



# Q1 – 2022 COLORADO DSM ROUNDTABLE

May 11, 2022



## AGENDA

1:00 – 1:10 p.m.

Welcome and DSM Regulatory Updates

1:10 – 1:20 p.m.

2023 DSM Plan Preview

1:20 – 2:00 p.m.

DSM Programs: Q1-2022 Update

2:00 – 2:40 p.m.

Product Deep Dives and Updates

2:40 – 2:55 p.m.

Product Development Update

-- Break --

3:00 – 4:00 p.m.

Demand Response Study Update



# DSM REGULATORY UPDATES

## Q1 – 2022

George McGuirk | DSM Regulatory

## Q2 60/90-Day Notices

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

- Compressed Air Efficiency
- Business New Construction – 4/28/2022
- Energy Start 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

## Upcoming Filings – Current Schedule

- 2023 DSM Plan + Beneficial Electrification
  - July 1, 2022 (previous June 1 target)
- 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!

- Q2-2022 DSM Roundtable Meeting
  - Wednesday, August 10, 2022



# 2023 DSM PLAN OVERVIEW

Mark Schoenheider | Manager, Customer Energy Solutions

# 2023 DSM/BE Plan – What to Expect

- 2023 DSM/BE Plan will operate under the 2017 Strategic Issues framework
- The plan will look very similar to the 2021-2022
- As we did in the 2021-2022 plan, we will request waivers to exceed gas DSM spend cap and offer Beneficial Electrification measures
- We will propose higher gas DSM and BE targets than we have for 2022
  - Enhanced offerings for both gas DSM and BE
- Updated offerings to include filed 60-day notices, changes in market conditions, lessons learned and feedback from the potential studies and program evaluations





# DSM ACHIEVEMENTS

## Q1 – 2022

**Mark Schoenheider | Manager, Customer Energy Solutions**

# 2022 Q1 Achievement Highlights

## Electric Portfolio

- 74.8 GWh (14% of 522.8 GWh Target)
- 13.7 MW (14% of 100.5 MW Target)
- \$14M (16% of \$90M Budget)

## Business Programs

- 35.6 GWh (10% of Target)
- New Construction 3.7 GWh (8%)
- Small Business Solutions 7.2 GWh (16%)
- Business Energy Assessments 1.9 GWh (30%)

## Residential / IQ Programs

- 39.2 GWh (22% of Target)
- Home Lighting & Recycling 27.8 GWh (45%)
- Insulation & Air Sealing 68K kWh (15%)
- Income Qualified SF Weatherization 2.4 GWh (11%)
- Residential Heating & Cooling 1 GWh (7%)

## Gas Portfolio

- 94,823 Net Dth (12% of 799,708 Target)
- \$2.9M Spend (15% of \$18.5M Budget)

## Business Programs

- 10,895 Net Dth (10% of Target)
- New Construction 10,076 Dth (14%)
- Business HVAC+R Systems 804 (9%)
- Small Business Solutions 10 Dth (%)

## Residential / IQ Programs

- 83,929 Net Dth (12% of Target)
- ENERGY STAR Homes 9,151 Dth (6%)
- Residential Heating & Cooling 40,963 Dth (24%)
- Insulation & Air Sealing 6,392 Dth (28%)
- IQ Energy Savings Kit 699 Dth (7%)

# Marketing Campaigns & Trade Outreach

## Business

### Trade Events and Meetings

- Colorado Bar & Restaurant Expo March 8-9 exhibitor and sponsor at the Colorado Convention Center event
- Colorado Clean Energy Fund meeting March 17 on new commercial financing options
- 2022 Energy Efficiency Partner Awards recognition
  - Award winners are posted on XE website
  - Save the Date sent for Trade Partner in person recognition event at Top Golf June 2022
- EEBC Quarterly Membership virtual meeting, March 17
- Denver Strategic Building Electrification working group (ongoing)
- In-person trade partner meetings resumed in Feb./March – 11 meetings to discuss
  - 2022 program updates
  - Bonus incentives and timing
  - Project reviews
  - Upcoming plans to support energy efficiency

