NEW BRUNSWICK INSULATION

Building Code & R-Values

NB Building Code insulation requirements, minimum R-values, energy code compliance, and Climate Zone 6 standards

17 Expert Answers from Insulation IQ

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Table of Contents

Q1

What are the NB building code minimum R-value requirements for walls in a new mini home installation?

New mini homes in New Brunswick must meet R-22 to R-28 effective thermal resistance for above-grade exterior walls under the current NB Building Code. This applies to all new residential construction including mini homes, manufactured homes, and modular homes installed on permanent foundations.

The **"effective" R-value requirement** is crucial because it accounts for thermal bridging through the wall framing. A standard 2x6 wall with R-22 batts between the studs only achieves about R-16 effective performance because the wood studs (roughly R-6) create thermal bridges that bypass the insulation. To meet true R-22 effective performance, the wall assembly needs either:

- **2x6 construction with R-22 batts plus R-5 continuous exterior insulation** (rigid foam or mineral wool over the sheathing)
- **2x8 construction with R-28 batts** (less common due to material costs)
- **Advanced framing techniques** with 2x6 studs at 24-inch centers plus continuous insulation

  Most **quality mini home manufacturers** now build walls with 2x6 framing, R-22 batt insulation, and 1-2 inches of continuous exterior insulation (XPS or polyiso rigid foam) under the siding. This assembly meets code requirements and performs well in New Brunswick's Zone 6 climate with its 4,800-5,200 heating degree days annually.

  Mini home-specific considerations include ensuring the vapour barrier (6-mil polyethylene) is properly installed on the interior side of the wall assembly and that all electrical penetrations are sealed. Factory-built mini homes typically have better air sealing than site-built homes because the walls are assembled in controlled conditions, but the foundation connection and any site modifications must maintain this air barrier continuity.

  Before purchasing a mini home, verify that the manufacturer provides documentation showing the wall assembly meets NB Building Code thermal requirements. Some lower-cost mini homes still use 2x4 construction with R-12 insulation, which does not meet current code for new installations and will result in high heating costs and poor comfort in New Brunswick's cold winters.

  The **foundation and floor assembly** also requires insulation — typically R-20 under the floor and R-17 for any basement or crawl space walls. Many mini homes use a frost-protected shallow foundation or full basement, both of which need proper insulation to prevent heat loss and frost damage in New Brunswick's 4-5 foot frost depth.

For mini home installation, ensure your contractor understands these code requirements and that the local building inspector will verify compliance before issuing occupancy permits. Mini homes that don't meet current insulation standards will be expensive to heat and may have difficulty qualifying for NB Power rebates or mortgage financing.

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Q2

What R-value does the NB Building Code require for new home walls? | Insulation IQ?

The **New Brunswick Building Code** sets minimum wall insulation requirements based on the province's cold-climate classification. For above-grade walls in a new residential home, the effective thermal resistance must meet a minimum of **R-24** when using a **prescriptive compliance path**. This value must be achieved as an **effective R-value** — meaning it accounts for thermal bridging through the framing, not just the insulation material's nominal rating.

In practice, a standard 2×6 stud wall filled with **R-22 batt insulation** (mineral wool or fiberglass) does not fully meet this requirement on its own, because the wood studs themselves conduct heat and reduce the wall's overall performance. A 2×6 stud wall at 16 inches on-centre achieves an effective R-value closer to R-18 to R-20 once framing is factored in. To reach the required effective R-24, builders typically combine an insulated cavity with a layer of **continuous rigid foam insulation** on the exterior, often 1 to 1.5 inches of extruded polystyrene (XPS) or polyisocyanurate board, which adds roughly R-5 to R-10 while also breaking the thermal bridge at the studs.

Another compliant approach is a **2×6 advanced framing wall** (sometimes called optimum value engineering, or OVE framing) with 24-inch on-centre studs, which reduces the percentage of framing and improves the cavity-to-stud ratio. Combined with high-density batt insulation or **closed-cell spray foam**, these assemblies reliably meet or exceed the R-24 effective threshold.

