



1:00 – 1:10 p.m.	Welcome and DSM Regulatory Updates
1:10 – 1:15 p.m.	Q4 Achievement Update
1:15 – 1:45 p.m.	Residential Trade Partner Adoption
1:45 – 2:00 p.m.	Whole Home Efficiency Update
2:00 – 2:30 p.m.	Distributed Intelligence
2:30 – 2:50 p.m.	Settlement Commitment Timing
2:50 – 3:00 p.m.	Heat Savers Mode Update
3:00 – 3:15 p.m.	BREAK
3:15 – 4:00 p.m.	Evaluation Summary



DSM REGULATORY UPDATES

Q4 – 2022

Mark Schoenheider | Manager, Customer Energy Solutions



Q4 60/90-Day Notices

No 60/90 Day Notices were posted in Q4 2022.

DSM Regulatory Calendar

Filing Schedule

- 2023 DSM Plan
 - Hearing – Completed February 21st
- DSM Strategic Issues + Beneficial Electrification
 - Hearing - Completed February 10th
 - Statements of Position- March 10th
 - [Link to hearings](#)

IQ/DI Community outreach and engagement

- Outreach and engagement for equity communities was discussed in both the DSM plan and DSM SI cases
- Strategic Issues Order will likely have guidance around multiple equity issues
- The Company supports collaboration to develop details for program offerings and outreach
- The Company proposed an outreach strategy which consolidates input for renewables, EV and DSM into comprehensive sessions to reduce the burden on participants
- Please provide recommendations for who should be involved (Community organizations, Equity advocates, etc.)

DSM Regulatory Calendar

Upcoming Meetings – Save the Date!

- Q1-2023 DSM Roundtable Meeting
 - May 10th 2023



DSM ACHIEVEMENTS

Q4 – 2022

Mark Schoenheider | Manager, Customer Energy Solutions



2022 Q4 Achievement Highlights

Electric Portfolio

- 471 GWh (90% of 522.8 GWh Target)
- 91 MW (90% of 100.5 MW Target)
- \$78M (87% of \$90M Budget)

Business Programs

- 289 GWh (83% of Target)
- New Construction 61 GWh (132%)
- Small Business Solutions 34.5 GWh (75%)
- Business Energy Assessments 23 GWh (357%)

Residential / IQ Programs

- 182 GWh (104% of Target)
- Home Lighting & Recycling 96 GWh (154%)
- Home Energy Insights 20 GWh (66%)
- School Education Kits 15 GWh (150%)
- Residential Heating & Cooling 5.7 GWh (40%)

Gas Portfolio

- 876,526 Net Dth (110% of 799,708 Target)
- \$16.9M Spend (91% of \$18.5M Budget)

Business Programs

- 178,885 Net Dth (159% of Target)
- New Construction 131,724 Dth (180%)
- Business HVAC+R Systems 15,083 Dth (171%)
- Small Business Solutions 15,297 Dth (88%)
- Business Energy Assessments 15,689 Dth (414%)

Residential / IQ Programs

- 699,641 Net Dth (102% of Target)
- ENERGY STAR Homes 112,575 Dth (73%)
- Residential Heating & Cooling 189,564 Dth (111%)
- Insulation & Air Sealing 54,983 Dth (237%)
- Home Energy Insights 83,799 (91%)

Marketing Campaigns & Trade Relations Outreach

Residential

Customer Outreach

- Black Friday emails – Smart Thermostats
- Mass marketing - Cold weather energy saving tips
- Post cards and emails - Showerheads
- Emails - Refrigerator Recycling
- Apogee videos – showerheads, marketplace, bill overview, TOU rates
- Emails – promoting free Home Energy Squad visits
- Emails directing customers to dedicated webpage with tips for managing higher energy costs

Trade Ally/Stakeholder Outreach

- Fall heat pump training in October
- Individual meetings with manufacturers, distributors and contractors
- Emails to trade partners
- Participation/collaboration with EEBC, SWEEP, BEL-CO, City and County of Denver, Colorado Energy Office
- Phone and email communications with multiple trade partners daily

Partners in Energy Co-branded Outreach

- Thornton – promote insulation and air sealing through social media, Home Energy Squad flier
- Northglenn – develop poster and flyer campaign to promote business assessments and commercial rebates
- Broomfield – monthly newsletter content, promote holiday efficiency gifts
- Lone Tree – social media and newsletter content for residents and businesses with efficiency tips for winter, Home Energy Squad and commercial rebates, flier for a business lunch with speakers providing information on programs to support energy saving

Marketing Campaigns & Trade Relations Outreach

Business

The Rocky Mountain Facility Maintenance and Engineering Expo

- Tuesday October 4th PPA Event Center
- Xcel Energy had a booth and presented at DSM workshops

