Energy Code Compliance Overview

Building Type	Part 9 – Prescriptive	Part 9 - Performance	NECB 2020
• Houses, houses with Secondary Suites • Buildings containing only dwelling units with common spaces ≤ 20% floor area	✓	✓	✓
• Purely residential buildings • Any building, where all non-residential portions (not F2) have a floor area ≤ 300 m2	✓		✓
• Any building where non-residential occupancies have a floor area ≥ 300 m2 • Buildings containing F2 occupancies (any size)			✓

Cochrane, AB – 5200 Degree Days (Zone 7A)

Section 9.36 National Building Code 2019 (AB Edition)

Any building permit application received after May 1st 2024 will be required to comply with 9.36 of the NBC 2023 (AB Edition) regardless of Development Permit application date.

There are four paths that you can choose to demonstrate compliance with Section 9.36. This is a critical decision for the designer and can affect submission requirements. The various compliance path types are prescriptive, trade-off, and performance compliance and NECB 2020.

Prescriptive path

This path involves following the prescriptive requirements of Subsection 9.36.2, 9.36.3 and 9.36.4. It is typically the simplest compliance path to follow but may not be appropriate for all buildings.
It is important to note that prescriptive path compliance for any part of the 9.36 requires meeting all requirements in that part. If this is impossible or undesirable, another compliance path should be selected.

Trade-off path

If you need more flexibility in your design, a trade-off path allows you to trade elements within the above ground building envelope to demonstrate an equivalent level of performance without meeting every prescriptive requirement found in 9.36.2. Trade-off path requires a calculation to demonstrate that while your proposed design may not exactly meet the prescriptive requirements found in Section 9.36 overall, the amount of energy consumed will be the same or less than would be consumed by following strict prescriptive compliance. For example, if your design contains a regular framed wall with studs at 24” on the center and a tall wall with studs at 12” on the center, you may be able to compensate for the lesser value of the tall wall by improving the insulation in the regular wall or improving the thermal performance of the ceiling.

It is important to note that the trade-off path has limitations and rules on how to calculate what may be traded off. These limitations are found in Section 9.36.2.11.

Performance path
For the most design flexibility, you could choose to use a performance compliance path. This approach is found in subsection 9.36.5 and is only applicable to houses and buildings containing residential occupancies.
For the performance compliance path, you must demonstrate that the proposed design will not consume more energy than an equivalent building built to prescriptive requirements, using an approved building energy simulation tool (computer software must meet the ANSI/ASHRAE 140 standard). Performance compliance can allow for trade-offs between building systems and might be the only compliance path that is practical for certain buildings.

National Energy Code for Buildings 2020

While this may be considered overly complex for the typical house or small commercial building, it is permitted to use the NECB as a means of demonstrating compliance with Section 9.36. If you choose this path, it is important to understand you must use the NECB fully. It is not permitted to use parts of 9.36 and the NECB in combination to show compliance.

Relationship with NBC(AE) 2023
Where the requirements of this Code are in conflict with the requirements of the NBC, the requirements providing the greatest performance level shall govern.

Prescriptive path
This path involves following the prescriptive requirements of Sections 3.2, 4.2, 5.2, 6.2 and 7.2 of the NECB. It is typically the simplest compliance path to follow but may not be appropriate for all building types.
Prescriptive path checklists are available to help applicants identify specific articles in the code. It is important to note that prescriptive path compliance for any part of the NECB requires meeting all requirements in that part. If this is impossible or undesirable, another compliance path should be selected.

Trade-off path
If you need more flexibility in your design, a trade-off path allows you to trade elements within the same part of the energy code and demonstrate an equivalent level of performance without meeting every prescriptive requirement found in the NECB. For example, if your design calls for more window area than prescribed by the code, you may be able to compensate by improving the insulation in the building envelope or improving the thermal performance of the windows themselves. Basically, the trade-off path is a calculation to demonstrate that while your proposed design may not exactly meet the prescriptive requirements found in the NECB overall, the amount of energy consumed will be the same or less than the following strict prescriptive compliance.
It is important to note that the trade-off path has limitations and rules on how to calculate what may be traded off within each Part. These limitations are found in Sections 3.3, 4.3, 5.3 and 6.3 of the NECB. To make the calculations easier, there are downloadable trade-off path calculation tools to assist you with this compliance path.

Performance path
For the most design flexibility, you should choose to use a performance path. This includes the detailed envelope trade-off path and building energy performance compliance paths. These approaches are found in subsection 3.4, 4.4, 5.4, 6.4, 7.4, and Part 8 of the NECB.
For the NECB 2020, you must simply demonstrate that the proposed design will not consume more energy than an equivalent building built to prescriptive requirements using an approved hourly building energy simulation tool (computer software must meet the ANSI/ASHRAE 140 standard). Performance compliance can allow for trade-offs between building systems and might be the only compliance path available for certain building types.