It is worth noting that the NB Building Code also permits **performance-based compliance** through energy modelling under Part 12 (energy efficiency). Under this path, a builder can demonstrate that the whole-house energy performance meets or exceeds the Code target, which allows some trade-offs between components — a wall that falls slightly short of R-24 effective might be acceptable if the attic, foundation, and windows perform above minimums. This approach is more common on custom builds in Fredericton and Saint John where designers run full HOT2000 energy models.

The R-24 effective wall requirement aligns with **NBC 2020 Part 9 prescriptive requirements for Climate Zone 6**, which is the zone applicable to most of New Brunswick. Some northern and inland areas of the province experience even harsher winters and may be treated as Zone 7 by energy-conscious builders, though the provincial code currently does not mandate a zone split within New Brunswick.

For renovations and additions, the requirements are slightly different — existing walls that are being re-insulated do not always need to reach the full prescriptive minimum, particularly if the existing framing constrains the upgrade. However, any new wall assembly in an addition must meet current Code minimums.

Builders and homeowners in Moncton, Fredericton, Riverview, and across the province should also be aware that **NB Power's residential energy programs** and the **Canada Greener Homes Grant** both reward wall assemblies that exceed the Code minimum. Achieving R-28 or better in walls — for example, by using 2 inches of exterior rigid insulation over R-22 batts — can unlock higher rebate tiers, making the additional material cost cost-effective over time.

If you are planning new construction or a major renovation and want to confirm your wall assembly meets current NB requirements, the professionals listed on **New Brunswick Insulation** can assess your project and recommend the most cost-effective path to compliance.

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Q3

What climate zone is New Brunswick in for insulation code purposes? | Insulation IQ?

New Brunswick falls primarily within **Climate Zone 6** under the National Building Code of Canada (NBC) and the provincial NB Building Code. This classification is based on **heating degree days (HDD)**, a measure of how much cold weather accumulates over a year and how hard a building's heating system must work. Zone 6 corresponds to locations with approximately **5,000 to 7,000 HDD on the base-18°C scale**.

To put this in perspective, Moncton averages roughly 4,600 HDD, Fredericton approximately 4,900 HDD, and Saint John around 4,500 HDD — all solidly within Zone 6 territory. Inland and northern parts of the province, such as the upper Saint John River valley near Edmundston and the Restigouche region, can experience considerably colder winters and approach the boundary with **Zone 7**, which begins at approximately 7,000 HDD. Some energy modellers and insulation contractors working in those areas voluntarily apply Zone 7 standards even though the Code technically places the entire province in Zone 6.

Climate zone classification matters enormously for insulation because the NBC prescribes **different minimum R-values for each zone**. The colder the zone, the higher the required thermal resistance for walls, attics, floors over unheated spaces, and foundations. For Zone 6 in New Brunswick, the prescriptive minimums under Part 9 of the NBC are:

- **Attic/ceiling:** R-50 effective
- **Above-grade walls:** R-24 effective
- **Basement walls (below grade):** R-17 effective
- **Floors over unheated spaces (crawlspaces, garages):** R-28 effective

  These values are **effective R-values**, not nominal. Effective R-value accounts for thermal bridging through framing members, so the actual insulation material inside a cavity needs to be rated higher than these figures to ensure the assembly as a whole meets the threshold.

  The Zone 6 designation also directly influences **vapour barrier requirements**. Because New Brunswick winters are long and cold, interior moisture control is critical. The Code requires a **vapour retarder on the warm side**

of insulation in all heated assemblies — typically 6-mil polyethylene sheeting installed just behind the interior drywall. This prevents warm, humid interior air from migrating into the wall or attic cavity and condensing on cold surfaces, which can cause mould growth and structural decay over time.

NB Power's Home Energy Savings Program uses climate zone data when calculating rebate eligibility and amounts. Upgrades in Zone 6 qualify for tiered rebates when you improve from below-code levels to current minimums, or better still, to the more aggressive targets recommended by programs like the **Canada Greener Homes Grant**, which aligns with EnerGuide and Natural Resources Canada standards.

For homeowners comparing quotes or researching insulation upgrades, understanding that New Brunswick's Zone 6 status demands higher R-values than most of the United States or even parts of Ontario is important context. Insulation products rated adequately for a Zone 4 climate in the southern US or the Lower Mainland of BC may be dramatically underpowered for a Fredericton or Moncton home.

