

Building Performance Standards Advancements in Minnesota

July 23, 2024



Speakers and Agenda



Katie Jones
Sr. Manager, Community Policy

What is a BPS & what has been done in MN to-date



Rep. Larry Kraft
MN House of Representatives

Overview of the introduced BPS policy in 2024

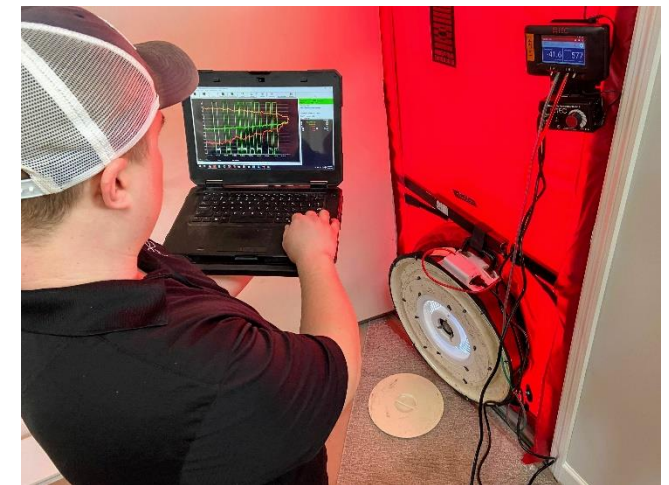


Aly Eilers
Manager, Legislative Affairs

Identifying areas for further discussion

CEE's nonprofit mission

- The Center for Energy and Environment discovers and deploys the most effective energy solutions that strengthen the economy and improve the environment.
- We provide practical energy solutions for homes, businesses, and communities.





CEE's nonprofit



PROGRAMS

We cut energy waste and improve comfort in homes, buildings, and communities.



RESEARCH

We identify cost-effective, efficient technologies through analysis, modeling, and engagement.



CONSULTING

We help building owners and entire communities achieve long-term, energy-saving solutions.



LENDING

We empower people to make upgrades on energy efficiency and comfort in homes or businesses.



POLICY

We strive for high-impact, pragmatic solutions guided by a public interest ethic.



MARKET TRANSFORMATION

We accelerate adoption of promising technologies through early market engagement.



CEE's Principles for a BPS



Build upon existing benchmarking policy



Set practical milestones and targets using best practices



BPS should align with our state's economy wide GHG reduction goals



This policy will require significant ongoing funding, and we should leverage existing sources as much as possible



Utilities will be able to claim savings and support retrofits



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What are Building performance standards (BPS)?

