

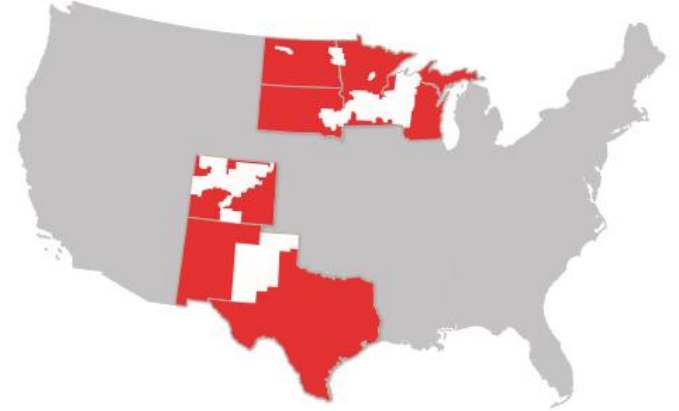


**In Search of the Perfect Recipe -
Code Support Opportunities Across Multiple States**

10.22.2020

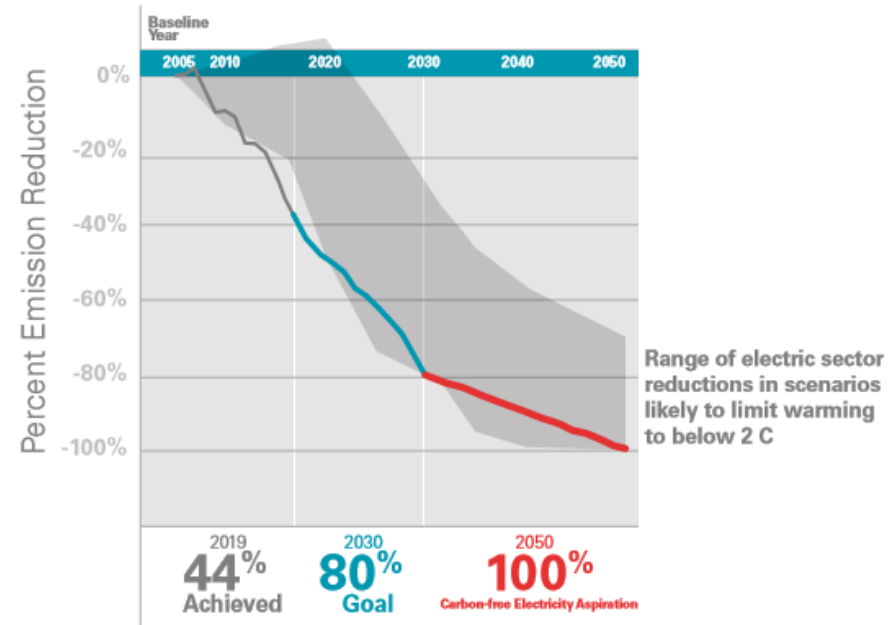
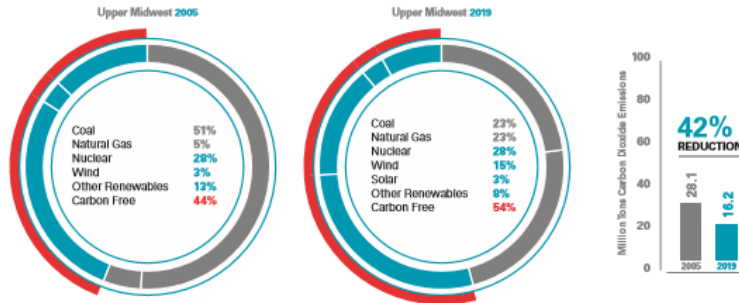
About Xcel Energy

- Electric and natural gas provider for approximately 4.3 million customers in 8 states
- Comprehensive demand-side management portfolio in largest states with offerings in others tailored to needs