If you are assessing whether your existing home meets Climate Zone 6 requirements — or planning a new build that exceeds them — the insulation specialists connected through **New Brunswick Insulation** and the broader **New Brunswick Construction Network** can walk you through the numbers for your specific project.

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Q4

Do I need a building permit to add insulation in Moncton NB? | Insulation IQ?

Whether you need a building permit to add insulation in Moncton depends on the **scope and location of the work**, and in most straightforward cases involving existing homes, the answer is no — but there are important exceptions worth understanding before you start.

Under the **NB Building Code** and the City of Moncton's building by-law, adding insulation is generally considered **routine maintenance or energy improvement work** that does not trigger a permit requirement when it involves:

- **Attic top-up insulation:** Blowing additional cellulose, fiberglass, or mineral wool into an existing attic that is already accessible and properly ventilated. This is by far the most common insulation project in Moncton and almost never requires a permit.
- **Basement wall insulation on the interior:** Installing rigid foam board or batt insulation against an existing basement wall, provided you are not altering the structure or creating new habitable space.
- **Crawlspace insulation:** Adding insulation to floor joists or crawlspace walls as a maintenance upgrade.

  However, a **building permit is required** when insulation work is tied to:

- **Creating new finished living space** in a basement, attic, or garage. If you are converting an unfinished basement or attic into a bedroom, office, or rental suite, the full project — including insulation, framing, vapour barriers, fire separation, and egress — must be permitted and inspected by City of Moncton building officials.
- **Spray foam insulation on attic roof decks (unvented attic assemblies).** Converting a vented attic to an unvented design using closed-cell spray foam changes the thermal and moisture dynamics of the roof assembly significantly. Some jurisdictions flag this as a structural or code-compliance change requiring review.
- **Adding or replacing exterior insulation** as part of a re-cladding project. If you are stripping exterior siding, adding continuous rigid foam, and re-cladding, this often triggers a permit because it constitutes alterations to the building envelope.
- **Any work involving structural changes** — such as reframing walls to accommodate deeper insulation cavities.

  Practically speaking, Moncton homeowners undertaking **attic air sealing and blown insulation projects** — the single most cost-effective upgrade in the province — can typically proceed without a permit. Many insulation contractors in the Greater Moncton area, including Riverview and Dieppe, perform thousands of these projects annually without permit involvement. That said, it is always worth **calling the City of Moncton Building Inspection department** (City Hall on Main Street) to confirm before starting any project that involves spray foam, finished space creation, or significant changes to the building envelope.

From a practical standpoint, there is also a strong reason to want proper documentation even when no permit is required: **NB Power rebates and the Canada Greener Homes Grant both require a pre- and post-project EnerGuide energy assessment** conducted by a registered energy advisor. This audit process creates an official record of what was installed and what R-value was achieved, which is valuable for resale purposes and for confirming rebate eligibility. Some homeowners in Moncton have received $3,000 to $5,000 in combined grant and rebate funding for attic insulation upgrades — the paperwork trail matters.

For newer construction or properties in Moncton's growing suburban subdivisions (Parkton, Wheeler Park, Mapleton area), always confirm with the builder or the city that no outstanding inspections are open before modifying insulation in walls.

If you are unsure about the permit requirements for your specific project, the insulation professionals featured on **New Brunswick Insulation** are familiar with Moncton's building department processes and can advise you before work begins.

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Q5

What is the minimum R-value for basement insulation under NB code? | Insulation IQ?

The **NB Building Code** sets different R-value minimums for basement insulation depending on where the insulation is placed — the foundation wall, the floor slab, or the floor assembly above an unheated basement. Understanding these distinctions is important for both new construction compliance and renovation planning.

For **below-grade foundation walls** (the portion of the basement wall that is in contact with or below grade), the prescriptive minimum under the Code for Climate Zone 6 is **R-17 effective**. This can be achieved in several ways: a common approach is 2 inches of extruded polystyrene (XPS) foam board on the interior face of the concrete wall, which provides approximately R-10, combined with a **2×4 stud wall** filled with R-14 batt insulation. That combination typically achieves R-17 to R-20 effective, depending on framing details. Alternatively, **closed-cell spray foam** applied directly to the concrete wall at approximately 2.5 to 3 inches thick can meet or exceed R-17 without the need for a separate stud wall, which is attractive in basements where every inch of floor space matters.