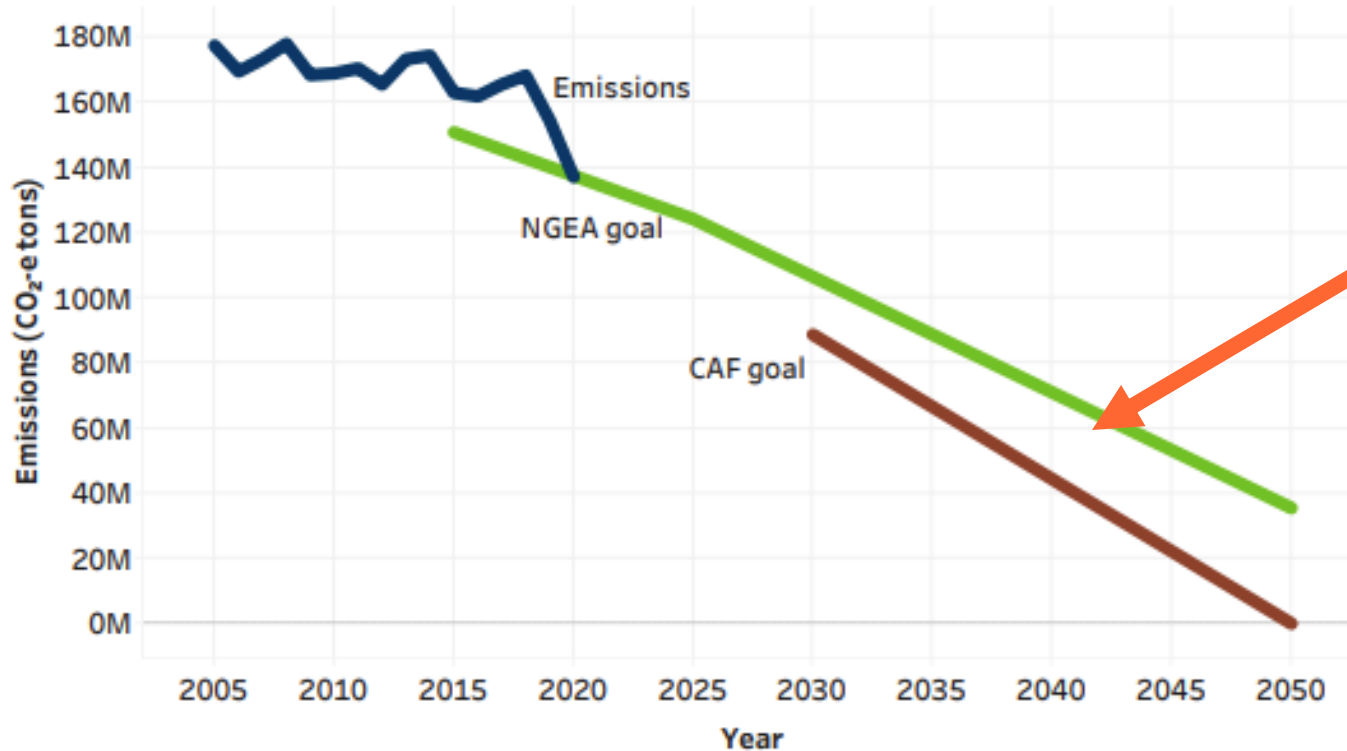
- Also known as building energy performance standards (BEPS)
- A policy for existing buildings to drive continuous, long-term energy performance improvements and greenhouse gas reductions.
- Requires building owners to meet performance targets by actively improving their buildings over time.
- Building owners determine how they'll reach the target.





Work to date

Minnesota's GHG emissions 2005-2020 and goals from the Next Generation Energy Act and Climate Action Framework



Minnesota has new targets in statute

2030

50% greenhouse emission reduction

2050

Net zero emissions

Recent large existing building energy policy action

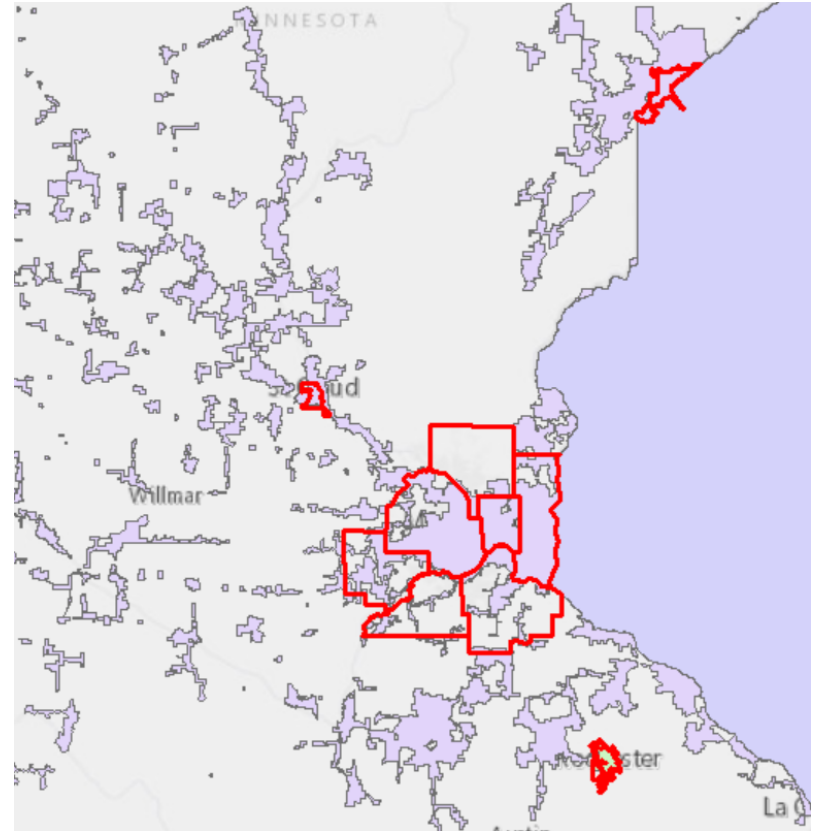
MN Statute 216C.331 – Energy Benchmarking

