

# Energy Code Update Briefing



MN Board of Electricity

**m** DEPARTMENT OF  
LABOR AND INDUSTRY

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# MN State Building Code and Electrical Provisions

- MR 1300.0050, Subpart 1 includes MR 1315 as part of the State Building Code.
- MR 1305 MN Building Code Chapter 27 contains electrical requirements for the State of Minnesota and refers to NFPA 70 as the primary reference document.
- Consider amending Chapter 27 to include a direct reference to MR 1322 and MR 1323 to clarify inclusion of scoping for electrical provisions.
- MS 326B.32, Subd. 2 (3) Charges the board with adopting the most current NEC and any amendments.

# MN State Building Code and Electrical Provisions

Consider modifying the statutory scoping as follows:

- Subd. 2. **Powers; duties; administrative support.**
- (a) The board shall have the power to:
  - (1) elect its chair, vice-chair, and secretary;
  - (2) adopt bylaws that specify the duties of its officers, the meeting dates of the board, and containing other provisions as may be useful and necessary for the efficient conduct of the business of the board;
  - (3) adopt the electrical provisions of the Minnesota State Building Code as the Minnesota Electrical Code, which must ~~be~~ include the most current edition of the National Electrical Code and any amendments thereto. The board shall adopt the most current edition of the National Electrical Code and any amendments thereto pursuant to chapter 14 and as provided in subdivision 6, paragraphs (b) and (c);



	← LEAST EFFICIENT		→ MOST EFFICIENT	
	Incandescent	Halogen	CFL	LED
450 lumens	40W	29W	9W	7W
800 lumens	60W	43W	14W	10W
1,100 lumens	75W	53W	19W	17W
1,600 lumens	100W	72W	23W	20W



# Legislative Changes- Energy Efficiency Goals



# Legislative Initiatives

- Commercial Energy 80% efficiency improvement over 2006 ASHRAE 90.1-2004 baseline by 2036.
- Residential Energy 70% efficiency improvement over 2006 IECC baseline by 2038.
- Electric Vehicle Charging required for parking associated with MR 1305 Bldgs



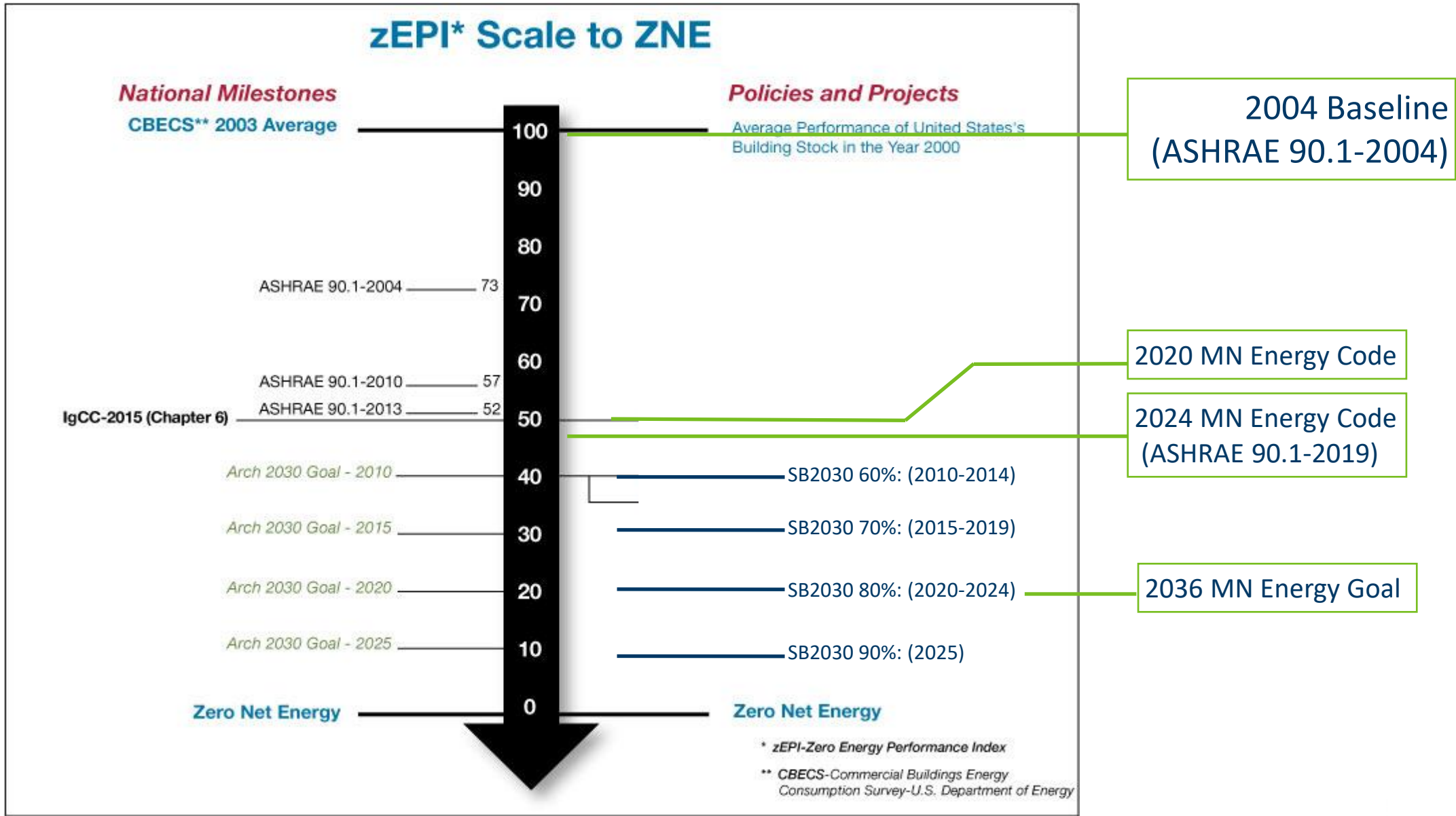
# Commercial Energy Code Optimized by 2036