For **above-grade basement walls** — the portion of the poured concrete or block foundation wall that sits above exterior grade — a higher minimum applies because this section is fully exposed to outdoor air temperatures rather than the moderating effect of the soil. These above-grade sections must meet the wall insulation standard of **R-24 effective**, consistent with the rest of the above-grade building envelope.

In practice, most insulation contractors in Fredericton, Moncton, and Saint John treat the entire basement wall as a single assembly and install a consistent R-value from top to bottom that satisfies both thresholds. Applying R-20 or more across the full wall height simplifies installation and often qualifies for better rebate tiers.

For **basement floor slabs** in new construction, the NB Building Code recommends but does not always mandate sub-slab insulation under Part 9 prescriptive requirements, though energy models increasingly show it is one of the best-value investments in a cold climate. When a basement is to be finished and heated, **R-10 under the slab** (2 inches of XPS or EPS rigid board) is strongly recommended by energy advisors and is required under some performance paths. The slab edge — where the concrete foundation meets the footing — is a particularly significant thermal bridging point and should be addressed with rigid insulation during new pours.

For **floors over unheated basements or crawlspaces** (where the basement is left cold and unconditioned rather than being a heated part of the house), the Code requires a minimum of **R-28 effective** at the floor assembly. This is typically achieved with batt insulation installed between floor joists, though achieving R-28 in a standard 2×10 joist bay is challenging — R-28 batts fill the cavity but leave little room for air space, and the effective value after framing is accounted for can fall short. A combination of R-22 batts plus rigid board on the underside of the joists is often needed to reliably meet R-28 effective.

NB Power's Home Energy Savings Program offers rebates specifically for basement wall insulation upgrades, particularly when homes are upgraded from below R-10 (common in older Moncton and Fredericton homes) to R-20 or better. Combined with the **Canada Greener Homes Grant**, homeowners have accessed $2,000 to $4,500 in funding for comprehensive basement insulation projects. A pre-project EnerGuide assessment is required to access these programs.

If you are planning a basement renovation or building a new home in New Brunswick, the contractors featured on **New Brunswick Insulation** can help you choose the right assembly to meet Code requirements and maximise your rebate eligibility.

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Q6

Has the NB Building Code changed insulation requirements recently? | Insulation IQ?

Yes — New Brunswick's insulation requirements have evolved meaningfully in recent years, largely driven by the province's adoption of updated editions of the **National Building Code of Canada (NBC)** and by federal energy efficiency commitments under the **Pan-Canadian Framework on Clean Growth and Climate Change**.

The most significant recent shift came with New Brunswick's move toward aligning with **NBC 2020 requirements**, which included updates to **Part 9 (Housing and Small Buildings) Section 9.36 (Energy Efficiency)**. This section, which governs prescriptive thermal performance standards for residential buildings, raised minimum R-values in several key areas compared to the older NBC 2015 that was in force for much of the previous decade. The changes most relevant to New Brunswick homeowners and builders include:

Attic and ceiling insulation minimums increased to **R-50 effective** for Climate Zone 6. Many homes built before 2015 in Moncton, Fredericton, and Saint John have attic insulation in the R-20 to R-30 range — well below current Code levels. This is one reason why attic upgrades consistently represent the single largest energy-saving opportunity in older NB homes.

Above-grade walls now require **R-24 effective**, up from R-20 in earlier code editions. This shift pushed builders away from simple 2×6 cavity-only assemblies toward designs that incorporate a layer of **continuous exterior insulation** to break the thermal bridge at studs — a significant change in building practice in the province.

Basement and foundation walls saw refined language distinguishing between below-grade and above-grade sections, with tighter effective R-value targets replacing older nominal-only specifications. The emphasis on **effective** rather than nominal R-values is itself a relatively recent change that reflects better understanding of how framing and thermal bridging reduce real-world performance.