- Requires all non-industrial buildings 50,000 sqft in certain geographies served by certain utilities to benchmark in Portfolio Manager
- Due date 6/1 annually beginning in 2025 for 100k+ sqft buildings, and in 2026 for 50k+ sqft buildings
- Implemented by Dept. of Commerce



Impacted Geographies

- Map of impacted areas outlined in red.
- "Covered property" means any property that is served by an investor-owned utility in the metropolitan area as defined in section 473.121, subdivision 2, or by a municipal energy utility or investor-owned utility in any city outside the metropolitan area with a population of over 50,000 residents, and that has one or more buildings containing in sum 50,000 gross square feet or greater.

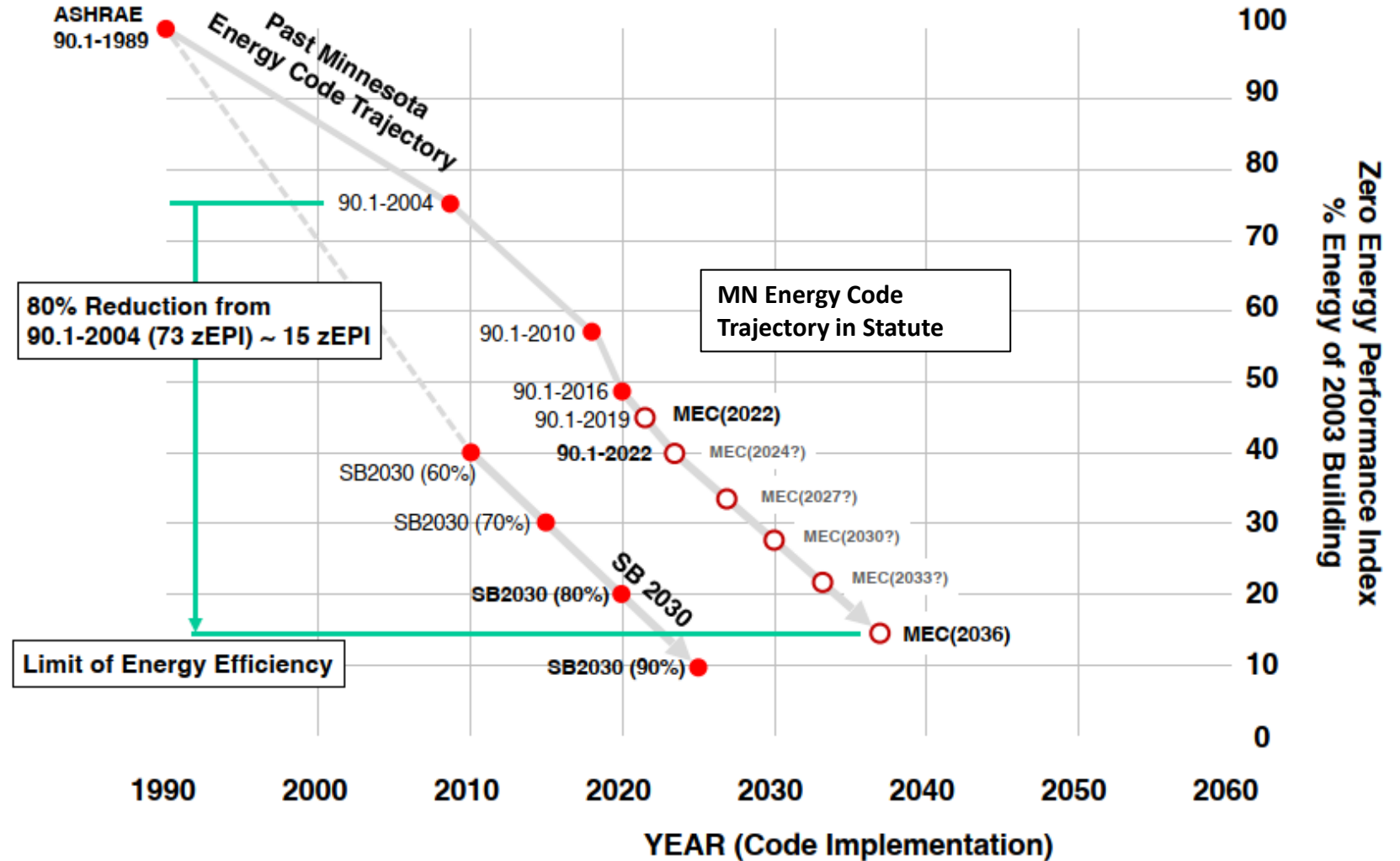


Recent large new building energy policy action

This is fuel neutral approach.

Existing buildings approaches would also be fuel neutral efficiency-focused.

HF772-2023 Minnesota Energy Code Trajectory



Based upon zEPI: Zero Performance Index for Energy Codes from the New Buildings Institute