## Legislative mandate:

- Adopt each successive code (3-year cycle) with amendments to meet a 2036 goal of 80% greater efficiency than buildings constructed per 2004 ASHRAE 90.1
- Last Adopted ASHRAE 90.1-2019 on 1/5/24 and amended to strengthen
- Will start review of ASHRAE 90.1-2022 in January 2025 (2027 release)
- Anticipate 20% energy efficiency improvement over the 2024 code

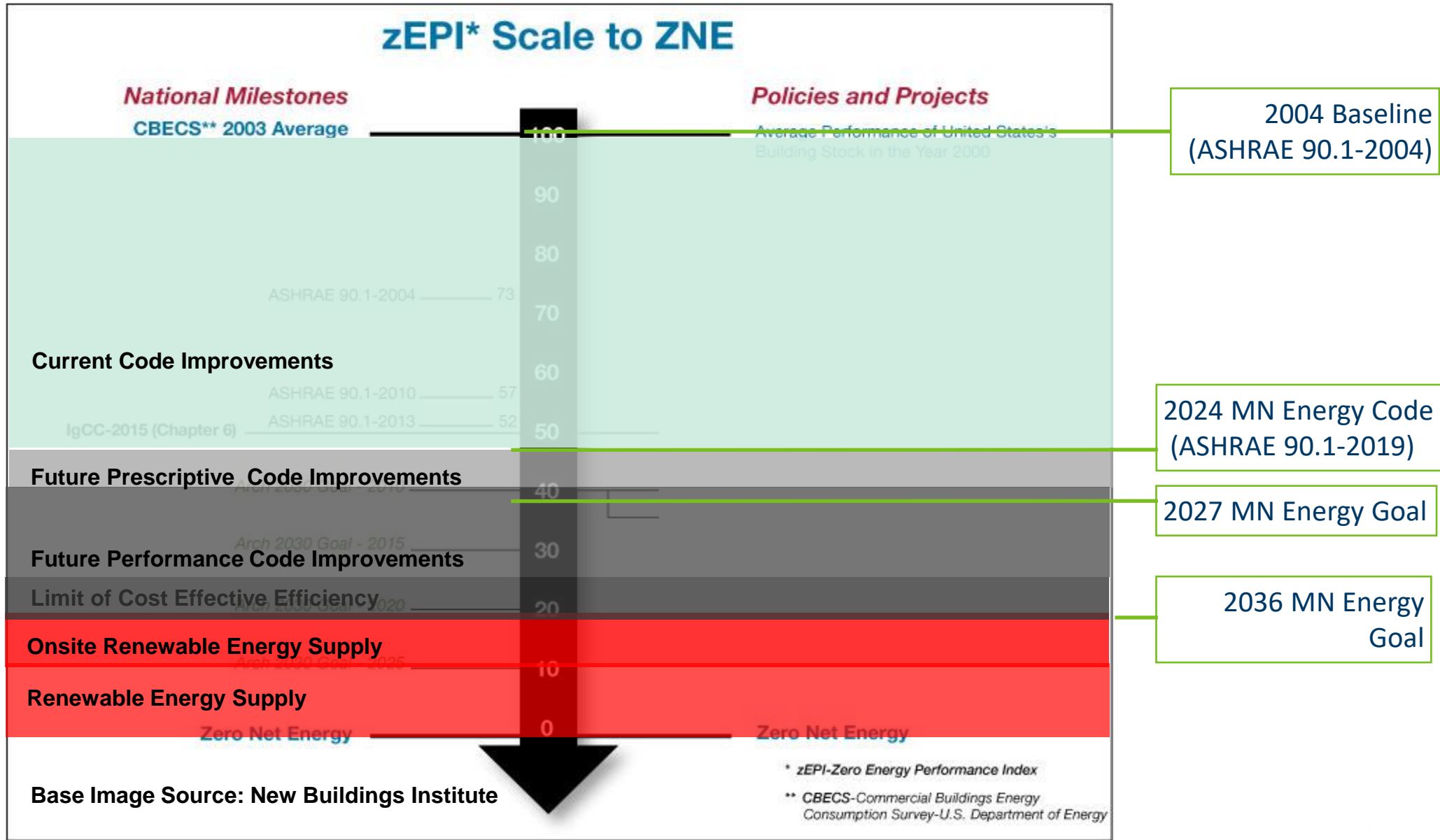


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# Commercial Energy Electrical Items to Anticipate

- Feeder conductors and branch circuits combined shall be sized for a maximum 5% voltage drop total.
- Electrical energy monitoring required on new construction over 25,000 SF, and tenant improvement spaces over 10,000 square feet to separately monitor energy consumption for:
  - Total electrical energy
  - HVAC systems
  - Interior lighting
  - Exterior lighting
  - Receptacle circuits

# Commercial Energy Electrical Items to Anticipate

- Limits to lighting power density (allowable watts per square foot) by occupancy group for both interior and exterior lighting
- Lighting controls to dim or turn off exterior lighting
- Lighting controls to dim or turn off lighting in interior areas
- Daylighting controls as a performance method option
- “Standby mode” for elevators to turn off lighting and ventilation after 15 minutes of no use.
- Electrical motor efficiency requirements

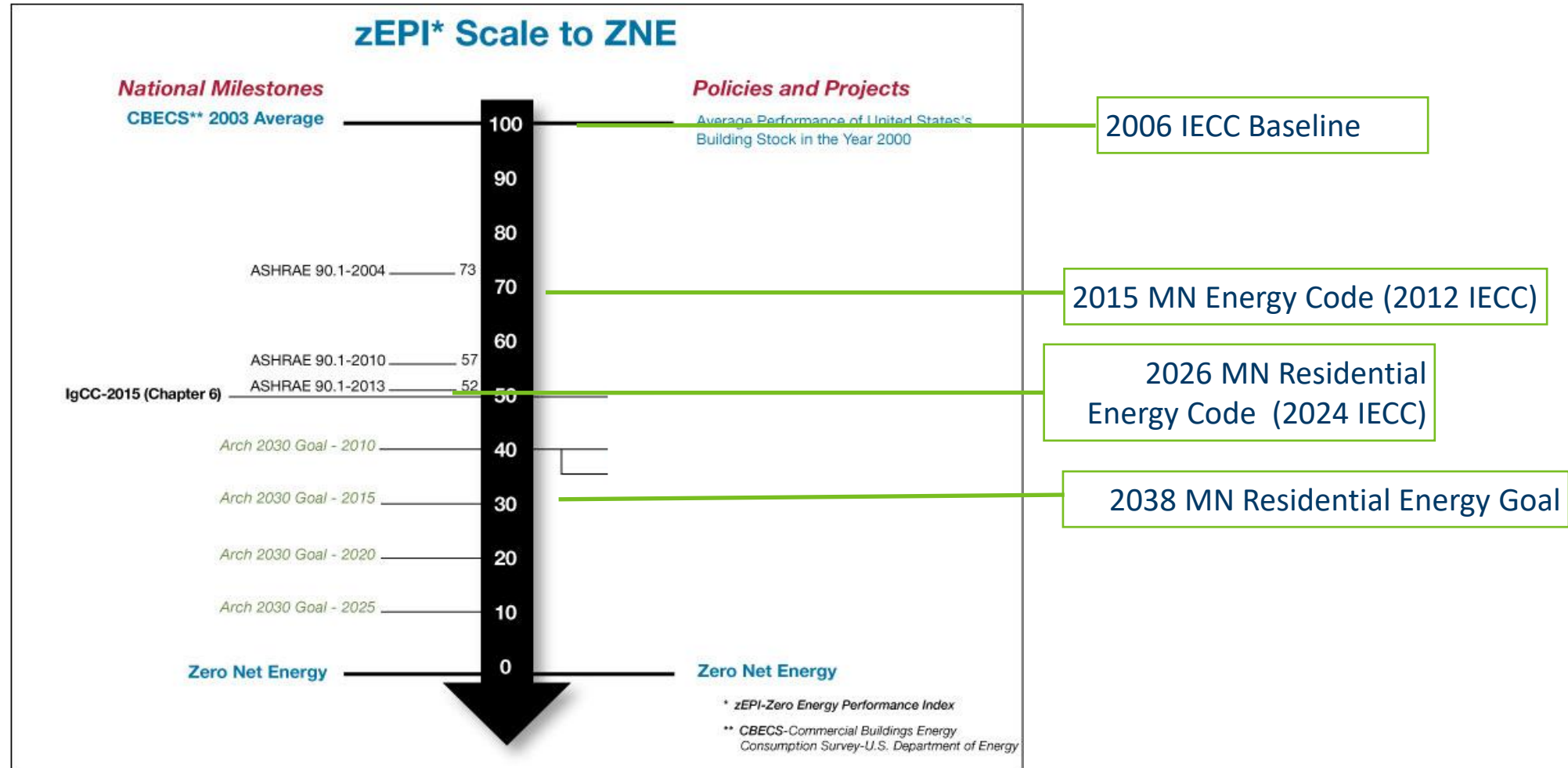
# Residential Energy Code Optimized by 2038