Colorado Clean Energy Fund

- Meetings to discuss cross promotion with energy assessments

Colorado Business Economic Outlook Forum for 2023

- Grand Hyatt, Denver 12:00 – 5:00 PM Monday December 5th

EEBC Quarterly Membership Meeting

- Thursday 12/15 7:30 – 10:00 am

Indoor Agriculture / Grow Lighting Program updates

- Met with various trade partners who specialize in this marketplace

UC Davis Global Energy Managers Workshop

- On November 3, 2022, UC Davis hosted the fourth annual virtual Global Energy Managers Workshop, where facility managers and faculty from around the world shared best practices in campus energy management, carbon reduction strategies, and community engagement.

Denver Smart Buildings

- 12/12 virtual meeting to discuss Electrification code changes

CCOD – Energize Denver Meetings

- Discuss trade partner electrification trainings in Q1 2023



RESIDENTIAL TRADE PARTNER ADOPTION OF BENEFICIAL ELECTRIFICATION

Ann Kirkpatrick - Trade Relations Manager



Trade Partners and Beneficial Electrification Overview

- March 2020: Xcel Energy introduced beneficial electrification (BE) to trades
- 2020: Researched, gathered materials and resources, learned the landscape
- 2021-2022 Top Challenges
 - Belief in heat pumps
 - Are new heat pumps better than prior generation heat pumps?
 - Do heat pumps work well in CO climate?
 - Will the electric grid be ready?
 - Will heat pumps be good for my business?
 - Supply chain issues, rising costs
 - Technical learning curve
 - Cold climate heat pump definition (ashp.neep.org, 70% of 47° F rated heating capacity at 5° F)

Trade Partners and Beneficial Electrification Overview

- 2023 Top Challenges
 - SEER2-EER2-HSPF2 ratings
 - Varying standards for minimum requirements
 - Market uncertainty
 - Inflation Reduction Act (IRA) tax credits and rebates
 - New refrigerant on the horizon
 - Need for more skilled, knowledgeable technicians
 - Equipment cost increases
 - Lack of CTA-2045 communications modules for heat pump water heaters
 - Switchover temperatures, supplemental and back up heat designs

2023 Varying Heat Pump Standards

Heat pump split system standards	Ducted/less?	SEER 2	SEER	EER2	EER	HSPF2	HSPF	CoP@5°	Capacity Ratio
Federal Minimum Standard	Both	14.3	15			7.5	8.8		
EStar v 6.1 minimum standard	Both	15.2	16	11.7	12.3	7.8	9.2		
DUCTED Non-Cold Climate / Better		SEER 2	SEER	EER2	EER	HSPF2	HSPF		
State of Colorado Tax Credit	Ducted	15.2	16	11.7	12.3	7.8	9.2		Equipment only 10% and 2.9% state sales tax savings
25C Tax Credit (CEE Tier 1) North	Ducted	15.2		10		8.1		1.75	58% 17°/47° or 70% 5°/47°
Xcel non-cold climate	Ducted	14.3	15	11	11.5	7.7	9		
City/Cty of Denver non-cold climate	Ducted	14.3	15	11	11.5	7.7	9	1.75	
DUCTED Cold Climate / Best									
EStar v 6.1 cold climate	Ducted	15.2	16			8.1	9.5	1.75	58% 17°/47° or 70% 5°/47°
CEE Advanced Tier	Ducted	17				8.1		1.75	plus controls verification procedure
Xcel cold climate	Ducted	17.1	18	11	11.5	8.1	9.5		70% 5°/47° https://ashp.neep.org
City/Cty of Denver cold climate	Ducted	15.2	16	10	10.5	8.1	9.5	1.75	70% 5°/47°

Customer Beneficial Electrification Participation

All Heat Pump Units

	<u>MSHP</u>	<u>ASHP</u>	<u>GSHP</u>	<u>HPWH</u>
2021	402	30	5	35
2022	851	369	3	96

BE Heat Pump-Specific Units

	<u>MSHP</u>	<u>ASHP</u>	<u>GSHP</u>	<u>HPWH</u>
2021	303	23	3	1
2022	760	364	4	35

- Key Takeaways:**
- Many rebated heat pumps are not fuel switching the primary heating source (25% in 2021, 7% in 2022)
 - Year-over-year adoption is ramping up
 - Consideration: many customers cannot afford - or choose not to pay - the higher cost of heat pump equipment