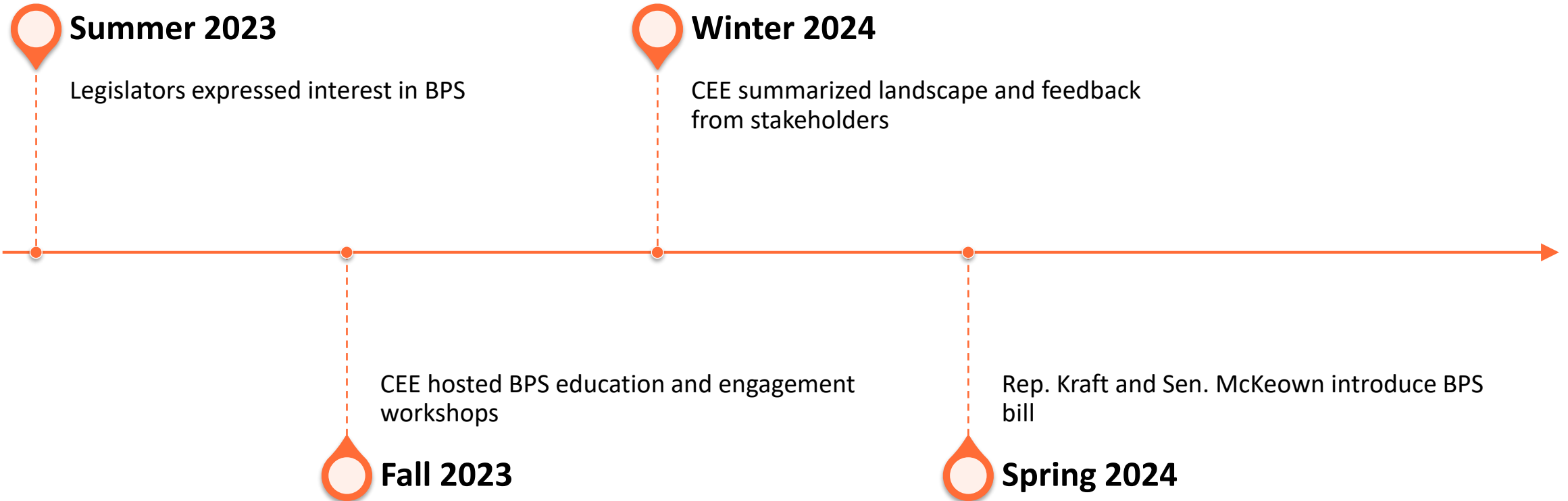


Center for Sustainable Building Research

College of Design
UNIVERSITY OF MINNESOTA



BPS Timeline in MN

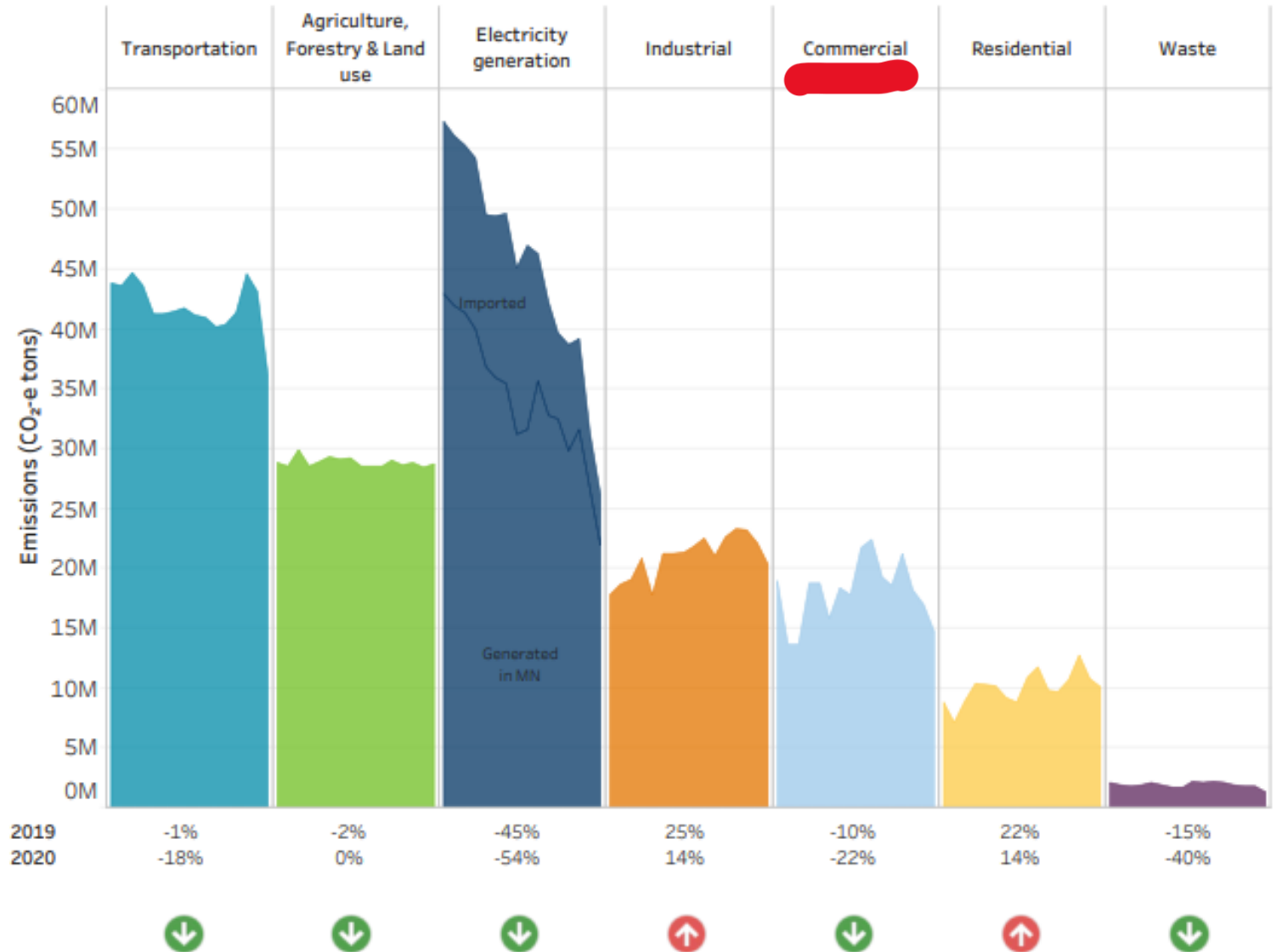




Clarifying Questions

Minnesota's [2023 biennial greenhouse gas emissions reduction report](#)

Large existing buildings emit a lot of greenhouse gases



Direction from Climate Action Framework

Measures of progress



By 2040, all of Minnesota's electricity is carbon-free.



By 2030, weatherize a quarter of dwellings where occupants earn 50% or less of the state median income.



By 2035, reduce GHG emissions from existing buildings by 50% compared to 2005 levels.



By 2030, reduce thermal GHG emissions by at least 20%, compared to 2005 levels.



By 2030, reduce energy use by 10% and total waste heat and waste electricity by 15%, compared to 2005 levels.