## Residential

### Marketing

- Xcel Energy Marketplace email campaigns:
  - Ecobee promotion thermostat email campaign
- Bonus rebates Denver West Metro
- Home Lighting Onserts: discounts and website

### Trade ally/stakeholder outreach

- WHE webinar - Jan
- Grid readiness webinar - Jan
- BE technical training - Apr
- Beneficial electrification conversations ongoing

### Partners in Energy Co-branded outreach

- Northglenn Conservation program challenge
- Edgewater Home Energy Squad
- Erie Homeowner Association Outreach Kit
- Boulder County New Construction Incentives
- Home Energy Squad/Residential Tip Template



# DSM PRODUCT DEEP DIVES

Product Managers | Customer Energy Solutions

# Residential Heating & Cooling

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

- Collaborating with the City of Denver to cross-promote the city's heat pump rebates.
- Collaborating 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. Recent training completed in April.
- Partnering with Consortium for Energy Efficiency (CEE) on a project regarding ASHP quality installation.
- Partnering with NREL on a study of cold climate heat pump performance. This has both a laboratory and field component, with a goal of metering 40 customer sites. The lab testing is under way and the first field participants have agreed and are scheduled for monitoring equipment installation.
- Funding market research to identify barriers to customer and contractor participation for heat pumps.
- 60-day notice filed in early in 2022 to reduce the minimum qualifying EER and HSPF levels for cold climate heat pumps, which has been identified as a barrier to participation.

# Residential Heating & Cooling

## Q2 60-Day Notice to modify minimum efficiency requirements

- The new requirements will apply for equipment installed on or after the effective date.

	EER (Old)	EER (New)	HSPF (Old)	HSPF (New)
<b>Air Source Heat Pump</b>	12.5	11.5	9	9
<b>CC Air Source Heat Pump</b>	12.5	11.5	10.5	9.5
<b>Mini-Split Heat Pump</b>	11	11	9	9
<b>CC Mini-Split Heat Pump</b>	11	11	10.5	9.5
<b>File Date</b>	4/12/2022			
<b>Effective Date (No Comments)</b>	5/12/2022			
<b>Effective Date (Comments)</b>	6/11/2022			

# Residential Heating & Cooling

## Heat pump participation

	Electrification	Non-Electrification	Total		Traditional
Mini-Split HP	71	16	87	Central AC	573
CC Mini-Split HP	64	9	73	Evap Cooler	124
HP Water Heater	1	15	16	NG Furnace	1,278
Central ASHP	13	2	15	NG Tankless Wtr Htr	149
GSHP	1	0	1	NG Storage Wtr Htr	23
CC Central ASHP	1	0	1	NG Boiler	22
Total	151	42	193		

# Electrification Trainings and Events

## **Grid Readiness Webinar – January 2022**

- In response to HVAC contractor concerns
- Collaboration with Partners in Energy team
- Presented by Channel Manager and Systems Planning and Strategy Team

## **Heat Pump in-person Training – Early April 2022**

- Technical Training Class
- Presenters included: Xcel Energy personnel and subject matter experts

## **City and County of Denver (CCoD) Rebate Announcement**

- Working with CCoD - Eligibility requirements match the Company's requirements
- Announced to trade partners at April BE training
- Developing marketing campaign to Denver customers



# Rebate Comparison Xcel Energy & City of Denver

Measure	Xcel Energy Rebate	City of Denver	Total
ASHP	\$800	\$7200	\$8000
CC ASHP	\$1000	\$9000	\$10,000
MSHP	\$500	\$4500	\$5000
CC MSHP	\$600	\$5400	\$6000
GSHP (E Res) (5 tons)	\$1500	\$9000	\$10,500
GSHP (G Furn) (5 tons)	\$2000	\$9000	\$11,000
HPWH	\$600	\$1400	\$2000
Smart HPWH	\$800	\$3200	\$4000

# Electrification Links

[Grid Readiness Webinar](#)

[Heat Pump Training](#)

[2022 Heat Pump and AC Required Class](#) for Participating Trade Partners

[City of Denver Rebates](#)



## 01 SETTING THE MODE OF OPERATION

Most modern heat pumps have several modes of operation. In addition to the primary modes **heat** and **cool**, there is a **dry mode** which is perfect for dehumidifying indoor air on days when outdoor temperatures are not quite hot enough to use the cooling mode.

