



## AGENDA

1:00 – 1:10 p.m.

Welcome and DSM Regulatory Updates

1:10 – 1:20 p.m.

Q2 Achievement Update and YE Outlook

1:20 – 2:20 p.m.

Strategic Issues Filing Overview

2:20 – 2:50 p.m.

Product Development Update

-- Break --

3:00 – 4:00 p.m.

Code Support Update



# DSM REGULATORY UPDATES

## Q2 – 2022

Jeremy Lovelady | DSM Regulatory

## Q2 60/90-Day Notices

### 2021 Product Evaluations – 4/12/2022

- Compressed Air Efficiency
- Business New Construction – 4/28/2022
- Energy Star New Homes
- Home Lighting & Recycling
- Residential Heating & Cooling – 4/28/2022
  - (High-efficiency AC and Heat Pumps)
- AC Rewards

### Heat Pump Efficiency Update

- Posted: 4/12/2022

### Business HVAC+R Systems Update

- Posted: 4/28/2022

### Lighting Efficiency Update

- Posted: 4/28/2022

### School Kits + IQ Kits Update

- Posted: 4/28/2022

# DSM Regulatory Calendar

## Filing Schedule

- 2023 DSM Plan + Beneficial Electrification
  - July 1, 2022
- DSM Strategic Issues + Beneficial Electrification
  - Goal setting for Electric and Natural Gas DSM as well as Beneficial Electrification
  - July 1, 2022
  - Intervention Deadline- August 8<sup>th</sup>

# DSM Regulatory Calendar

## Upcoming Meetings – Save the Date!

- Q3-2022 DSM Roundtable Meeting
  - [Wednesday, November 9, 2022](#)



# DSM ACHIEVEMENTS

## Q2 – 2022

Mark Schoenheider | Manager, Customer Energy Solutions

# 2022 Q2 Achievement Highlights

## Electric Portfolio

- 167.7 GWh (32% of 522.8 GWh Target)
- 97 MW (97% of 100.5 MW Target)
- \$33.1M (37% of \$90M Budget)

## Business Programs

- 82.3 GWh (24% of Target)
- New Construction 15.3 GWh (33%)
- Small Business Solutions 16.2 GWh (35%)
- Business Energy Assessments 4.4 GWh (67%)

## Residential / IQ Programs

- 85.4 GWh (49% of Target)
- Home Lighting & Recycling 47.4 GWh (76%)
- Home Energy Insights 9.5 GWh (32%)
- School Education Kits 6.9 GWh (67%)
- Residential Heating & Cooling 1.9 GWh (14%)

## Gas Portfolio

- 294,233 Net Dth (37% of 799,708 Target)
- \$6.6M Spend (36% of \$18.5M Budget)

## Business Programs

- 36,814 Net Dth (33% of Target)
- New Construction 30,437 Dth (42%)
- Business HVAC+R Systems 3,452 (39%)
- Custom Efficiency 2,801 Dth (42%)

## Residential / IQ Programs

- 257,392 Net Dth (38% of Target)
- ENERGY STAR Homes 77,318 Dth (50%)
- Residential Heating & Cooling 65,337 Dth (38%)
- Insulation & Air Sealing 18,833 Dth (55%)
- Home Energy Insights 45,103 (49%)

# Marketing Campaigns & Trade Relations Outreach

## Q2 2022 Business

### **Nuggets Game Ball Arena Friday April 1<sup>st</sup> 6:00 – 10:00 pm**

- Xcel Energy Suite with Indoor Agriculture Trade Partners

### **Switch Reluctance Smart Motor System Training**

- Wednesday April 6<sup>th</sup> virtual training for rebates effective July 2022

### **ASHRAE Annual Technical Conference**

- Friday April 29<sup>th</sup> 7:00 am – 5:00 pm
- Xcel Energy Sponsorship & exhibit booth – Sheraton Denver West

### **Energy Efficiency Business Coalition: Lighting Action Group Meeting**

- Wednesday April 6<sup>th</sup> 3:00 – 5:00 pm

### **Stevens Equipment Supply Open House**

- Exhibit: Thursday May 12<sup>th</sup> 9:00 – 3:00 pm HVAC-R Program

### **Colorado Association Healthcare Engineers & Directors (CAHED)**

- Empower Field R/F May 5-6<sup>th</sup>
- Sponsorship/exhibitor with Healthcare Account Management Team