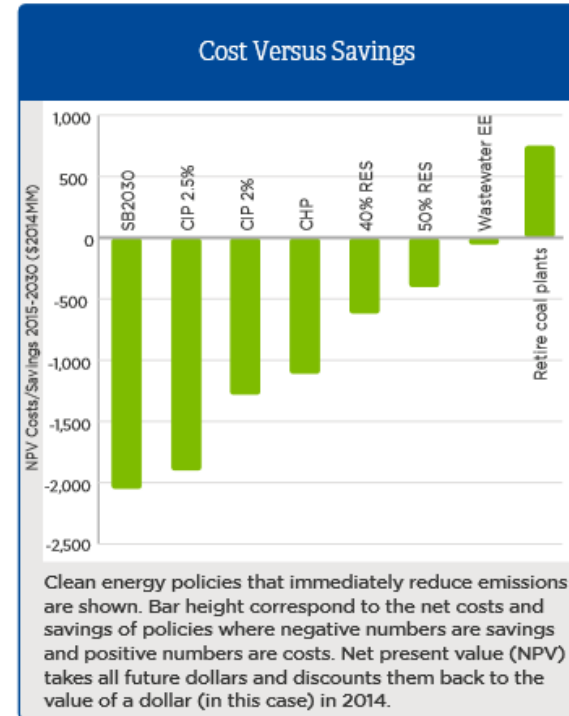
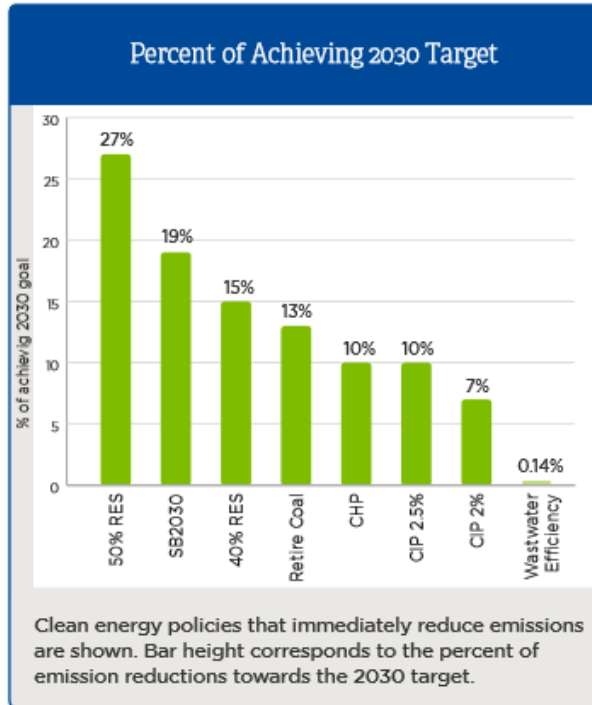
The Evolving Energy Supply Mix

- Planned path to 80% GHG emission drop vs. 2005
- Path to 100% needs new technologies and channels



Why Pursue Utility Code Programs?

Big Effects, Low Price Tag



Supporting Community Partners



Minneapolis declares climate emergency

City demands massive mobilization to address climate change

Minneapolis has [declared a climate emergency](#) that demands a massive-scale mobilization to halt, reverse and address the consequences and causes of climate change. This declaration recognizes that climate change is already affecting people's lives, health, livelihoods, and access to food and shelter with record heat, extreme storms and wildfires, droughts and floods, and other destructive effects in Minnesota and worldwide.

By declaring climate emergencies, governments around the world are bringing awareness to the need to mobilize resources at a scale and speed sufficient to protect civilization, the economy, people, species and ecosystems. In November 2019 more than 11,000 scientists came out in favor of [labeling climate change as an emergency](#).

With the climate emergency declaration, the City commits to:

- Establishing a ["social cost of carbon"](#): a scientific, monetary measurement of greenhouse gas emissions' damages to human health, food production, homes and businesses, and energy costs.
- Establishing a [Sustainable Building Policy](#) to ensure that buildings constructed with the help of the City are as energy efficient as possible. [Building energy use causes 73% of the pollution that causes climate change](#).
- Demonstrating climate actions that bring more cities and more people along.
- Pushing for an advanced building energy performance standard in a coalition of cities statewide.

The United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services found that human-induced climate change is pushing the planet toward the sixth mass species extinction, which threatens the food security, water supply, and well-being of billions of people.

Building Code, local governments must have the option to hire or select a building official of their choice and set the appropriate level of service—even if the state fully funds code enforcement activities.

The state should collaborate with local governments, construction industry representatives, and other stakeholders to review the building and energy codes and consider modifications to encourage sustainable building design, construction, and operation.

Specifically:

- a) **For purposes of federal conformity, the state should adopt the International Energy Conservation**

and opportunity to inspect a wide range of projects.

