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Proposed Change 2016

Code Reference(s):	**NECB20 Div.A 1.4.2.1.(1) (first printing)** **NBC20 Div.A 1.4.2.1.(1) (first printing)**
Subject:	Greenhouse Gas Emissions
Title:	New Abbreviations Related to Operational GHG Emissions
Description:	This proposed change updates the list of symbols and abbreviations in the NBC and NECB.
Related Proposed Change(s):	PCF 1820, PCF 1843, PCF 1989, PCF 2003, PCF 2004, PCF 2026

This change could potentially affect the following topic areas:

- [x] Division A
- [ ] Division B
- [ ] Division C
- [x] Design and Construction
- [x] Building operations
- [x] Housing
- [x] Small Buildings
- [x] Large Buildings
- [ ] Fire Protection
- [ ] Occupant safety in use
- [ ] Accessibility
- [ ] Structural Requirements
- [ ] Building Envelope
- [x] Energy Efficiency
- [x] Heating, Ventilating and Air Conditioning
- [ ] Plumbing
- [ ] Construction and Demolition Sites

Problem

Proposed changes developed for the 2025 edition of the National Building Code of Canada (NBC) and National Energy Code of Canada for Buildings (NECB) introduce new abbreviated terms to quantify operational greenhouse gas (GHG) emissions. While these abbreviations, such as “CO2e”, “GHG”, “GJ” and “kWh”, are commonly used in the industry, they are not assigned meaning in the NBC and NECB, which could result in confusion leading to improper application of Code provisions.

Justification

Providing the meaning of new abbreviated terms used in the technical requirements of the NBC and NECB to quantify operational GHG emissions would

- standardize terminology,

- enhance clarity,
- facilitate interpretation of, and compliance with, the requirements,
- ensure consistency,
- reduce confusion, and
- foster streamlined communication among Code users.

PROPOSED CHANGE

NECB20 Div.A 1.4.2.1.(1) (first printing)

[1.4.2.1.] 1.4.2.1. Symbols and Other Abbreviations

[1] 1) The symbols and other abbreviations in this Code shall have the meanings assigned to them in this Article and Article 1.3.2.1. of Division B.

A	ampere(s)
a	annum (year)
Btu	British thermal unit(s)
cfm	cubic feet per minute
CH	*ceiling height*
CO_2e	carbon dioxide equivalent
COP	*coefficient of performance*
°	degree(s) (of an angle)
°C	degree(s) Celsius
°F	degree(s) Farenheit
db	dry bulb (temperature)
E_c	*combustion efficiency*
E_t	*thermal efficiency*
EER	*energy-efficiency ratio*
EF	*energy factor*
ft.	foot (feet)
g	gram(s)

GHG	greenhouse gas
GJ	gigajoule(s)
gpm	gallon(s) per minute
>	greater than
≥	greater than or equal to
h	hour(s)
HVAC	heating, ventilating and air-conditioning
IEER	*integrated energy-efficiency ratio*
IPLV	*integrated part-load value*
K	Kelvin
kg	kilogram(s)
kJ	kilojoule(s)
kVA	kilovolt ampere(s)
kW	kilowatt(s)
kWh	kilowatt-hour(s)
<	less than
≤	less than or equal to
L	litre(s)
lb.	pound(s)
LPD	lighting power density
lx	lux
m	metre(s)
max.	maximum
MBH	mega Btu/h
min.	minimum
min	minute(s)
mm	millimetre(s)
No.	number

o.c.	on centre
Pa	pascal(s)
%	per cent
R	thermal resistance value (imperial unit)
RSI	thermal resistance value (metric unit)
s	second(s)
SCOP	seasonal *coefficient of performance*
SEER	*seasonal energy-efficiency ratio*
SL	*standby losses*
Δt	temperature difference
US gal.	US gallon(s)
U-value	*overall thermal transmittance*
V	volt(s)
V_t	storage volume
W	watt(s)
wb	wet bulb (temperature)

NBC20 Div.A 1.4.2.1.(1) (first printing)

[1.4.2.1.] 1.4.2.1. Symbols and Other Abbreviations

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1 in 2	slope of 1 vertical to 2 horizontal
cm	centimetre(s)
CO_2e	carbon dioxide equivalent
°	degree(s)
°C	degree(s) Celsius
dBA	A-weighted sound level
diam	diameter

g	gram(s)
GHG	greenhouse gas
GJ	gigajoule(s)
h	hour(s)
HDD	heating degree-day(s)
HVAC	heating, ventilating and air-conditioning
Hz	hertz
J	joule(s)
K	degree(s) Kelvin
kg	kilogram(s)
kN	kilonewton(s)
kPa	kilopascal(s)
kW	kilowatt(s)
kWh	kilowatt-hour(s)
L	litre(s)
lx	lux
m	metre(s)
M	metric nomenclature for reinforcing bars
max.	maximum
min.	minimum
min	minute(s)
MJ	megajoule(s)
mm	millimetre(s)
MPa	megapascal(s)
N	newton
n/a	not applicable
ng	nanogram(s)
No.	number(s)

o.c.	on centre
OSB	oriented strandboard
PM	particulate matter
ppb	part(s) per billion
ppm	part(s) per million
R	thermal resistance value (imperial unit)
RSI	thermal resistance value (metric unit)
s	second(s)
W	watt(s)
%	percent
µg	microgram(s)
µm	micrometre(s)
U-value	overall thermal transmittance

Impact analysis

This proposed change would add consistency and eliminate any potential ambiguity in the interpretation of various NBC and NECB requirements containing the abbreviations.

Providing the meaning of the abbreviations would not have a negative impact on building design; and, therefore, should not result in any additional costs in the design of a particular project.

Enforcement implications

This proposed change increases clarity and consistency, thereby reducing ambiguity in Code interpretation. There should not be any resulting enforcement implications.

Who is affected

Designers, engineers, architects, builders and building officials.