Another new mode of operation is called **auto** which automatically switches between heating and cooling. **Auto mode** may not work well in your area. It works best when there is a big difference between day and night temperatures.

However, **auto mode** doesn't work well in some mild climates and may cause your heat pump to switch back and forth between the heating and cooling modes all day long. This can cause big energy bills and make rooms uncomfortable. Instead, try setting the mode of operation to **heat** (some manufacturers use a "flame" symbol) during the heating season. Switch to the **cool** mode (some manufacturers use a "snowflake" symbol) when you want air conditioning.

**TIP:** When you first start this unit, or change the mode of operation, be patient. Give the unit 5 - 10 minutes to switch modes.

## 02 UNDERSTANDING THE DEFROST FUNCTION

Depending on what type of modern heat pump you have, you may not even notice the defrost function.

However, for some, the defrost function can be confusing. This is because when outdoor temperatures are below 40°F the outdoor unit will automatically heat, but no need to worry because your heat pump is designed to defrost itself automatically. It will occasionally stop producing heat to melt ice from its outdoor surfaces. After a few minutes it will automatically begin making heat again.

**What to expect during this defrost mode:**

- Indoor fan stops
- Light on the unit may turn on or start blinking
- Water or steam may be seen at the outdoor
- Sounds coming from both indoor and outdoor units, such as "refining," "clacking," "hissing," etc.
- You may also hear outdoor unit's compressor make "thaw" noise that sounds like the fan running
- Defrost cycle lasts 5 - 15 minutes, then the unit returns to normal heating operation

**Do not be alarmed. Do not interfere with your heat pump's defrost function as that can delay its return to normal heating operation.**

**DRY MODE:**  
Perfect for those few times when you want a small amount of cooling on days when it is not very hot outside.

**AUTO MODE:**  
Works great when there are big differences between day and night temperatures.

**HEATING & COOLING MODES:**  
We recommend that you manually set the mode to either heating or cooling rather than using auto mode.



# MARSHALL FIRE DSM RESPONSE

Rob Buchanan| 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/dam aged				
Trade Support	Homebuilders, HERs Raters, Insulation				

# OUTREACH AND EDUCATION INITIATIVES

- Collaborate with Boulder County web site – RebuildingBetter.org
  - Continuing to work with communities on customized information
- Builder/Rater Webinars on “New Construction Certification and Xcel Energy Rebates”
  - Part I- Requirements of ENERGY STAR v3.2 [Link to recording](#)
  - Part II- Requirements of the Department of Energy Zero Energy Ready v2 program [Link to recording](#)
- Translated rebate information (Spanish)
- Residential video series under development
  - Energy-efficiency in New Construction (IECC 2021)
  - Beneficial Electrification
  - New Construction Certification Options

# INSULATION & AIR SEALING BONUS REBATES

- Program rebates doubled for four impacted zip codes (80303, 80305, 80020, 80027)
- Rebate deadline extended
  - Qualifying improvements made Jan. 1, 2022 – December 31, 2022, application deadline is January 31, 2023
- Income Qualified bonus rebate for attic insulation up to \$5,000 (regularly \$3,500) and will apply to work completed Jan 1, 2022 – Dec. 31, 2023
- Rebate activity as of March 31, 2022:

Program	Participants	Rebate Dollars
Insulation & Air Sealing	110	\$126,038
IQ Insulation	2 approved, 1 pending	Work outstanding