The Department of Labor and Industry (DLI) has authority over state-licensed facilities and public buildings. Pursuant to Minn. Stat. § 326B.106, subd. 2, it must delegate authority to inspect projects on these buildings to a municipality if DLI determines that the municipality has adequate qualified local building officials to perform plan review or inspection of the projects. In 2014 the Legislature passed legislation requested by the League of Minnesota Cities and agreed to by DLI to provide more transparency and clarity to the delegation process. DLI, after consulting local governments and the League, implemented a new delegation procedure as required by statute. Although the new

SAINT PAUL CLIMATE ACTION & RESILIENCE PLAN

A FRAMEWORK FOR OUR COMMUNITY
TO ADDRESS THE IMPACT OF CLIMATE CHANGE

EDINA Comprehensive Plan

8. Energy and Environment

Chapter Highlights

- The people in the City of Edina strongly value building and maintaining a sustainable environment, although that has not always been matched by actions.
- The City of Edina will take actions to address climate change, including greenhouse gas reduction and solid waste reduction.
- Climate change will have an increasing impact on Edina, as evidenced by a recent United Nations report.
- The City intends to learn from the experience of implementation since the last comprehensive plan, to build a stronger foundation to implement its values.

Definitions

Environment includes factors that act upon a community and ultimately determine its form and survival, including the impact humans have on natural resources.

Sustainability means protecting regional vitality for future generations by preserving our capacity to maintain and support our region's well-being and productivity.

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Different Places, Different Solutions

Colorado

- Most advanced – setting the tone for learnings
- Adapting to complexities of home rule
 - Matching capacity of each partner community with aspirations
 - Identifying opportunities to advance code vs. support compliance
- Training support already in place
- Expected full launch – early 2021 (pending approval)



Minnesota

- Statewide efforts leading, varying interest among energy providers
- Statewide code = many different support paths vs. Colorado
- Starting small in 2021 with commercial compliance pilot
- Expect more comprehensive program after MN Department of Commerce roadmap finalized in 2021



New Mexico and Texas

- Exploratory phase
- Understanding scalability of CO & MN work given:
 - Small, more rural population
 - Less construction activity
 - Different attitudes toward regulation
- These challenges don't mean that customers should be left behind
- Expect some combination of CO, MN, and new channels may be effective



Minnesota Community Code Support





Focusing In On Compliance

Based on MN Conservation Applied Research and Development pilot led by CEE, completed in 2018

- Highlighted key areas of high-impact “missed savings” for code compliance programs
- Lack of documentation was a consistent issue
- Both prescriptive and performance path showed opportunity

Figure 8. Summary table excerpted from city support review report

REQUIREMENTS	STATUS	REQUIREMENTS	STATUS
ENVIRONMENTAL REQUIREMENTS		MECH.	
Roof Insulation R Value IECC: C402.2.1		Economizer IECC: C403.3.1	
Above Grade Wall Insulation IECC: C402.2.3		Demand Controlled Ventilation IECC: C403.2.5.1	
Window U value IECC: Table C402.3, Sec C402.3.3 & C402.3.4, (C303.1.3)		Energy Recovery Ventilation IECC: C403.2.6	
Window Area & Orientation IECC: C402.3.1		Boiler & Chiller System Control IECC: C403.4.3.4	
Slab Edge Insulation IECC: C402.2.6		Variable Flow Pump Control IECC: C403.4.3.4	
ELECTRICAL REQUIREMENTS		Duct Sealing IECC: C403.2.7	
Automatic Lighting Shutoff IECC: C405.2.2.2 & C405.2.2.1		Supply Air Temperature Reset IECC: C403.4.5.4	
Daylight Zone Control IECC: C405.2.2.3.1, C405.2.2.3.2 & C202		Fan Motor Sizing vs bhp IECC: C403.2.10.2 & C403.2.10	
Multilevel Lighting Control IECC: C405.2.1.2		Pool Cover IECC: C404.7.3	
Interior Lighting Power Density IECC: C405.5		HVAC Commissioning IECC: C403.2	
Conductor Sizing IECC: C405.8		Low Leakage Intake and Exhaust Dampers IECC: C402.4.5	
Lighting System Functional Testing IECC: C403.3		Additional IE	
		Additional Energy Efficiency Package (3 Options) IECC: C406	

Status Legend:
 Code requirement met
 Not enough information to determine/ensure
 Code requirement not met
 Not required for this project

Credit: CEE 2018 *Commercial Energy Code Compliance Enhancement Pilot* CARD Report.