Participating Trade Partners

Heat Pump Rebate Producers

	<u>MSHP</u>	<u>ASHP</u>	<u>GSHP</u>	<u>HPWH</u>
2021	82	22	3	4
2022	107	65	3	22

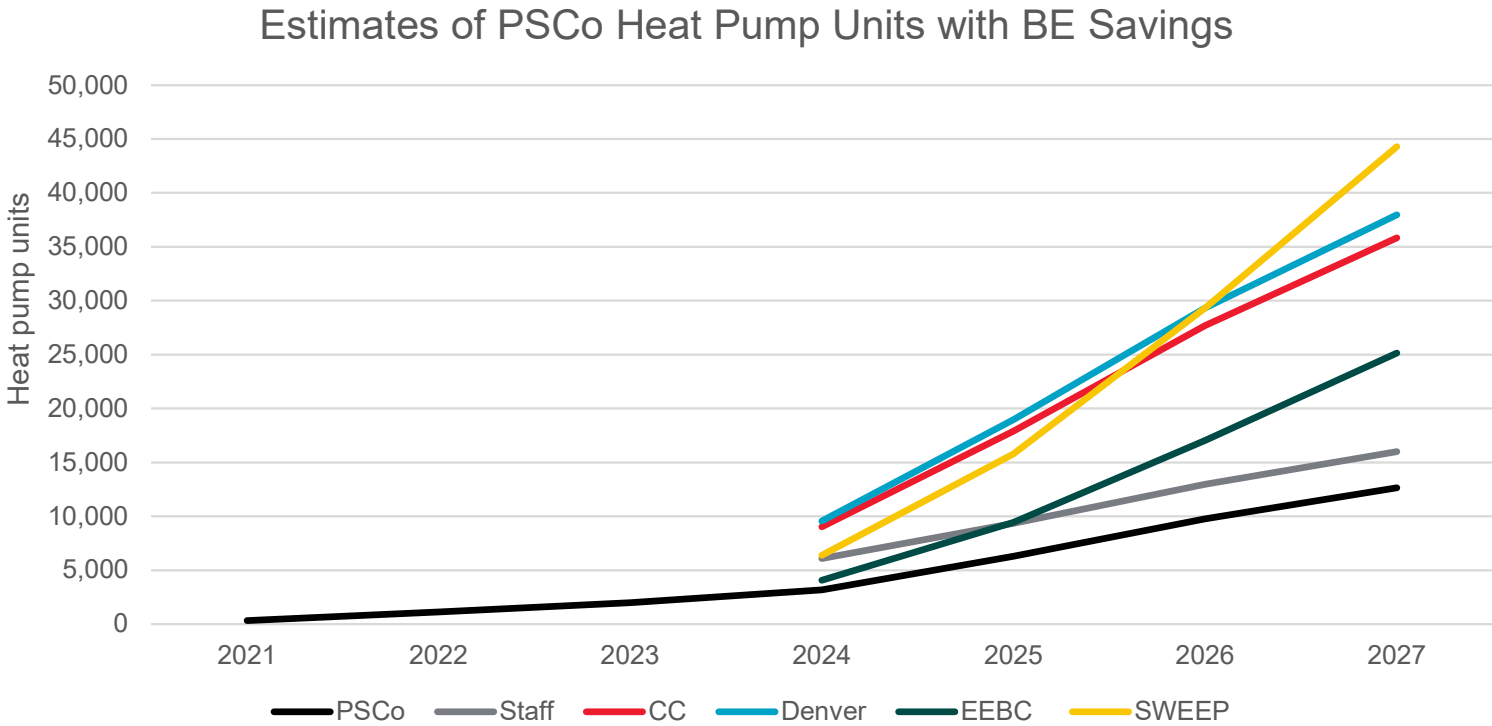
BE Heat Pump Rebate Producers

	<u>MSHP</u>	<u>ASHP</u>	<u>GSHP</u>	<u>HPWH</u>
2021	37	4	2	2
2022	77	47	3	11

Key takeaways:

- Year-over-year growth is ramping up
- 15% of participating trade partners are producing more than 60% of heat pump rebates
- For comparison, AC rebate count 6,390.
 - 118 trade partners active, 15% = 18 companies.
 - Produced 66% of the rebates = 4,237.
 - Very established technology and rebate offering. Overall growth is not exponential

Heat Pump Rebate Growth Estimates



Residential Trade Partner Training Plans for 2023

- February 28 and March 1: Technical Sales Training
 - Load calculations and heat pumps
 - Increasing trade partner and customer confidence
 - Updates on Inflation Reduction Act tax credits and rebates
- Annual required Heat Pump and AC online class
 - Quality Installation requirements
 - Load calculation and sizing for heat pumps
 - Heat pump qualifications emphasis
- Next formal training: Back up heat best practices + IRA deep dive
- Additional trainings with distributors and manufacturers