### **2022 Energy Efficiency Partner Awards**

- Trade Partner off-site recognition event
- June 23<sup>rd</sup> Thursday 6:00 – 10:00 pm-- Top Golf in Centennial
- Recognized 24 Trade Partners; 100+ attendees

### **CFM Company 7<sup>th</sup> Annual Product Showcase**

- Thursday June 16<sup>th</sup> 4:00 – 8:30 PM Mile High Stadium
- Attended with Program Management and Engineering

### **Xcel Energy-Denver: Strategic Building Electrification working group**

- Monthly meeting Monday May 23<sup>rd</sup> with various Xcel Energy Staff

### **Xcel Energy Advisory Board Meetings:**

- Data Centers: Thursday June 9<sup>th</sup> 9:00 – 10:00 am; 12 trade partners
- EMS: Tuesday June 7<sup>th</sup> 9:00 – 10:00 am; 20 trade partners

## Residential

### Customer Outreach

- Xcel Energy Marketplace
  - Email campaigns: Memorial Day thermostat sale
- Home Energy Squad
  - Email campaign also promoting Refrigerator Recycling April - June
  - Mass Media channels: Radio, Digital, Social
- Apogee video emails: promoting marketplace & cooling program and energy saving tips
- Onserts: Home Lighting, Refrigerator Recycling, Home Energy Squad

### Trade ally/stakeholder outreach

- Heat pump training day – April (170 attendees)
- 90 trade partners opting in for the cold climate heat pump study
- Completely revised Quality Installation online training, heat pump emphasis
  - Increase in AC/HP trade participation year over year from 140 to 169
- BEL-CO heat pump QI working group collaboration and others
- Support trade partners: City of Denver heat pump rebate questions

### Partners in Energy Co-branded outreach

- Summit County Postcard – residential natural gas conservation
- Summit County Explorer magazine – ad to promote conservation
- Northglenn Business Walks – free energy assessments
- Aurora social media posts – energy efficiency in businesses
- Edgewater Block Party – Home Energy Squad
- Fort Collins Bike to Work Day – natural gas conservation
- Marshall Fire New Construction support – webinars and collateral