Vapour control requirements were also clarified and tightened, with clearer guidance on vapour retarder placement in different assembly types. This matters particularly in New Brunswick's climate, where the combination of cold winters and humid summers creates challenging conditions for wall and roof assemblies.

Beyond the Code itself, **NB Power's energy programs** effectively set a higher bar than minimum Code in many cases. Their rebate tiers reward performance that exceeds prescriptive minimums — for example, attic insulation upgraded to R-60 rather than just the R-50 Code minimum qualifies for larger rebates. This has nudged many contractors and homeowners in Moncton, Sussex, Bathurst, and across the province to treat current Code as a floor rather than a target.

The **Canada Greener Homes Grant**, launched in 2021 and updated several times through 2024, also drove significant awareness of thermal performance standards. Many New Brunswick homeowners who accessed the grant's up to $5,600 in funding discovered through mandatory EnerGuide assessments that their homes fell substantially below even the older Code thresholds — particularly in attics and basement rim joists.

Looking ahead, the federal government has signalled continued tightening through the **2030 Emissions Reduction Plan**, with expectations that future NBC editions will push prescriptive minimums higher still. Builders and renovators in New Brunswick who choose to build to or beyond R-60 attics, R-30 walls, and R-25 basement walls today are positioning their homes well for future compliance and resale value.

For anyone navigating current Code requirements or planning a renovation to maximise rebate eligibility, the insulation specialists connected through **New Brunswick Insulation** and the **New Brunswick Construction Network** stay current with provincial and federal changes and can confirm exactly which standards apply to your specific project.

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Q7

What R-value does NB code require for cathedral ceilings? | Insulation IQ?

Cathedral ceilings present one of the more demanding insulation challenges in New Brunswick homes, and the **New Brunswick Building Code** (which adopts the National Building Code of Canada with provincial amendments) sets the minimum thermal resistance requirement for these assemblies at **R-31** for climate zone 6. In practice, most energy-conscious builders and renovators aim for R-38 to R-40, especially in areas like Fredericton, Moncton, and Sussex where heating degree days routinely push energy bills higher through the long winter months.

A cathedral ceiling differs from a standard attic assembly because there is no ventilated space above the insulation -- the insulated assembly is the roof itself. This creates a fundamentally different moisture and thermal dynamic. You cannot simply blow in fibreglass batts and call it done. The assembly must be engineered to manage both heat loss and **vapour diffusion**, while also preserving a minimum ventilation channel (typically 63 mm or about 2.5 inches) between the top of the insulation and the roof deck. That ventilation space is required unless you are using an unvented hot-roof design, which has its own specific code requirements and demands a vapour-open assembly or sufficient continuous exterior rigid insulation.

For vented cathedral ceilings, achieving R-31 or better in the rafter cavity alone is tight. A standard 2x8 rafter gives you about 184 mm of depth; reserve 63 mm for ventilation and you have roughly 120 mm of usable insulation space, which yields approximately R-15 with high-density spray foam or about R-14 with dense-pack fibreglass. That shortfall is why **continuous exterior rigid insulation** -- polyisocyanurate or expanded polystyrene (EPS) boards installed above the roof deck -- is increasingly used in combination with cavity insulation to close the gap. A common approach in New Brunswick new construction is R-20 in the rafter cavity plus R-14 to R-20 of polyiso above the deck, comfortably meeting or exceeding R-31.

For unvented (hot roof) cathedral assemblies, which are gaining popularity in airtight builds around the province, the NBC and NB amendments require that either **closed-cell spray polyurethane foam (ccSPF)** fills the entire rafter cavity, or that a sufficient ratio of rigid exterior insulation is used above the deck to keep the condensing surface warm enough to prevent moisture accumulation. The general benchmark in climate zone 6 is that the exterior insulation must account for at least **40 to 50% of the total R-value**, keeping the interior face of the exterior insulation above the dew point for the vast majority of the heating season.

From a cost perspective, achieving R-38 in a cathedral ceiling with a ccSPF and exterior rigid combination in New Brunswick typically runs $8 to $14 per square foot installed, depending on ceiling area and accessibility. Dense-pack cellulose or fibreglass in a vented rafter cavity, combined with polyiso exterior, can come in somewhat lower -- $6 to $10 per square foot -- while still hitting code minimums and performing well over a Maritime winter.