WHOLE HOME EFFICIENCY UPDATE

Tyler Petersen | Product Manager, Customer Energy Solutions



Whole Home Efficiency Update

Product evaluation via TRC

- Finalizing recommendations and will be ready to share in Q2

Triennial filing and IRA 2022

- P4P rebate model
- Heat pump increased rebate
- Eligible equipment bonus
- WHE design currently aligned with IRA rebates
 - Funded through The Colorado Energy Office(CEO)
 - Potentially available at the end of 2023
 - Customers will qualify for state rebate program also
 - The Company will use 60 DN process if necessary
 - Utilizing program advisors

IRA 2022 and WHE alignment

Comparison of HOMES rebates to WHE rebates

Below is a table comparing the proposed state Whole Home Energy Retrofit Program to the Company’s WHE program and what measures are offered:

Type of Improvement	CO state Whole Home Energy Retrofit Program*	Xcel Energy’s Whole Home Efficiency measures available
Begins with a home energy audit	X	X
Heat pumps	X	X
Heat pump water heaters	X	X
Insulation	X	X
LED Lighting	X	**
HVAC (AC and furnaces)	X	X
Washers and dryers	X	X
Smart thermostats		X
Electrical System upgrade	X	

*Due to the state’s offering not fully defined, these are speculative and based on both the Governor’s comments and IRA guidelines, company staff will update as more information is known.

** Offered as a direct installed measure through the Company’s enhanced Home Energy Squad audit program

Sources:

- <https://www.energy.gov/articles/biden-harris-administration-announces-state-and-tribe-allocations-home-energy-rebate>
- <https://www.energy.gov/energysaver/articles/inflation-reduction-act-2022-what-it-means-you>
- [IF12258.pdf \(fas.org\)](#)
- [ACEEE Report](#)



SETTLEMENT COMMITMENTS TIMING

Mark Schoenheider | Manager, Customer Energy Solutions



Item No.	Paragraph No.	Action Item	Due Date
1	8	Public Service will provide contractors and customers with education on the availability of, and terms associated with, the Inflation Reduction Act's ("IRA") incentives and/or tax credits available during the 2023 program year.	
2	9	If IRA/IIJA incentives become available in 2023, the Company agrees to review its programmatic rebates and incentives and discuss with stakeholders at a future DSM Roundtable whether adjustments to those rebates and incentives are appropriate.	
3	10	Public Service will provide two live, in-person trainings on BE strategies to Residential and Commercial contractors and/or distributors in 2023 (linked to Item 10/Paragraph 17).	
4	11	The Company commits to: (1) communicating upcoming requests for proposal ("RFP") during its quarterly roundtables; (2) posting information about upcoming RFPs on its website as well as providing links with the relevant information about participating in the RFP; and (3) notifying interested parties of RFPs through its DSM distribution email list when the RFP opens. Public Service further commits to, as part of the RFP process, clearly identifying the requisite criteria on which participants will be evaluated for each RFP through its RFP documents.	
5	12	The Company agrees to request that contractors who install or convert customer heating systems document the pre-existing heating system (if any) and the type of heat that will likely be used on very cold days. This request will be optional for customers and the Company agrees to report annually, in a future roundtable, on the results of this request and incorporate any statistically significant findings into its program design.	
6	13	The Company agrees to estimate greenhouse gas ("GHG") emissions on both a net and incremental basis from BE in its 2023 DSM & BE Annual Status Report,	
7	14	Public Service will create a top tier of rebates within the Energy Star® New Homes program for highly efficient homes that are primarily heated with electricity (\$8,000) or fully electric (\$10,000).	
8	15	Public Service will add an additional bonus rebate of at least \$500 for customers who install major weatherization measures within six months of installation of heat pumps for space heating	
9	16	Public Service will increase its rebates associated with electric heat pumps, including ground source heat pumps, by at least 10 percent from the values proposed in the direct case across its service territory and throughout its DSM/BE programs portfolio while also increasing marketing of heat pumps.	
10	17	Public Service will develop at least three separate geographically targeted marketing campaigns during the 2023 DSM & BE Plan, focused on promotion of heat pumps and/or weatherization	
11	18	The Company agrees to research, in consultation and dialogue with EEBC and other interested stakeholders, EER requirements for variable capacity heat pumps, and remove or modify the minimum EER requirements for Variable Capacity Heat Pumps if doing so will cost effectively broaden heat pump participation without increasing peak power demand in the summer. The Company will make a determination on this matter by May 31, 2023, including a detailed explanation of the Company's analysis and rationale for its determination.	5/31/2023
12	19	The Company agrees to remove programmable thermostats from the Home Energy Squad program and offer smart thermostats in the Home Energy Squad program at a cost that is equal to or lower than the upfront incentive given for participation in the AC Rewards program	
13	20	The Company agrees to remove big box stores, including Costco, Sam's Club, Walmart, Home Depot, and Lowe's from its Residential Lighting product no later than October 1, 2023.	10/1/2023