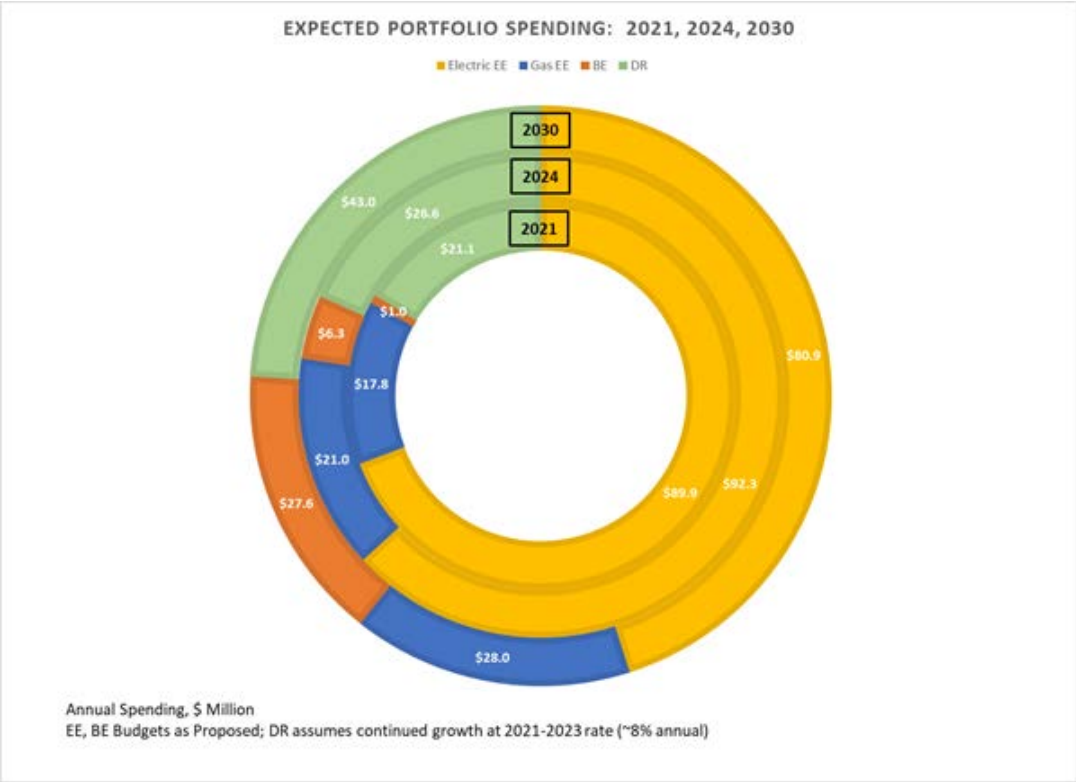
# DSM STRATEGIC ISSUES HIGHLIGHTS

Mark Schoenheider | Manager, Customer Energy Solutions

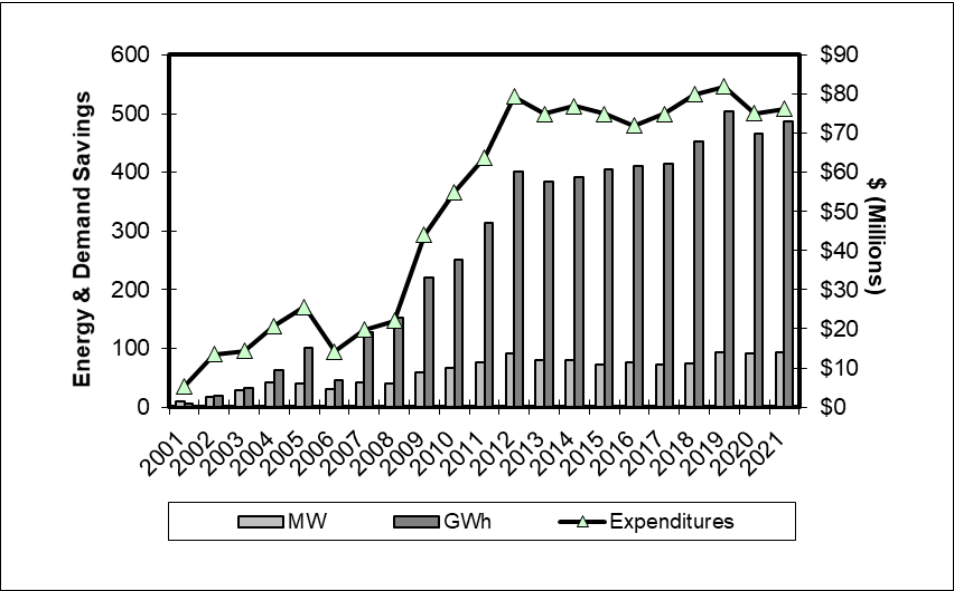
# CO Strategic Issues - General

- Filed 7/1/22
- Goals and budgets for electric and gas efficiency (EE), electric demand management (DM) and beneficial electrification (BE)
- Comprehensive Company incentive mechanism based on EE, DM, BE and portfolio wide carbon reductions, includes sharing mechanism with LEAP
- Expands definition of BE to include customers not currently using Xcel natural gas or electric
- Proposes framework for tariffed on bill financing
- Evolves low income definition to disproportionately impacted communities
- Adds gas capacity avoided cost methodology
- Continues rebates for gas consuming appliances
- Updates electric marginal energy avoided cost methodology