By 2030, reduce the energy burden so at least 80% of Minnesotans spend less than 5% of their household income on energy costs.



By 2030, reduce statewide primary energy usage by 10%, compared to 2005 levels.

Reducing
building
energy-related
emissions
creates
additional
benefits

EXPAND LOCAL JOBS

IMPROVED BUILDING OPERATION

IMPROVED ENERGY BILL MANAGEMENT

IMPROVED OCCUPANT HEALTH AND
COMFORT

Let's dig into
the bill!

- HF5423 / SF5533
- Introduced late in session
- Sen. McEwen
- Focused at large, existing buildings

What do we mean by “large existing buildings?”

- Structures that use energy and have existed for one year or longer
- Commercial and multifamily buildings
- Generally, 50,000 sq. ft. and larger

Same definition as used in Commercial Building Benchmarking law passed in 2023

Building performance standards (BPS)

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Image source: Institute for Market Transformation

BPS
components

IMPACTED BUILDINGS

METRICS

TARGETS

TIMELINE

COMPLIANCE

COMPLIANCE SUPPORT

Impacted Buildings

Large private commercial



Large public



Large Private multifamily



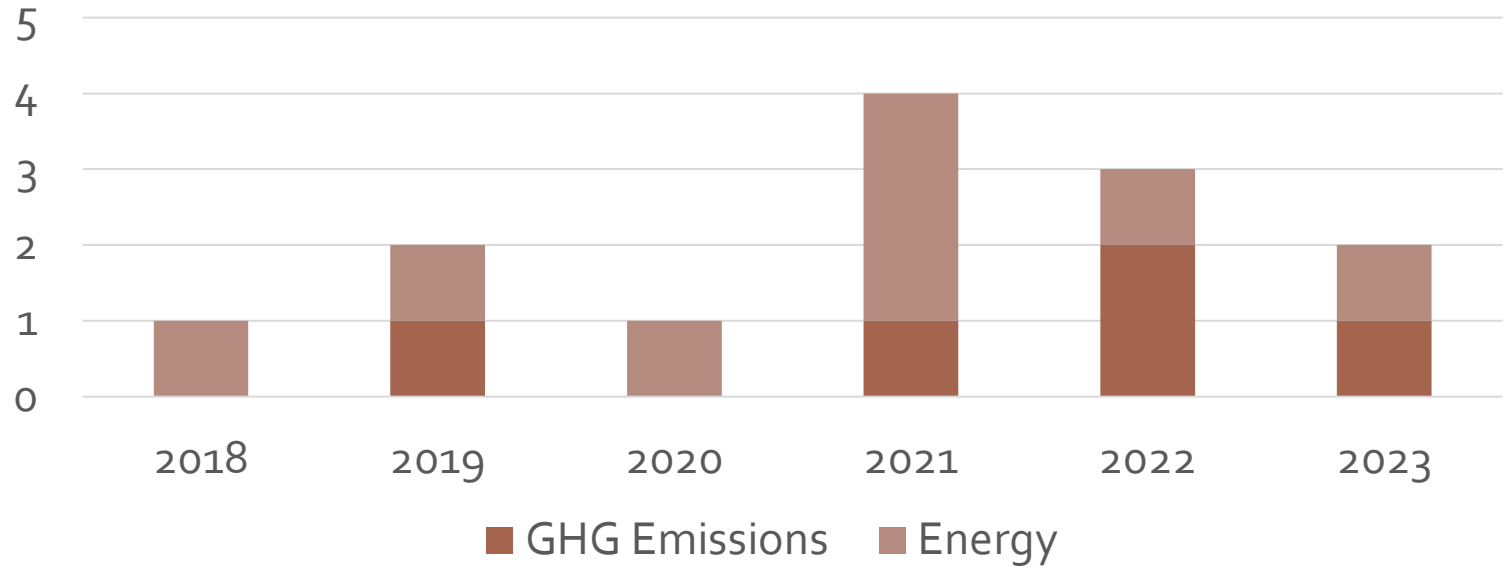
Size and type cohorts

- Building cohorts have different timelines and targets
 - Allows for more feasible implementation
- MN's BPS bill has three cohorts
 - Public buildings 50k+ sqft
 - Commercial + residential 100k+ sqft
 - Commercial + residential 50k+ sqft



Metrics

Nationwide Count of Policies with Energy vs GHG Emissions Metrics



The MN bill includes greenhouse gas emissions AND energy use intensity metrics.