NB Power's Home Energy Efficiency Program and the **Canada Greener Homes Grant** (up to $5,600 total) both recognize improved attic and roof insulation as eligible upgrades. Cathedral ceiling insulation improvements may qualify under the attic/ceiling category if the pre- and post-upgrade R-values are professionally documented through an EnerGuide evaluation.

Because cathedral ceiling assemblies are unforgiving -- errors in vapour management or thermal bridging can lead to condensation, rot, or mould within the roof structure within just a few seasons -- this is one area where professional assessment is strongly recommended. A registered energy advisor and an experienced insulation contractor familiar with NB code requirements and Maritime climate conditions will help you design an assembly that performs safely for decades.

For more guidance on cathedral ceiling insulation standards and qualified installers in your area, the **New Brunswick Insulation** directory at newbrunswickinsulation.com lists contractors experienced with these assemblies across the province.

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Q8

Do renovations in New Brunswick trigger insulation upgrade requirements? | Insulation IQ?

Whether a renovation in New Brunswick triggers mandatory insulation upgrades depends significantly on the **scope and type of work being performed**, and understanding the distinction can save homeowners from unexpected compliance costs -- or conversely, from missing the opportunity to improve their home's energy performance while walls and ceilings are already open.

The **New Brunswick Building Code**, aligned with the National Building Code of Canada, takes a targeted approach: it does not generally require a whole-home thermal upgrade simply because you're renovating. However, when a renovation involves **removing and replacing existing wall, ceiling, or floor assemblies** -- or adding new conditioned space -- the work must meet current code minimums for that portion of the building envelope being disturbed. In plain terms, if you open up an exterior wall to replumb a bathroom in your Fredericton bungalow and the wall cavity is empty or has only R-8 worth of old batt insulation, you are expected to insulate that cavity to the current standard (typically R-20 in exterior walls) before closing it back up.

This principle is sometimes called the "if you touch it, bring it up to code" rule. It is enforced at the discretion of the local building inspector, and enforcement varies somewhat between municipalities and rural areas of New Brunswick. Saint John, Moncton, and Fredericton all have active building inspection offices that take envelope upgrades seriously on permitted renovation projects.

The trigger point for most homeowners is the **building permit**. If your renovation is large enough to require a permit -- and in New Brunswick, structural changes, additions, and most work involving the building envelope typically do -- then the insulation in the affected areas will be reviewed against current code. The current New Brunswick minimum **R-values** for new work in climate zone 6 are approximately R-20 for above-grade walls, R-31 to R-40 for attics/ceilings, and R-12 for floors over unheated spaces. These figures align with the NBC Supplementary Standard SB-12 for energy efficiency.

For **additions** specifically, the new structure must fully comply with current code as if it were a new build. A sunroom addition in Dieppe, a garage conversion in Riverview, or a secondary suite above a detached garage in Oromocto must all be insulated to today's standards in every element of the thermal envelope. There is no grandfathering of connected existing portions of the house, though inspectors typically focus their scrutiny on the new construction itself rather than demanding upgrades to untouched parts of the original structure.

Permit-exempt minor renovations -- cosmetic work, like replacing drywall on an interior wall, updating fixtures, or finishing a basement where no exterior wall cavities are opened -- generally do not trigger mandatory insulation upgrades, though improving insulation voluntarily during these projects is obviously encouraged.

The renovation context is also when many New Brunswick homeowners first investigate **NB Power rebates** and the **Canada Greener Homes Grant**. If your renovation is going to open walls or ceilings anyway, layering in additional insulation beyond code minimum -- upgrading from R-20 to R-24 in walls with exterior rigid insulation, for example, or going to R-50 in the attic -- makes the incremental cost far lower than doing it as a stand-alone project. The Greener Homes Grant covers upgrades up to $5,600 per property and requires a pre-upgrade EnerGuide evaluation, which many homeowners schedule before finalising renovation plans.

One practical consideration: if you're hiring a general contractor for a larger renovation and insulation is part of the scope, ensure the insulation sub-contractor is pulling the appropriate permits and that the inspector is viewing the insulation **before** vapour barrier and drywall are installed. Once the wall is closed, proving compliance becomes a paperwork exercise rather than a visual one.