# CO Strategic Issues - Spend



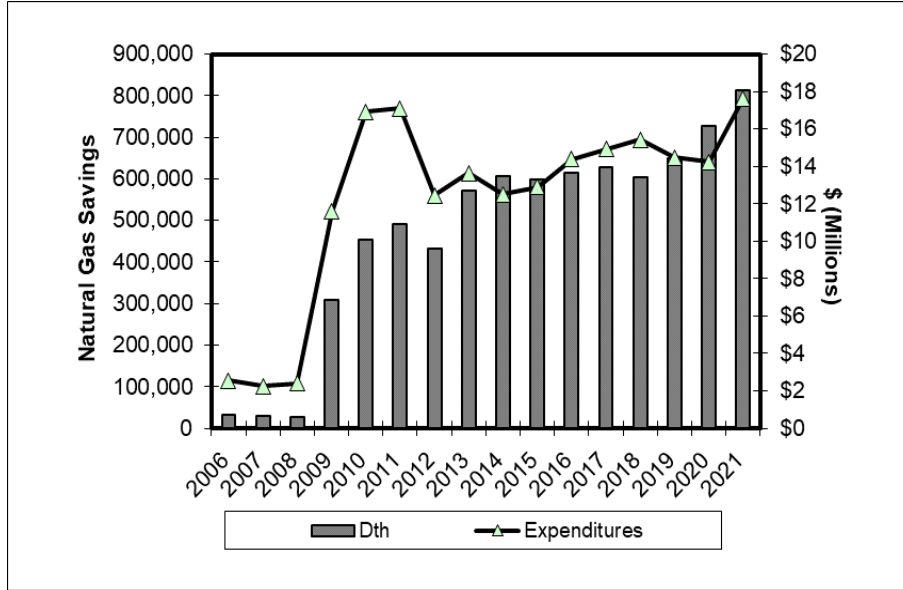
# CO Strategic Issues – Goals



**Electric Energy Efficiency Goals and Budgets**

Year	Electric EE Savings (First-Year Net GWh)	Electric EE Demand Savings (First-Year Net MW)	Electric EE Budget (\$ million)
2024	415	87	\$92
2025	357	75	\$91
2026	317	67	\$89
2027	289	61	\$87

# CO Strategic Issues – Goals Cont.



## Natural Gas Energy Efficiency Goals and Budgets

Year	Natural Gas EE Savings (First-Year Net Dth)	Natural Gas EE Budget (\$ million)
2024	950,000	\$21
2025	1,000,000	\$21
2026	1,050,000	\$21
2027	1,100,000	\$23

## Beneficial Electrification Goals and Budgets

Year	BE Budget	Natural Gas Savings (Dth Reduction, First-Year)
2024	\$6M	157,190
2025	\$10M	311,682
2026	\$14M	482,037
2027	\$17M	623,913

# CO Strategic Issues – GHG Reductions

**Estimated GHG Avoidance from DSM, 2024-2030**  
(All figures in lifetime short tons of CO<sub>2</sub>e avoided)

	Electric EE	Natural Gas EE	Beneficial Electrification (Net)	Total GHG Savings
2024	2,489,244	789,477	87,130	3,365,851
2025	2,050,044	831,028	177,319	3,058,391
2026	1,737,700	872,580	279,889	2,890,168
2027	1,520,340	914,131	368,534	2,803,005

# CO Strategic Issues – Proposed Incentive

- **Electric Energy Efficiency** – 5% of mTRC net benefits at 50% kWh goal increasing to 13% net benefits at 130% goal  
Excludes NEB, Carbon, DR
- **Gas Energy Efficiency** – 7.5% of mTRC net benefits at 50% Dth goal increasing to 19.5% net benefits at 130% goal  
Excludes NEB, Carbon, no ALR
- **Beneficial Electrification** – 6% of mTRC net benefits at 50% of goal increasing to 15.6% at 130% of goal  
Excludes NEB, Carbon.  
ARR from added electricity netted out against saved gas ARR. Added kWh do not count against electric savings goals
- **Demand Response** – \$0.75/kWh of actual reductions in excess of 5 GWh (approximate 2021 DR usage)  
Hard cap of \$8 Million and part of the Incentive sharing “soft cap”
- **Portfolio Wide Carbon** – \$5 per short ton of lifetime CO2 equivalent reduction  
SCC is \$77/ton in 2023 DSM plan
- **Incentive Sharing Mechanism** – Incentive above \$30 Million would be split 50/50 with LEAP

\*All Incentives adjust for IQ and Market Transformation similar to existing incentives

# CO Strategic Issues – Demand Response

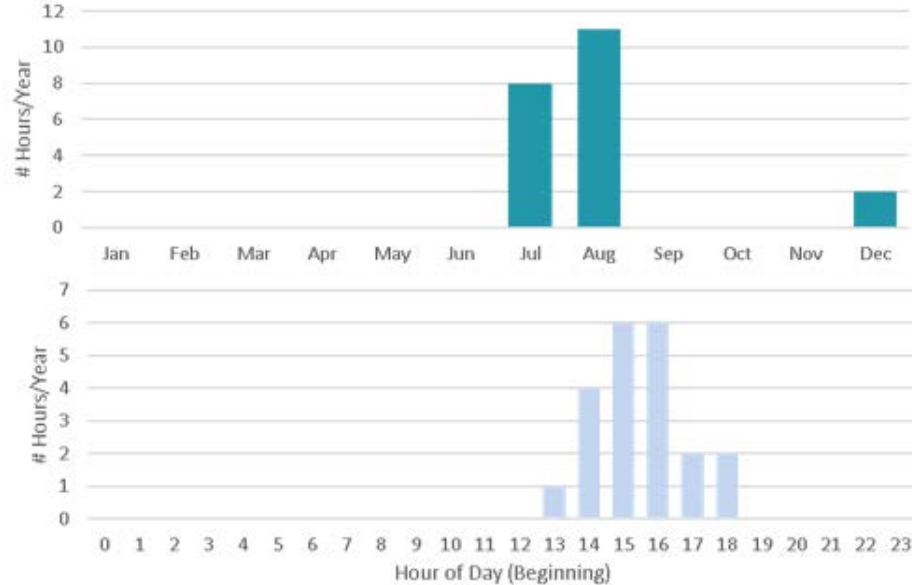
- Commissioned Brattle Group to determine DR potential for PSCo
- Brattle Study Findings
  - Need to diversify programs beyond summer peak load shedding to address changing system needs
  - Programs will likely be needed considerably more frequently
  - Proposed two sets of goals, for summer and winter loads
  - Most growth in “High Frequency” programs (e.g., TOU rates, controllable water heating)