Overall standard and performance targets

- An overall standard is the performance level required for the collective of properties for compliance.
- A performance target is the individual property performance level required for compliance.
- Performance targets can be created based on many factors including but not limited to:
 - Building size
 - Type
 - Affordable housing

MN BPS Bill Target and Timeline Approach

- Sets overall targets of:
 - 90% GHG reduction from 2005 baseline by 2045
 - 30% EUI reduction from 2005 baseline by 2045
- Directs the Dept of Commerce to establish interim 5-year targets through 2045 through rule making process in consultation with an advisory committee
 - Commerce may determine which criteria to use, such as type, operation, etc.

Interim Milestone	1	2	3	4
Public 50k+	2028	2033	2038	2043
Private 100k+	2029	2034	2039	2044
Private 50k+	2030	2035	2040	2045

Compliance

- Achieve the performance target by the compliance date

OR

- Pay a penalty

OR

- Get an extension or exemption

Penalty (Compliance payment)

- Based on differential between the target and building's performance in compliance year.
- \$ factors determined by the Dept. in rulemaking
 - EUI up to \$0.70/kbtu
 - GHG based on PUC greenhouse gas emissions valuation adopted under section 216B.2422, subdivision 3
- EUI penalties only apply if GHG target is met but EUI is not AND if building is in lower half of Benchmarking rankings

Penalty Scenarios

Building	Meets EUI Target?	Meets GHG Target?	Penalty
A	Y	Y	None
B	N	Y	EUI-based penalty
C	Y	N	GHG-based penalty
D	N	N	GHG-based penalty

Exemptions, Extensions, Adjustments in MN BPS bill

Exemptions available for buildings experiencing:

- Financial distress
- <50% occupancy
- Have demolition permit
- Haven't used energy in 30 days
- Meeting target would cause financial hardship

Extensions available for buildings:

- That apply in a timely manner and as approved by commissioner
- Affordable housing using federal financing

Adjustments available for buildings:

- That apply in a timely manner and as approved by commissioner

Incentives and compliance support

- Building owner technical support
 - BPS Hub – State is seeking federal IRA funding
- Building owner financial support
 - Utility programs / ECO
 - The MN BPS bill explicitly states that nothing in the bill prohibits utilities from providing incentives that help toward compliance
 - Other (grant program?) TBD



BPS Hub Example

Building Performance Implementation



Technical Assistance for Under resourced buildings



Financing & Funding database



Case studies



Building Efficiency Resources

Hubs Provide:



Vendor matchmaking and workforce development



High-performance building trainings



Performance-based Leasing

Existing BPS Hubs

 <p>be ex building energy exchange</p>	 <p>Building Innovation Hub</p>	 <p>be ex building energy exchange Kansas City ></p>	 <p>DENVER CLIMATE ACTION, SUSTAINABILITY & RESILIENCY</p>
<p>New York City</p>	<p>Washington DC</p>	<p>Kansas City</p>	<p>Denver*</p>
		 <p>be ex building energy exchange St. Louis ></p>	 <p>ILLINOIS GREEN ALLIANCE</p>
		<p>St. Louis</p>	<p>Chicago</p>

• Source IMT

Building Performance Advisory Committee

Duties

- Advise on implementation
- Recommend performance standards for different building types
- Review / Comment on building performance action plans
- Recommend procedures for exemptions / extensions / adjustments

Membership

- Commissioner/designee
- Utility providing gas service
- Utility providing electric service
- Energy efficiency provider
- Renewable energy provider
- Building designer
- Building engineer
- Building operations manager
- Labor union rep
- Building owner
- Affordable housing building owner
- Affordable housing tenant
- Climate nonprofit
- Environmental justice non profit
- Univ of MN Center for Sustainable Building Research
- Local government



Questions



Next Steps

- CEE will host the next discussion the end of August with Rep. Kraft and any interested stakeholders
- We will host up to 5 meetings by the end of the year depending upon need and interest.



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**THANK
YOU!**

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