Item No.	Paragraph No.	Action Item	Due Date
14	21	The Company agrees to add a midstream incentive approach (without eliminating customer incentives) for heat pump water heaters (“HPWHs”), developed in consultation with stakeholders.	60 days after Commission decision
15	22	The Company agrees to research, with interested stakeholders, the potential to phase out rebates for traditional air conditioners and gas water heaters in order to allocate additional resources towards the adoption of heat pumps as part of its 2024-2025 DSM & BE Plan.	
16	23	The Company agrees to research, with interested stakeholders, the potential to add advanced duct sealing to its insulation and air sealing, whole home efficiency, and/or new homes products during the course of implementing the 2023 DSM & BE Plan.	
17	24	Public Service will implement a new pilot within the Low Income (i.e., IQ) program to test a geographic prequalification approach to DI Community neighborhood weatherization.	60-day notice posted by end of Q2 2023
18	25	The Company commits to discussing its IQ/DI Community outreach and engagement efforts as part of each DSM quarterly roundtable in 2023	
19	26	The Company will work to develop the ability to screen IQ Program participating households for auto-enrollment in the Company’s Electric and Gas Affordability Programs to the extent feasible or provide alternative procedures including identifying a process for estimating the appropriate full annual bill for BE program/pilot participants.	
20	27	The Company agrees to increase the Refrigerator Replacement rebate from \$630 to \$900 within the IQ Single-Family Weatherization product.	
21	28	The Company commits to continue actively studying prescriptive BE measures for commercial customers. 60-day notice to add prescriptive measures "sufficiently repeatable and cost-effective" (minimum measures for consideration listed in agreement)	60-day notice posted 60 days after Commission decision
22	29	The Company commits to expand the promotion of BE measures within the Business Energy Assessment product.	
23	30	The Company agrees to adopt all 2022 bonuses from the business lighting program for all invoices dated on or before September 30, 2023 and submitted by November 30, 2023. Bonuses will restart 1/1/24 if the 2023 Plan carries into 2024.	
24	31	In consultation with EEBC and other stakeholders, the Company will annually review and adjust wattage requirements for business lighting products.	Annual modifications via 60-day notice
25	32	The Company agrees to increase incentives for lighting controls, including standard controls, and more innovative networked lighted controls, with a target of incentives equal to 30% of installed project cost.	
26	33.1	New Construction - Public Service agrees to publish reasonable criteria to be met by third-party providers who want to participate as a third-party implementer for New Construction - EDA. Application, criteria, approval process, and list of approved providers available on website 60 days after Plan approval.	60 days after Commission decision
27	33.2	The Company agrees to issue its Request for Proposals (“RFP”) for the Business Energy Assessment and Strategic Energy Management products by June 30, 2023.	6/30/2023



DISTRIBUTED INTELLIGENCE

George Beatty | Senior Product Developer



What is Distributed Intelligence (DI)?

What is Distributed Intelligence?

Distributed Intelligence (DI) describes the capability of our AMI meters to perform data processing on the meter.

What are the benefits of Distributed Intelligence?

DI provides numerous benefits to the Company and customers¹. For this presentation, we focus on the DSM benefits. DI enables the Company to provide customized energy insights and tips to customers to help them save energy. In addition, DI enables the Company to launch innovative programs that help customers gain better control over how and when they use energy.

How do we plan to relay information to customers?

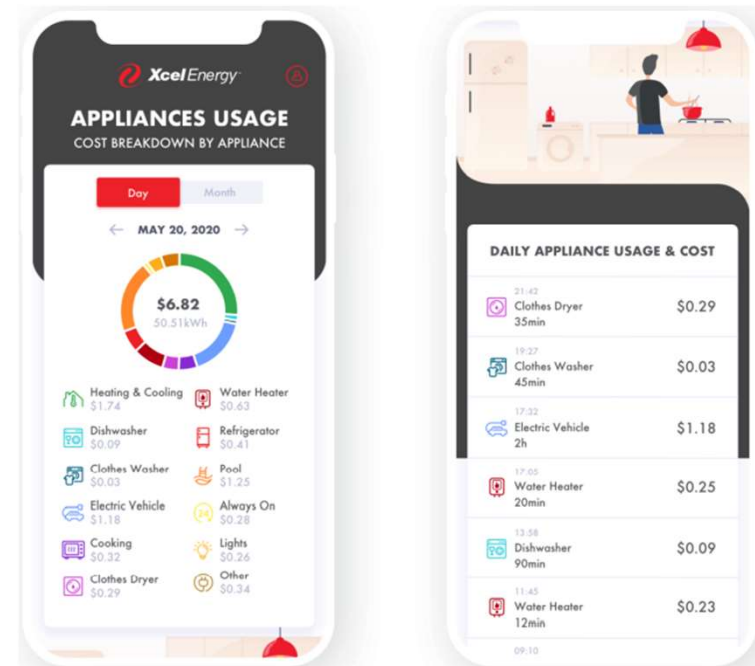
Customers will be able to view energy insights, customized tips, and program recommendations through a mobile application called My Energy Connection.