# CO Strategic Issues – Demand Response

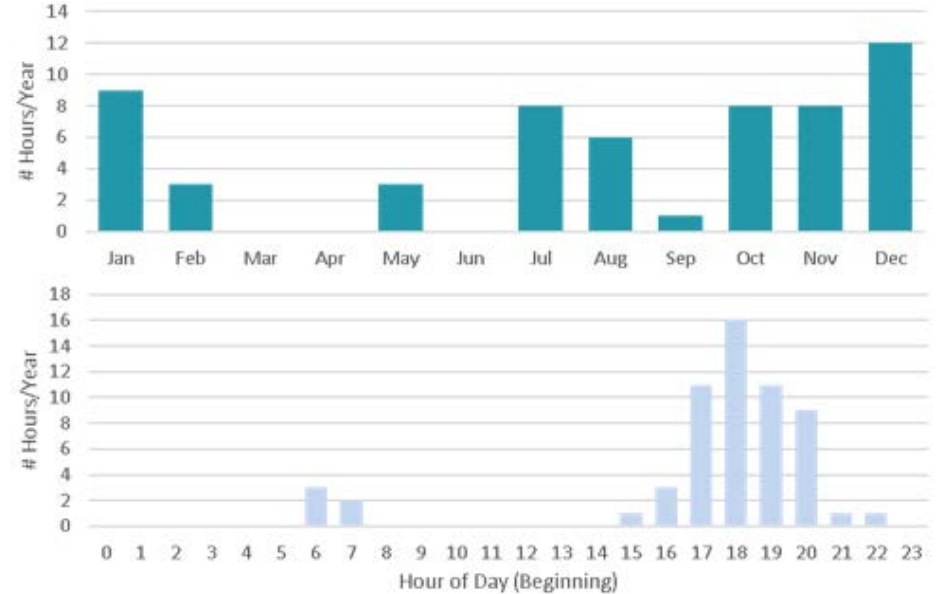
## DR IN 2022

### Frequency of Hours Requiring Load Reductions



## DR IN 2030

### Frequency of Hours Requiring Load Reductions



# CO Strategic Issues – Demand Response

Load flexibility will be key

- Evolution of existing programs
- Adaptation of new, high frequency programs

PSCo Proposed Goals:

- Summer Goal
- Winter Goal



# **DSM PILOT & PRODUCT DEVELOPMENT Q2 – 2022 HIGHLIGHTS**

**Kevin Scott | Product Developer**

**George Beatty | Senior Product Developer**

# Dual Fuel Rooftop Units – Transitional Electrification

- Commercial HVAC unit that provides heating, cooling, and ventilation
- Heat pump primary with gas backup – We are doing our analysis around 30°F switchover temperature
- New technology with low awareness
- Currently the market is heavily saturated with gas fired units with DX cooling
- Flexibility with two fuels



# High Bill Alert - Product Offerings

## High Bill Alert

Alerts customers during their billing cycle if their projected bill is >30% higher than the same billing period the previous year.

- Opt-out (Weekly Scans by Franklin)
- Bill comparison check on 16<sup>th</sup> day of each billing cycle
- Bill projection is at least \$30
- Requires 12-month bill history at premise
- DSM Savings

## Budget Alert

Enables customers to set a budget amount and be alerted if their bill is projected to exceed their set amount.

