

Energy Code Background

The National Energy Code of Canada for Buildings (NECB) includes minimum requirements for energy efficient design and construction of large buildings (known as Part 3 buildings). The National Building Code sets energy efficiency requirements for smaller buildings (known as Part 9 buildings).

Part 3 Large Buildings

Part 3 buildings include those over 600 metres squared (m²), three stories tall or those with major occupancies such as high-hazard industrial buildings, medical facilities, and fire stations, regardless of their size. Most commercial buildings, apartments, and institutional buildings fall under the Part 3 classification. The 2020 NECB includes four energy performance tiers with gradually increasing stringency (see Table A1-1 below).

Part 9 Smaller Buildings

Section 9.36 of the National Building Code includes the requirements for Part 9 buildings, which include buildings which are smaller than 600 metres squared (m²) and shorter than three stories, and with only the following occupancies: residential, business and personal services, mercantile, medium or low-hazard industrial. Most homes (single family, duplex, row house, small apartment buildings) fall under Part 9. The 2020 code includes five energy performance tiers with gradually increasing stringency, as well as envelope performance requirements starting at Tier 2 (see Table A1-2 below). Tier 1 has comparable performance to the current 2017 Alberta code.

Energy Performance Background

The energy performance tiers for both Part 3 and Part 9 buildings are intended to result in a net-zero ready building at the highest tier. Electrification of heating systems, such as with heat pumps, will be required to achieve higher tiers.

In addition to the introduction of performance tiers, the 2020 code also includes the following changes compared to earlier codes¹:

- renovations of existing buildings which require permits are now required to comply with the new energy code requirements

¹ National Energy Code of Canada for Buildings 2020
<https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-canada-publications/national-energy-code-canada-buildings-2020>

Attachment 1

- whole-building airtightness testing is introduced as an option for complying with air leakage requirements
- higher requirements for building assemblies, windows, and lighting power
- updated requirements for heating, ventilation, air conditions and service water equipment

Alberta is a participating province in the Reconciliation Agreement on Construction Codes, which agrees to identify, reduce, and eliminate variations between provincial codes and the model code by 2025, and minimize future variation.

The next model code, the 2025 proposed model code is expected to include operational greenhouse gas technical requirements. Future code updates may also include additional requirements such as for air exchange limits.

Energy Performance Tiers

Table A1-1 shows the energy improvement for each energy performance tier, compared to a reference building, as per the National Building Code of Canada 2020 and National Energy Code of Canada 2020.

Table A1-1. National Energy Code of Canada Part 3

Per cent energy improvement over reference building (Large buildings >600m²)

Energy Performance Tier	Overall Energy Performance Improvement
1	≥0%
2	≥25%
3	≥50%
4	≥60%

Attachment 1

Table A1-2. National Building Code Part 9

Performance Tiered Energy Compliance Path (Small Buildings and Houses <600 m²)¹

Energy Performance Tier	Overall Energy Performance Improvement	Envelope Performance Improvement
1	≥0%	N/A
2	≥10%	≥5%
3	≥20%	≥10%
4	≥40%	≥20%
5	≥70%	≥50%

¹ For small buildings and houses with a volume greater than 300 metres cubed (m³) (applicable to the large majority of new houses)