## Legislative mandate:

- Adopt each successive code (3-year cycle) with amendments to meet a 2038 goal of 70% greater efficiency than buildings constructed per 2006 IECC
- Last Adopted 2012 IECC in 2015
- Will start review of 2024 IECC later this month (2026 release)



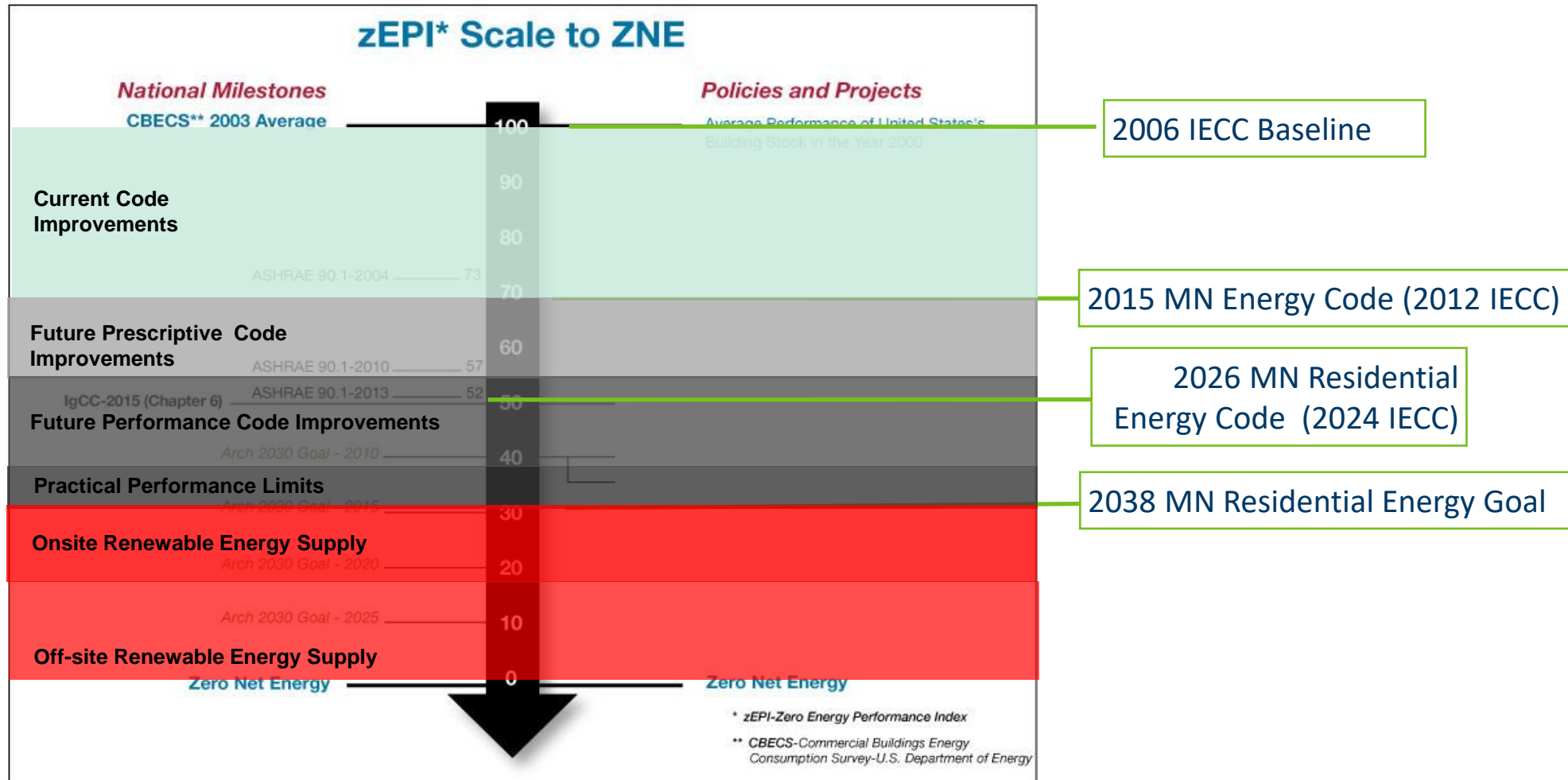
# MN Residential Energy Code Plan



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# MN Residential Energy Code Plan



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# Electric Vehicle Charging

## Legislative mandate:

- The state building code shall require a minimum number of electric vehicle ready spaces, electric vehicle capable spaces and electric vehicle charging stations either within or adjacent to new commercial and multi-family structures that provide on-site parking facilities. Residential structures with fewer than four dwelling units are exempt.

Note: Not legislatively required, but the 2024 TAG for MR 1309 will be including language to require a conduit to be run from the house power panel to an on-site parking location if there is one. No increase in panel capacity required.



# EV Charging Facilities



## EVSE-Installed, EV-Ready and EV Capable Space Requirements<sup>a</sup>

<u>Total Number of Parking Spaces</u> (including charging spaces)	EVSE-Installed <sup>b</sup>	EV Ready	EV Capable <sup>c</sup>