- Opt-in
- Daily checks from 5<sup>th</sup>-28<sup>th</sup> day of billing cycle
- Minimum Threshold of \$10
- Does not require 12-month bill history at premise
- Customer Experience product for now

# High Bill Alert - Eligibility

- ✓ Colorado residential customers
- ✓ My Account so they can access product preferences via My Energy portal
- ✓ Customers with Average Monthly Payments are NOT able to participate
- ✓ Eligible residential rates
- ✓ Colorado - AMI (electric), currently lack gas metering infrastructure to support HBA
- ✓ Can be enrolled in both High Bill Alerts & Budget Alerts as long as you meet eligibility requirements

# High Bill Alert - Launch

- ✓ Launched in MN & CO Monday 7/25/22
- ✓ 4,249 emails sent in first 3-days (MN + CO)
- ✓ 99% were High Bill Alerts (projected bill is >30% higher than the same billing period the previous year)
- ✓ All were alerts regarding electric usage



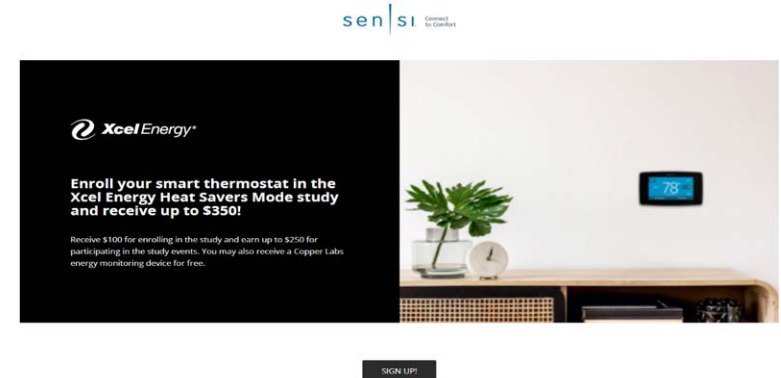
# HEAT SAVERS MODE STUDY

Sofia Troutman, Eric O'Neill, David Podorson



# STUDY OBJECTIVE – REDUCE GAS CAPACITY CONSTRAINTS

- Optimize usage of existing gas infrastructure
- Create a program like AC Rewards for winter gas demand
- Use existing vendor to curtail usage during high demand periods
  - 6-9am
  - Coldest days
- Evaluate
  - Volume shifts & savings
  - Participation
  - Incentives
  - Opt-outs



# STUDY DESCRIPTION

- Targeted Summit County, added Grand County in December
- Enrollment was difficult
  - Email, postcard, bill communications
  - 69 valid participants enrolled (cap was 300)
  - 19% of participants had multiple thermostats (2 of them had 9 thermostats)
  - 65% participants signed up for the Advanced program
- 16 Events 12/21-3/22
  - Events 6am-9am
  - Temps warmer than expected



## Standard Heat Savers Mode

This study option provides a \$50 participation incentive. You must participate in at least 50% of all control days to earn the incentive. You will also be eligible for either a free smart thermostat or a \$100 enrollment incentive.

- Max Temp Offset: 4 F
- Max Event Duration: 3 hours
- Max # of Events: 10

**UP TO \$150 TOTAL INCENTIVE** [↗](#)



## Advanced Heat Savers Mode

With this study option you can earn up to a \$250 participation incentive, based on the prorated percent of the control events you participate in. You will also be eligible for either a free smart thermostat or a \$100 enrollment incentive.