# NEW CONSTRUCTION COMPONENTS

Measure	Rebuilding incentive*	New Owner incentive	Description
<b>ENERGY STAR® v3.2</b>	\$10,000	\$1,250	<ul style="list-style-type: none"> <li>• High-efficiency heating and cooling system</li> <li>• Advanced air sealing, high-quality insulation, and high-performance windows</li> <li>• 10% - 20% reduction in energy user over code-built home</li> </ul>
<b>Zero Energy Ready Homes v2</b>	\$12,500	\$2,500	<ul style="list-style-type: none"> <li>• Comprehensive package of measures to minimize dangerous pollutants, provide continuous fresh air, and filter the air in the home</li> <li>• ENERGY STAR requirements, advanced practices, and PV ready</li> </ul>
<b>ENERGY STAR New Certification Program</b>	\$17,500	\$5,000	<ul style="list-style-type: none"> <li>• ENERGY STAR Certified cold-climate heat pump for heating/cooling</li> <li>• ENERGY STAR Certified heat pump water heater</li> <li>• Induction cooktop/range and electric ovens</li> <li>• Electric vehicle charging station</li> </ul>
<b>Passive House Institute US or Passive House Institute or performance equivalent</b>	\$37,500	\$15,000	<ul style="list-style-type: none"> <li>• Reduces heating and cooling costs by 60%-80% over code-built home</li> </ul>

\*For homeowners rebuilding in areas where the local building code enforces International Energy Conservation Code 2021 standards (IECC 2021), but who choose not to pursue one of the certification options above, a \$7,500 incentive is available.





# AMI IMPLEMENTATION UPDATE

Nikki Caicedo | Customer Energy Solutions

# Residential Time of Use (RE-TOU) Rate

## RE-TOU Rate Structure



Summer: Jun 1 – Sep 30



Winter: Oct 1 – May 31

<b>Mid-Peak</b> 1 – 3 PM, M-F	\$0.18564	\$0.13371
<b>On-Peak</b> 3 – 7 PM, M-F	\$0.27395	\$0.17006
<b>Off-Peak</b> All other hours, plus weekends and holidays	\$0.09734	\$0.09734

\* Approximate kWh rates with riders and fees, does not include fees associated with a non-communicating opt out meter

## Rate Transition Schedule\*

Installs from	To	Roll on RE-TOU Rate
04/01/2021	12/31/2021	Billing cycle that includes 04/1/2022
01/01/2022	06/30/2022	Billing cycle that begins on or after 10/1/2022
07/01/2022	12/31/2022	Billing cycle that includes 04/1/2023
01/01/2023	06/30/2023	Billing cycle that begins on or after 10/1/2023
07/01/2023	12/31/2023	Billing cycle that includes 04/1/2024
01/01/2024	06/30/2024	Billing cycle that begins on or after 10/1/2024
07/01/2024	12/31/2024	Billing cycle that includes 04/1/2025

\* Customers do not need to take any action in order to transition to the RE-TOU rate, unless they would like to opt in to the rate early.