5-25	0	0	2 ( <u>1</u> )
26-50	2 ( <u>1</u> )	3	8
51-75	3 ( <u>1</u> )	2	11
76-100	4 ( <u>1</u> )	3	15
101-150	6 ( <u>1</u> )	5	23
151-200	8 ( <u>2</u> )	6	30
201-300	12 ( <u>2</u> )	9	45
301-400	15 ( <u>2</u> )	11	62
401-500	20 ( <u>2</u> )	15	75
501+	20 + 2% > 500 ( <u>2 + 5 % &gt; 500</u> )	15 + 1.5% > 500	75 + 7% > 500

# EV Charging Facilities: TAG Recommendations

Fast Charging Alternative Criteria	Total number of parking spaces	Total <u>Minimum</u> kVA required in any combination of <u>EVSE Installed Level 2<sup>a</sup></u> , or DCFC, EV Ready, or EV Capable at 7.2 kVA	<u>Minimum required kVA for EVSE Installed Level 2 or DCFC Spaces<sup>b</sup></u>
	5-25	14.4	<u>0</u>
	26-50	93.6	<u>23.4</u>
	51-75	115.2	<u>28.8</u>
	76-100	158.4	<u>39.6</u>
	101-150	244.8	<u>61.2</u>
	151-200	316.8	<u>79.2</u>
	201-300	475.2	<u>118.8</u>
	301-400	633.6	<u>158.4</u>
	401-500	792	<u>198</u>
501+	10.5% of number of spaces x 7.2 + 792	<u>2% of the number of spaces x 7.2 + 198</u>	

EVSE Installed Accessible Space Requirements	
Total Number of Parking Spaces (including EV Spaces)	Min. Number of EVSE- Installed Accessible Spaces
5-25	0 <sup>a</sup>
26-150	1
151-500	2
501+	2 + 5% >500

a. One EVSE-Capable Stall shall be accessible.

a. Level 2 EVSE = 7.2kVA Minimum.      b. At least (1) but not less than 25% shall be Level 2



# Questions