- Max Temp Offset: 4 F
- Max Event Duration: 6 hours
- Max # of Events: 15

**UP TO \$350 TOTAL INCENTIVE** [↗](#)

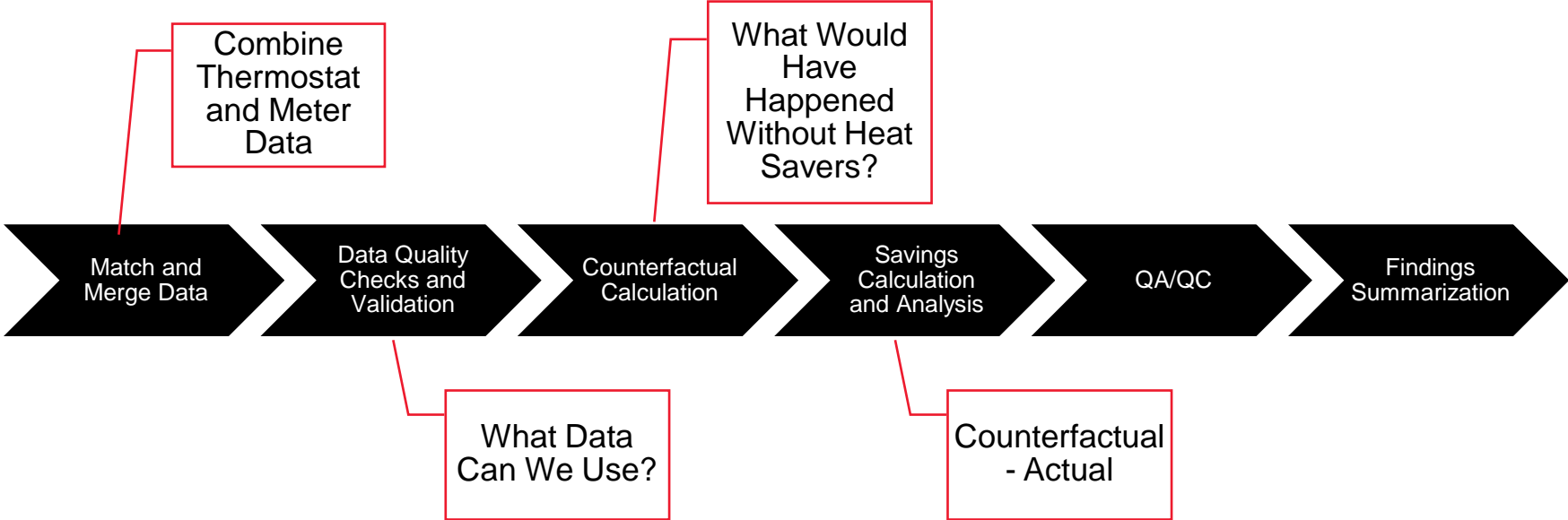


# DATA ANALYSIS & LESSONS

Eric O'Neill – Michael's Energy



# METHODOLOGY

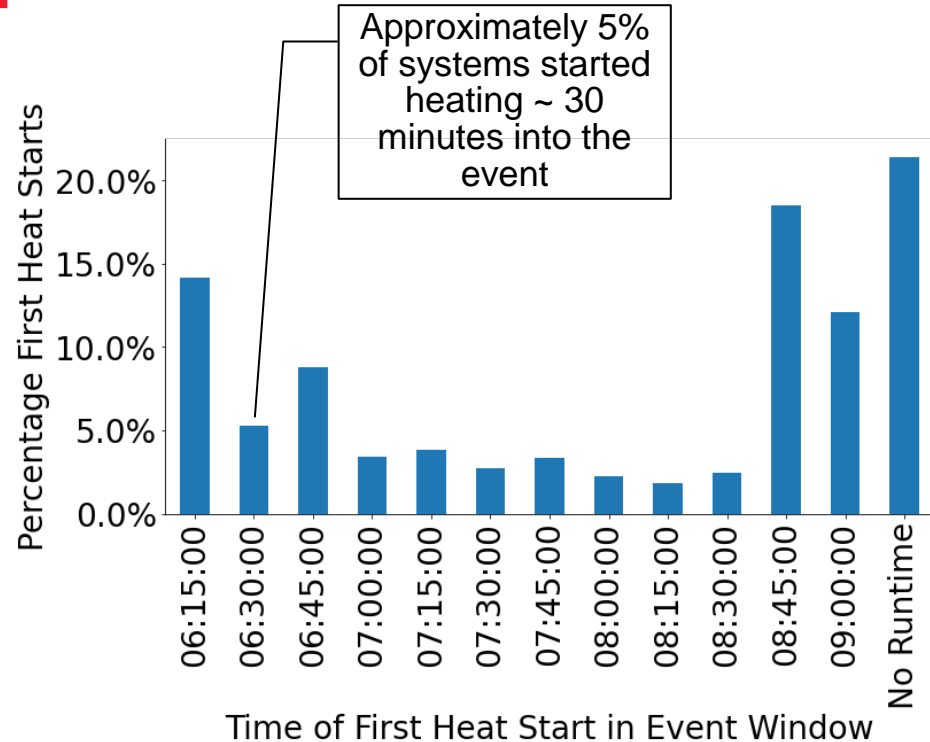


# DATA ANALYSIS CHALLENGES

- Low data quality
  - From Dec 15th, 2021 – March 31st, 2022
    - Had 18.3% of the total possible gas meter readings
    - Had 78.3% of the total possible thermostat readings
- Many incomplete/invalid counterfactuals
  - Due to low data quality
  - Many event days and sites could not be accurately modeled