# Customer Experience Strategy

## Digital

- Website
- Explainer video
- My Energy
- Interval Data

## Customer Comms

- Welcome Kit
- Automated Email Journeys
- Stickers

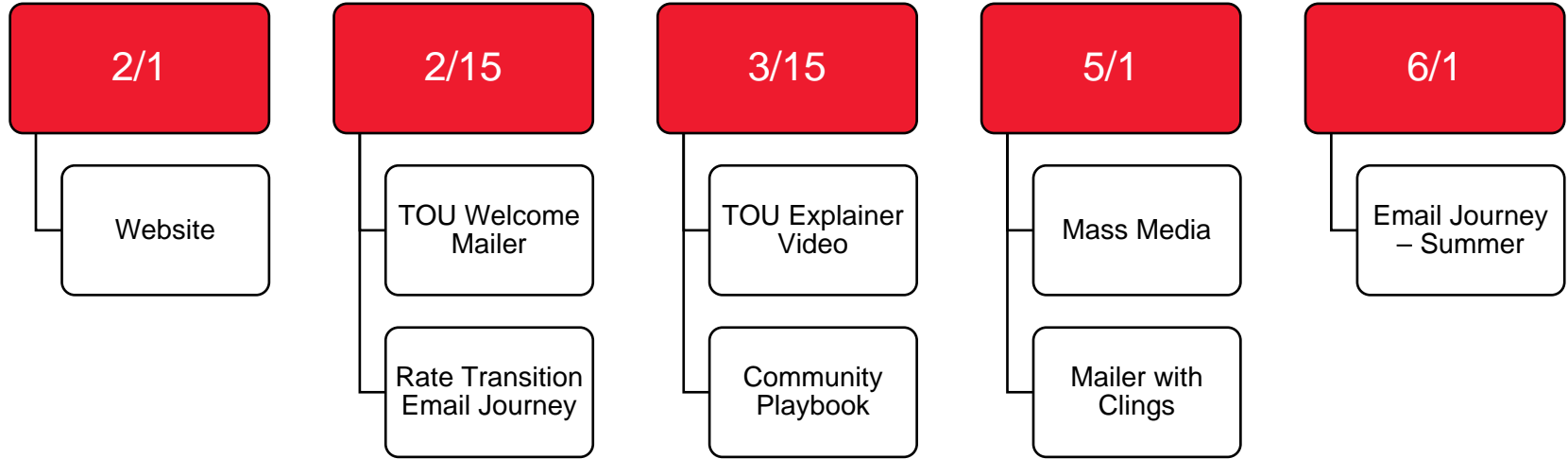
## Mass Media

- Social Media
- Paid Media
- Rich Media

## Community Engagement

- Community Playbook

# TOU Communication Tactics



## Primary goal of communications

- Educate on structure and timing of TOU rate
- Clearly communicate actions customers can take to benefit on TOU rate
- Direct customers to the website for more information
- Direct customers to My Energy to view their interval data

# Examples

## Paid Social

**Xcel Energy** Sponsored ·   

Savings never sounded so good. Save more money by running your dishwasher right before bedtime. \*Cue wolf howl.

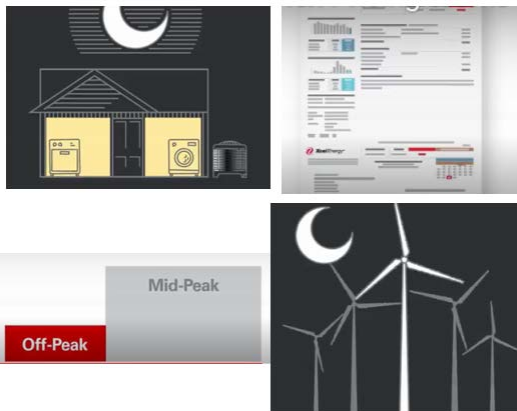


**Save Money on Your Energy Bill** [www.xcelenergy.com/TOU](https://www.xcelenergy.com/TOU) [LEARN MORE](#)

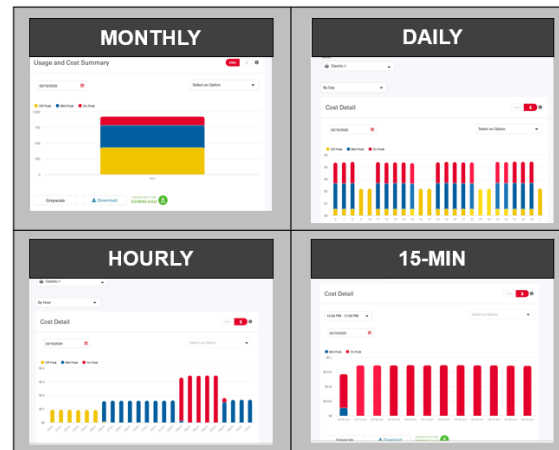
  245  2 Shares

 Like  Comment  Share

## Explainer Video



## Interval Data



# Examples

## Email



**Xcel Energy**

Find Ways to Save on Your Next Energy Bill

Learn More Now

NEW TIME OF USE PRICING IS COMING

The banner features a photograph of a smiling man and a young child sitting on a couch, both holding video game controllers. The background is a bright, modern living room with large windows.

## Welcome Mailer

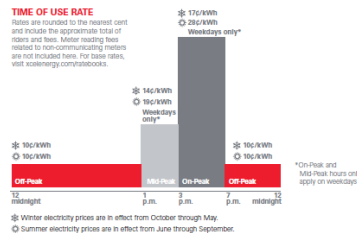
### STARTING WITH THE BILL THAT INCLUDES APRIL 1, YOU'LL HAVE A NEW WAY TO SAVE ON YOUR ENERGY BILL.