[1 - Direct testimony of Emmett R. Romine in the Certificate of Public Convenience and Necessity for its Advanced Grid Intelligence and Security \(AGIS\) Initiative \(21A-0279E\).](#)

My Energy Connection (MEC) Mobile Application

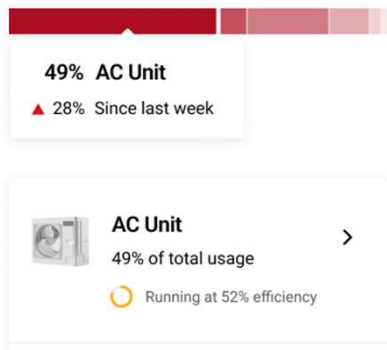
Early Feature List and Mock-ups

- Real-time energy usage by second
- Historical energy & cost information
- Usage by appliance allowing customers to target end uses
- Alerts and notifications
- DSM program recommendations



Customer Benefits

Appliance level analysis helps customers target efficiency investments.



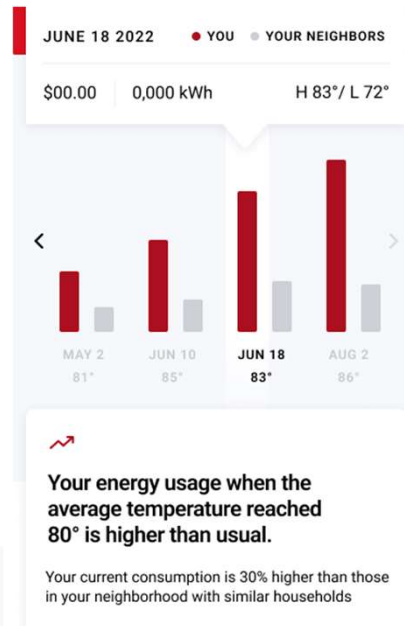
Customized program recommendations based on end uses.

Alerts and notifications help customers proactively respond to high bills.

Save money. Charge during off hours.

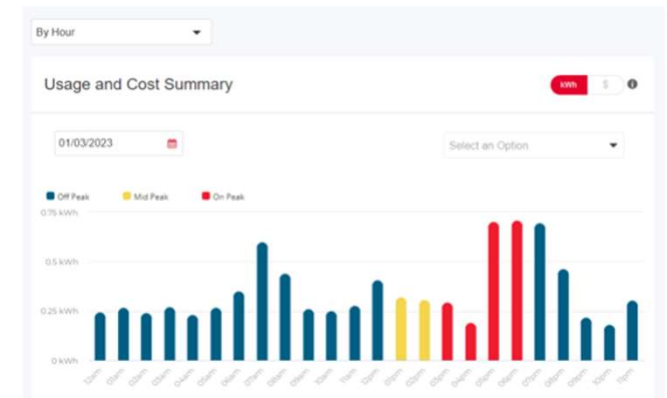
With EV Accelerate At Home, you pay a flat monthly fee for your Level 2 charger, maintenance and electricity, and we'll do all the work to set you up.

[ENROLL IN ACCELERATE AT HOME](#) →



Tips on low or no cost ways to save on utility bills.

Helps TOU customers understand when and how they use energy.