<https://mn.gov/commerce/industries/energy/utilities/cip/applied-research-development/>

Aligning with Community Partners

- With statewide action delayed, compliance is an immediate opportunity for local government action
- Connecting experienced energy-focused resources with communities is a natural fit
- Delivered through new construction product to:
 - Leverage existing new construction relationships, while also;
 - Expand the opportunity to work with customers not currently engaged in new construction programs, and;
 - Use voluntary programs to continue leading the market

Where Next?

- Understand existing resources, maximize effectiveness of support
- Observe pilot effects on review process and listen to communities
- Engage to support state roadmap, leveraging program

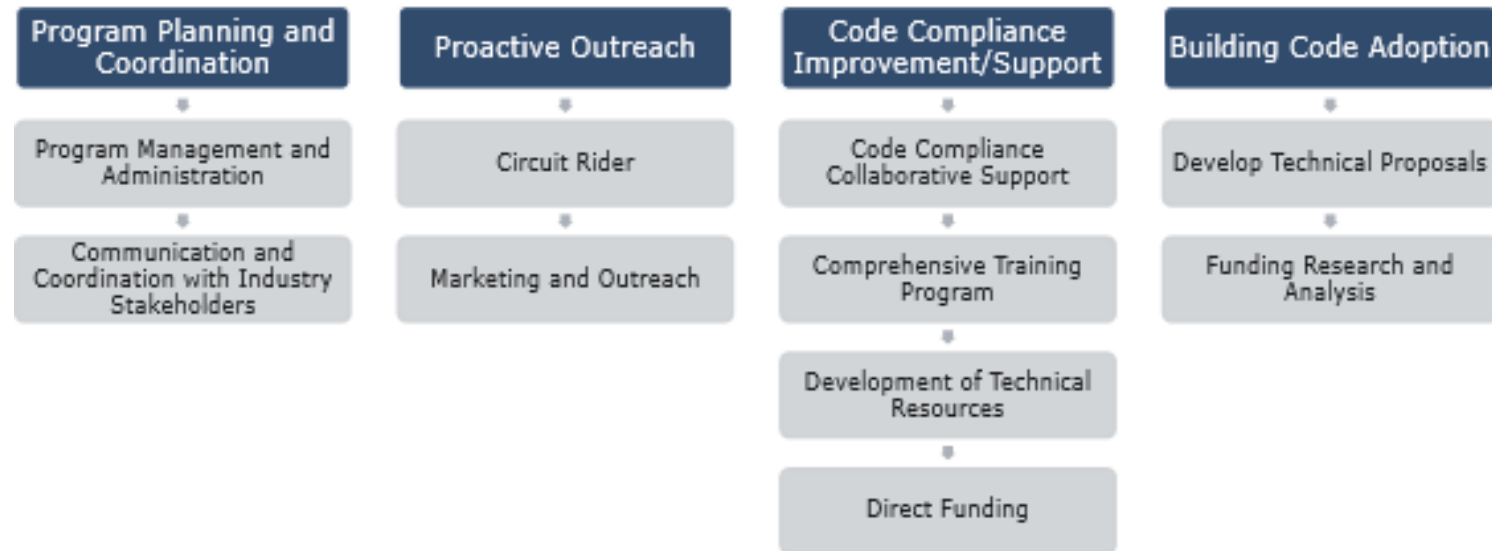


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Colorado Codes and Standards Compliance Product

Key Program Elements

- Four main functions proposed:



Where Next?



- Gain approval
- Define the best ways to deliver each function with existing/new resources
- Establish evaluation processes
- Revise savings and program model as needed for future DSM plan filings

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It Takes a Village

It's Complicated.

- Even with 30+ years of DSM experience, codes programs are challenging because:
 - Processes and paths of influence are different
 - Two very technical but still different areas of expertise collide
 - The mix of cross-cutting and sector-specific stakeholders makes it hard to decide who leads
- Biggest lesson – if in doubt, talk it out.

Credit To The Team

- Julie Herman – Product Developer
- Ashly McFarlane (MN) & Jeremy Lovelady (NM, TX) – Program Policy
- Aaron Esselink, Rob Buchanan, Karl Shlanta, Lauren Sweeney – Colorado Product and Engineering Team
- Kris Kohls, Karl Shlanta, Matt Chmielewski (plus CenterPoint Energy) – Minnesota Product and Engineering Team
- Nick Minderman – Research & Evaluation, Program Policy
- Center for Energy and Environment (Carl Nelson, Russ Landry, Will Nissen) – MN Pilot Development
- EMI Consulting and New Buildings Institute – Research
- Many others for support

Thank you!

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