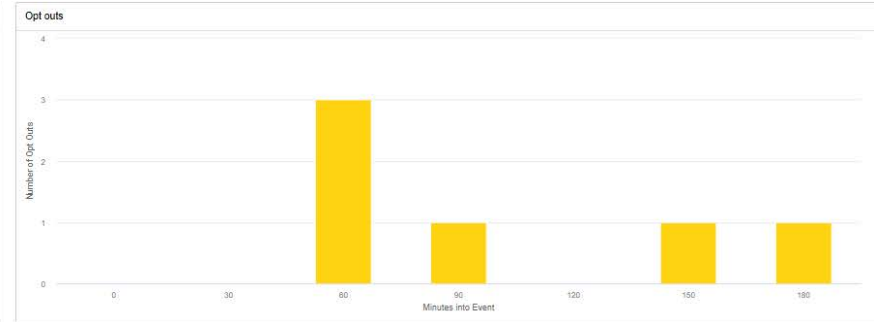
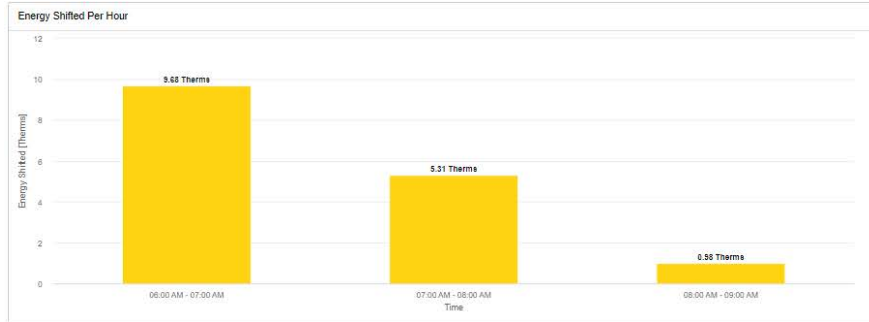
# WORTHY OF FURTHER STUDY

- Heating equipment operation appears to have been shifted as planned
- While we can't quantify the actual gas impacts, the thermostat data indicates the program is having the desired impact.
- Where results were available, home saved 0.90 therm during the event with 0.24 therm of snapback after the event.



# STUDY LESSONS

- Equipment compatibility was a challenge – old boilers, thermostat compatibility / wiring issues
- Participants had trouble connecting their meters to the energy monitoring devices
- Some participant confusion regarding event notification and monitoring equipment connection
- While data was limited, both gas savings and use shifting was found during the study events
- Most popular thermostat brand, ecobee, limited program options
  - Only one offer per zip code
  - Temperature setback control limited



From Resideo thermostat data Jan 5<sup>th</sup>, 2022, event.



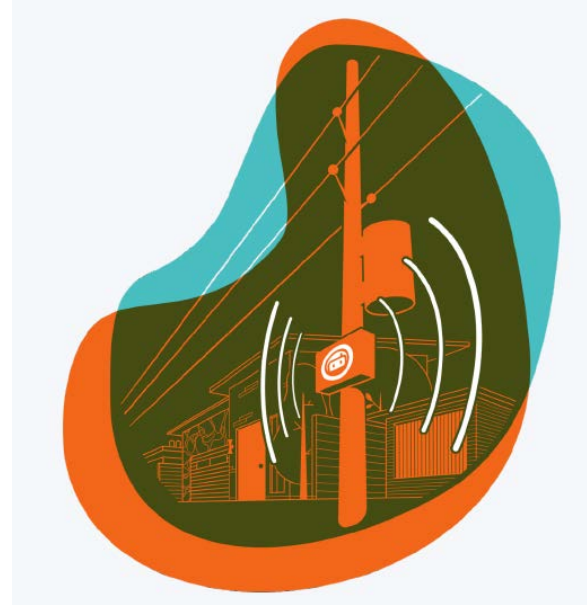
# NEXT STEPS

David Podorson



# NEXT STEPS

- We will continue to investigate solutions for gas DR
- Long term goal is to avoid the use of physical devices
- In the short term, physical devices may be required to deem savings
- Because it was so difficult to obtain gas interval data from behind-the-meter devices in customers homes, we're investigating a new street level (pole mounted) Copper Labs device that can read numerous meters at once without any in-home hardware.



Share your product ideas

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



# DSM Regulatory Contacts

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