Tip #1

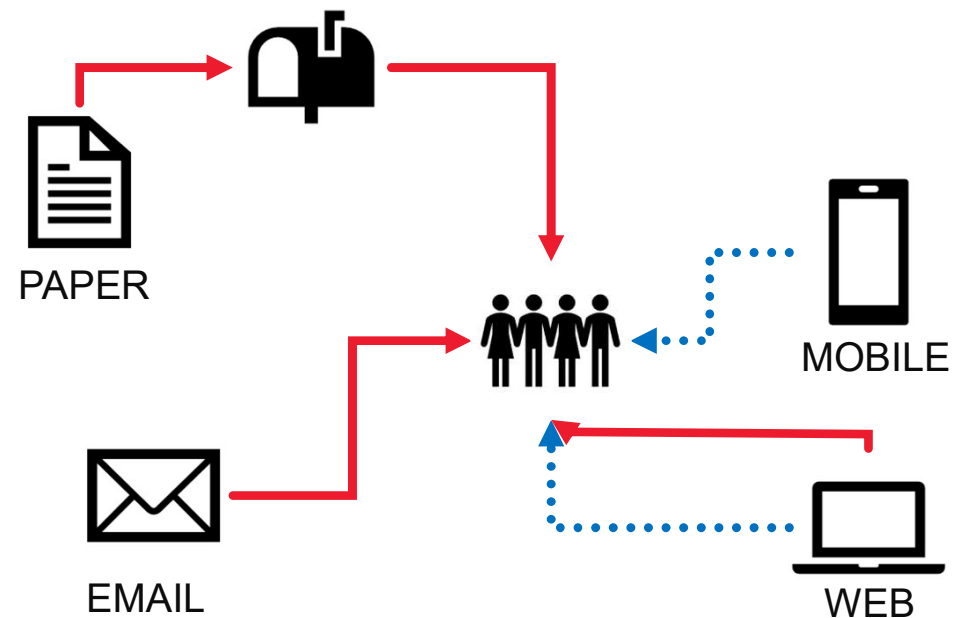
In the summer, close curtains and blinds during the day to keep your home cool.

Mock-ups provided for illustrative purposes only. Final mobile application may look different.

Portfolio Fit

Behavioral Residential

- Include MEC as a complementary behavioral measure in Home Energy Insights:
 - My Energy Web Portal
 - Paper Reports
 - High Bill Alerts
 - ****NEW* My Energy Connection Mobile App***
- Allow concurrent enrollment in other measures (e.g. HBA) and multiple engagement channels

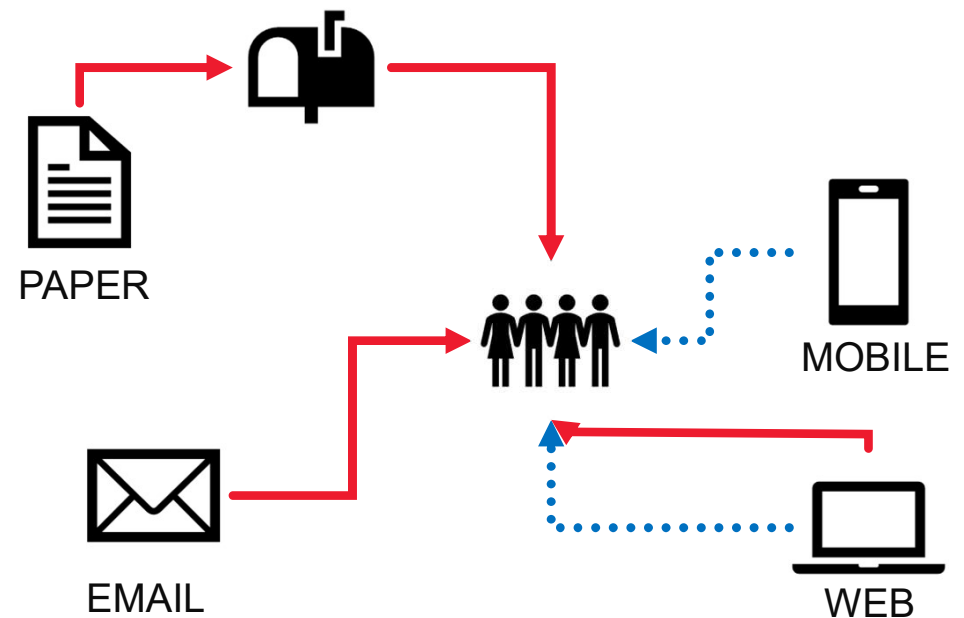


Portfolio Fit

Benefits

MEC is an enhancement to how we deliver the behavioral measures:

- Increased availability of feedback & digital engagement via new channels: web & **mobile**
- More accurate & personalized savings & recommendations from DI sub-second data
- Allows for use of best available data:
 - Good (daily) = Today
 - Better (15-min AMI) < 4 years
 - Best (DI sub-second) < 4 years



Customer Feedback is Central to the Application Design

Concept testing and customer interviews will inform and validate feature prioritization and design

Concept Testing | Highlights

- 80% of customers say they are interested in an app to understand their energy usage
- Top desired features: Usage by appliance and savings visualization
- The largest percentage of customers say they would use the app weekly
- Customers would want to opt out at anytime and would like to know who has access to their data

Prototype Research | Highlights

- Customers related to the “Cost” graphs; the electric and gas sections had less appeal and understanding
- Real-time data is important for EV drivers and customers in TOU programs.