#### Time of Use Pricing

With Time of Use Pricing, prices depend on the amount (in kWh) of energy used/generated during different times of the day.

#### TIME OF USE RATE

Rates are indexed to the nearest cent and include the approximate total of rates and base meter reading fees related to non-communicating meters are not included here. For base rates, visit [xcelenergy.com/books](http://xcelenergy.com/books).



With the Time of Use rate, you'll pay less for electricity that you use earlier in the day, later in the evening and overnight, when wind energy is abundant. Electricity prices between 3 p.m. and 7 p.m. on weekdays will be higher—to better reflect the real costs to produce electricity. Mid-peak prices apply on weekdays from 1 p.m. to 3 p.m. (On weekends and holidays, only off-peak hours apply—there are no peak hours.)

### NEW PRICING CAN HELP YOU SAVE, AND IT HELPS BUILD A CLEANER FUTURE.

This new Time of Use rate will go into effect for Xcel Energy residential customers with new meters beginning with the bill cycle that includes April 1.

Running your appliances during off-peak hours will provide these benefits on the new rate:

- You can save money on your electricity bill.
- You'll help use even more renewable energy.
- You'll help avoid the need to build new power plants in the future.

Want more info on Time of Use? Check out [xcelenergy.com/TOU](http://xcelenergy.com/TOU).

### NEW TOOLS, NEW INSIGHTS INTO YOUR ENERGY USE.

Within your My Account, click the "My Energy" button to see your energy usage in 15 minute increments. With this tool, you'll be able to find personalized tips to save energy and money. If you're not already enrolled in My Account, sign up now to make sure you can access all the new tools. Visit [xcelenergy.com/MyAccount](http://xcelenergy.com/MyAccount) to get started.

### HAVE QUESTIONS ABOUT YOUR NEW TIME OF USE RATE?

Visit our website at [xcelenergy.com/TOU](http://xcelenergy.com/TOU) for more information on how to be successful with Time of Use or to opt out and be placed on a flat rate instead. You may also email [inquire@xcelenergy.com](mailto:inquire@xcelenergy.com) or call 800-895-4999.

# Xcel Energy DSM Programs

Our automated email journeys also promote EE programs and explain how each can be used to help reduce peak demand:

- Smart thermostat promotions
- AC Rewards
- LED Lighting Kits
- Xcel Energy Storefront
- Home Energy Squad Visits
- EV charging programs



# DSM PILOT & PRODUCT DEVELOPMENT Q1 – 2022 HIGHLIGHTS

David Podorson| Senior Product Developer



# Research Projects

- DOE Cold Climate Heat Pump Challenge
  - Not a research project; this is a project to work with industry to manufacture new best-in-class equipment.
  - Xcel committed to the challenge and will build an incentive for new products when available.
- CU Building Energy Smart Technologies (BEST)
  - University of Colorado has created a new smart building research center with the City University of New York and the National Science Foundation.
  - Xcel joined as a founding member.
- Standalone Variable Capacity Heat Pumps
  - Xcel is funding research on heat pumps as direct air conditioner (AC) replacements.
  - Research question: how does a new class of VCHP that doesn't require matched components fare in our climate as a direct AC replacement (i.e. as a standalone outdoor unit)

# Research Projects

- IAQ Market Research for Commercial Customers
  - Xcel is funding research on commercial building operations and IAQ.
  - Research question: How are customers operating buildings post-pandemic?
- 120V Heat Pump Water Heaters
  - Xcel, with other midwestern utilities, is funding modeling research on how these devices will fare in our territory.
  - Research question: how will 120V HPWHs fare in our (cold) climate?
- Lawrence Berkeley National Lab Beyond Widgets
  - Funded by DOE; Xcel is participating for the third year in a row.
  - Determine holistic packages of EE measures that can be bundled together for greater savings and reduced administrative costs.
  - Research question: What are the energy and economic savings for a medium sized office building performing a lighting and HVAC controls retrofit?
  - HVAC controls consist of Demand Controlled Ventilation (DCV), retuning the economizer, outdoor air scheduling, and MERV14 filters.

Share your product ideas

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

