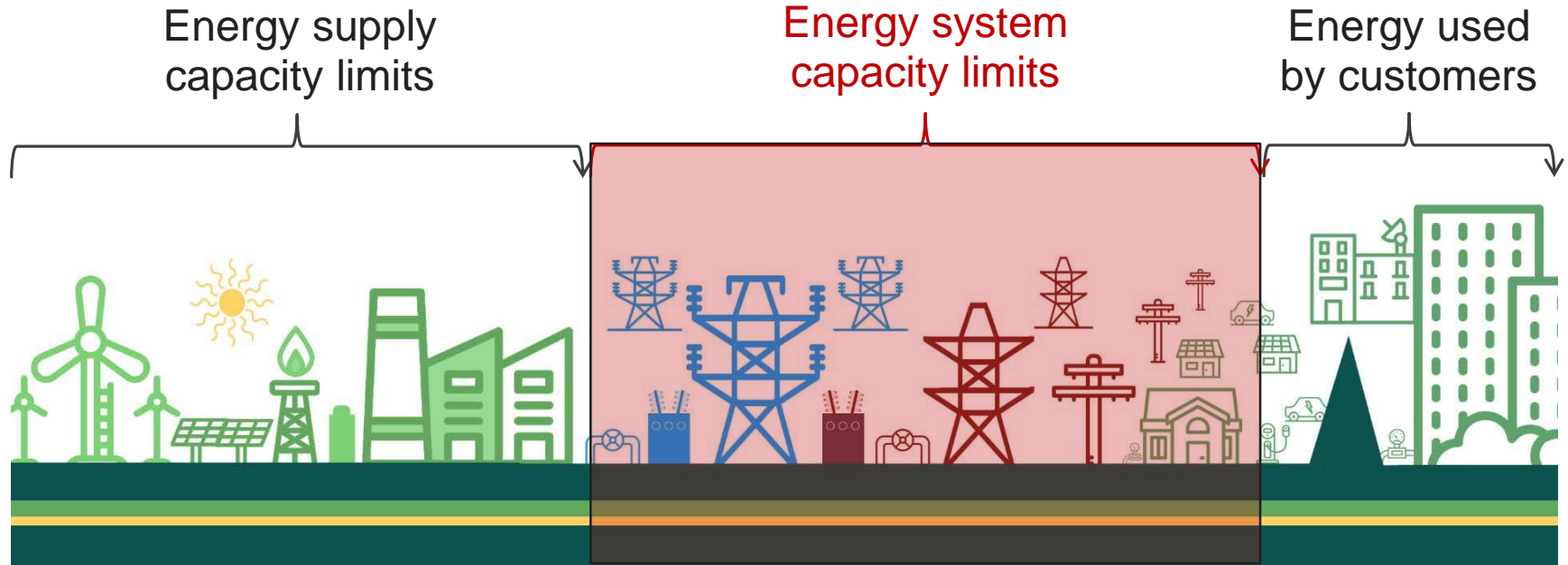
DSM

Problem &
Solution

Current
Projects

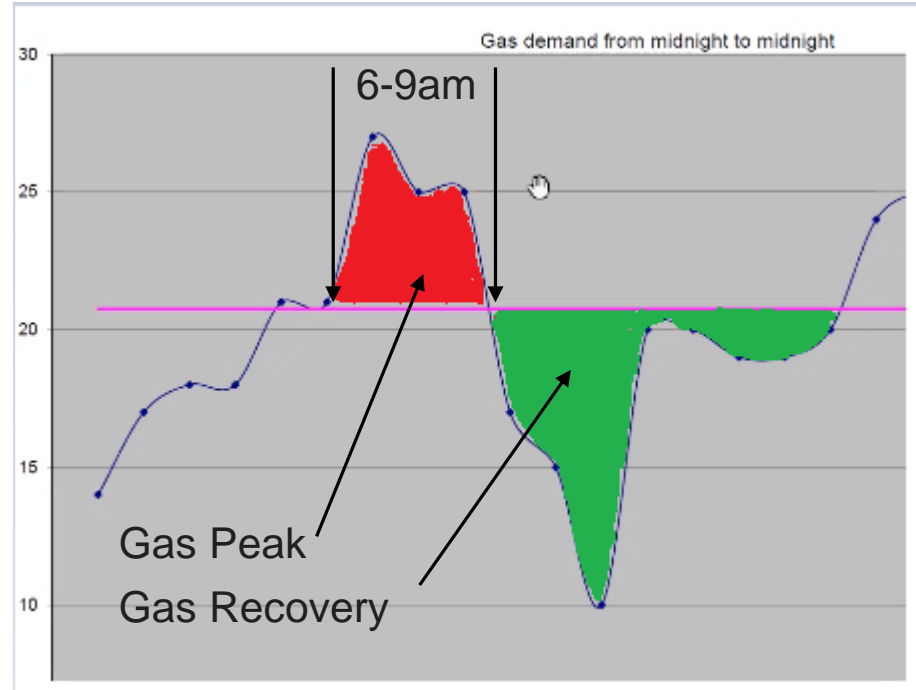
Actions

DSM as we have known it



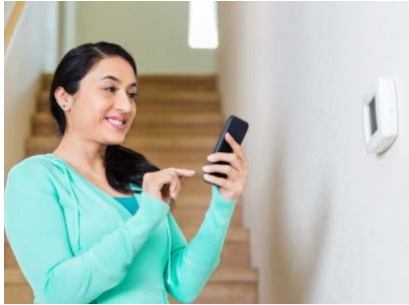
Local system capacity constraints

- Transformers
- Transmission lines
- Distribution lines
- Gas piping mains



Aligned with our corporate strategies

- Lead the clean energy transition
- Enhance the customer experience
- Keep bills low



Create the tools we need



Measure & verify



Wireless readings



Wrapping up

- Electric and gas systems present an opportunity for DSM to collaborate and optimize our planning efforts
- These efforts are aligned with our corporate strategies
- A broad cross section of our business is successfully supporting these efforts while moving quickly, building new relationships and trying new things

Thanks for the opportunity to share. Any Questions?