Energy Efficiency Considerations

Benchmark – DTE Energy Insights Application

	DTE Insights App	Xcel Energy My Energy Connection App (proposed)
Appliance level energy usage breakdown	Yes	Yes
Hourly, daily, weekly, monthly energy usage	Yes	Yes
Hourly, daily, weekly, monthly energy expenditures	Yes	Yes
Customized energy insights and tips	Yes	Yes
Requires customer to install hardware	Yes	No
Requires customer to pay monthly fee	Yes	No

1- [DTE's 2020 DSM Evaluation](#) (p 327-341, specifically p 338)

Next Steps

Q1/Q2 2023

- Engage with stakeholders on the Company's customer-facing DI plans

Early Q3

- Company files application requesting approval to deploy customer-facing DI capabilities with the 2024 – 2025 DSM plan.
 - The Company will include a new behavioral measure in the 2024 – 2025 DSM Plan associated with the MEC application.
- When approved, the application would be made available to customers.

Ongoing

- M&V of the new behavioral measure.



HEAT SAVERS MODE STUDY: UPDATE

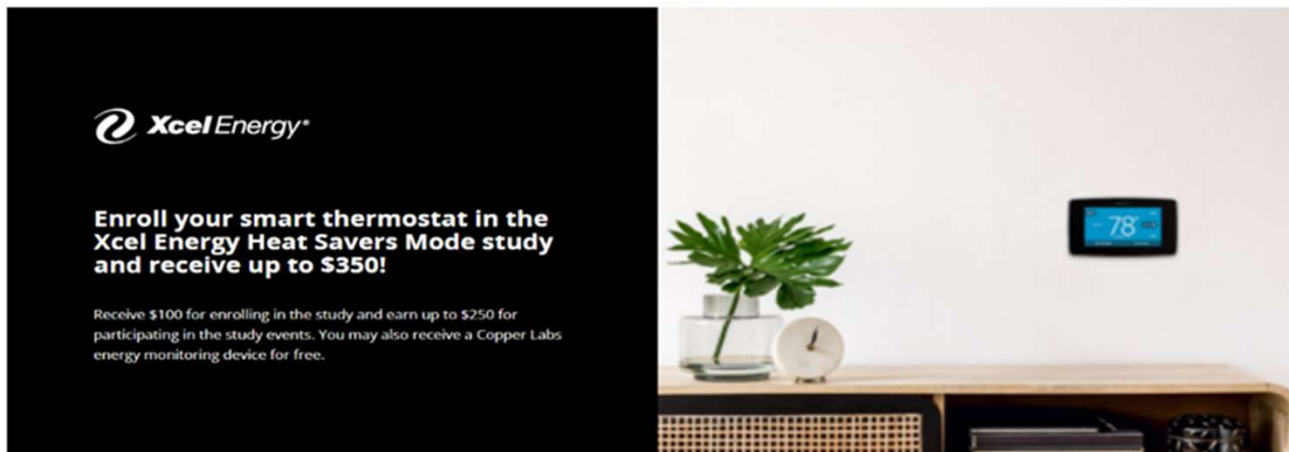
Kevin Scott



Heat Savers Mode Study

- How much natural gas could homes reduce during an event?
- Create a program like AC Rewards for winter gas demand
- Use existing vendor to curtail usage during high demand periods
 - 4-hour events centered around 6-9am
 - Coldest days

sen|si Connect to Comfort



The advertisement features a black background on the left with the Xcel Energy logo and text. On the right, a photograph shows a smart thermostat mounted on a wall above a wooden console table with a plant and a clock.

Xcel Energy

Enroll your smart thermostat in the Xcel Energy Heat Savers Mode study and receive up to \$350!

Receive \$100 for enrolling in the study and earn up to \$250 for participating in the study events. You may also receive a Copper Labs energy monitoring device for free.

Heat Savers Update

Unique Participants	Summit County	Grand County	Other
82	53	26	3

- Opt-outs occur any time, most likely between 30-150 minutes
- Preliminary results show reduction during event
 - Snap-back will need to be investigated
- Participation has been great

Heat Savers Update

Six events to date

Date	Granby Low Temp	Setback	Device Count	Participation	Opt-Out	Offline
1/20/2023	0°F	4 degrees	153	114	17	21
1/24/2023	-8°F	4 degrees	152	118	13	21
2/1/2023	5°F	3 degrees	140	117	12	11
2/3/2023	5°F	3 degrees	140	122	8	10
2/8/2023	-6°F	4 degrees	140	117	12	11
2/9/2023	10°F	4 degrees	139	122	6	11
Average			144	118	11	14



BREAK

15 Minutes





EVALUATION SUMMARY

TRC



Share your product ideas

www.xcelenergy.com/productideas



DSM Regulatory Contacts

Jeremy Lovelady

Regulatory Policy Specialist

Jeremy.M.Lovelady@xcelenergy.com

Melanie Castro

Regulatory Administrator

Melanie.D.Castro@xcelenergy.com