Homeowners in New Brunswick planning renovations can find qualified insulation professionals experienced with local code requirements through **New Brunswick Insulation** at newbrunswickinsulation.com -- contractors who understand which phases of renovation trigger upgrade requirements and how to document compliance for both municipal inspectors and grant applications.

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Q9

What is the minimum ceiling insulation R-value for new builds in NB? | Insulation IQ?

For new residential construction in New Brunswick, the minimum ceiling insulation R-value is **R-40** in climate zone 6 when following the prescriptive compliance path under the **NBC Supplementary Standard SB-12** (Energy Efficiency for Housing). This applies to flat or sloped ceilings with an attic space above -- the most common ceiling type in New Brunswick bungalows, split-levels, and two-storey homes across Moncton, Fredericton, Saint John, and throughout the province.

R-40 represents a meaningful step up from what many older New Brunswick homes were built to. Houses constructed in the 1970s and 1980s often have only R-20 to R-28 in the attic -- barely half the current requirement. The jump to R-40 in new builds reflects accumulated research into the economics of insulation: in climate zone 6, which New Brunswick falls entirely within, attic insulation provides among the highest return on investment of any

envelope improvement, because heat rises and an under-insulated attic bleeds warmth all winter.

R-40 in practice typically means 356 mm to 381 mm (14 to 15 inches) of blown fibreglass or blown cellulose in the attic floor. Both materials are commonly used in New Brunswick new construction. **Blown cellulose** (R-2.7 to R-3.7 per inch) is made from recycled paper and performs well in cold climates, holding its R-value even in very cold temperatures and providing some resistance to air infiltration. **Blown fibreglass** (R-2.2 to R-2.7 per inch) is lighter, settles less over time, and is equally common. Either product, installed to the correct settled depth and density, meets the R-40 requirement. Installation costs for blown attic insulation in New Brunswick typically run $1.50 to $2.50 per square foot for a new build attic, depending on access and square footage.

For **sloped or scissor-truss ceilings** in new construction (not the same as a cathedral ceiling, but ceilings with a reduced attic depth above them), achieving R-40 can be constrained by the available depth. Builders in these situations sometimes use a combination of blown insulation and **rigid insulation** above the roof deck, or specify higher R-value per inch materials like closed-cell spray foam in the shallow zones to hit the target. The NB Building Code does allow for trade-off approaches where one assembly compensates for another, provided the overall building energy performance target is met -- this is the performance compliance path, which requires an energy model.

It's worth noting that the prescriptive R-40 minimum is exactly that -- a **minimum**. Many builders in New Brunswick, particularly those pursuing R-2000, Net Zero Ready, or BUILT GREEN certifications, target R-50 or even R-60 in the attic. The marginal cost of adding an extra 100 mm of blown insulation during construction is very low -- roughly $0.30 to $0.50 per square foot -- and the energy savings compound over decades. For a typical 1,500 square foot bungalow in the Moncton area, upgrading from R-40 to R-60 in the attic might cost an additional $450 to $750 at build time and reduce annual heating costs by $80 to $150, paying back in 4 to 8 years.

NB Power's Energy Efficiency Incentive Programs encourage exceeding minimum code on new builds. The **Canada Greener Homes Grant** is generally not applicable to brand-new construction (it targets existing homes), but the **Canada Greener Homes Loan** (interest-free, up to $40,000) may be available for newly purchased homes that fall short of current efficiency benchmarks.

When reviewing new construction contracts or working with a builder, confirm that the attic insulation specification explicitly states both the **R-value** and the **installed settled depth**, since manufacturers publish settling factors for blown products. A spec that calls for "R-40 blown fibreglass" should also note the minimum installed depth -- typically around 330 to 360 mm -- to ensure the product actually delivers the rated performance once it has settled over the first heating season.

For questions about ceiling insulation in new builds or to find experienced contractors in your area, visit **New Brunswick Insulation** at newbrunswickinsulation.com.

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Q10

Does the NB Building Code specify vapour barrier requirements for insulation? | Insulation IQ?

Yes, the **New Brunswick Building Code** does specify vapour barrier (more precisely, **vapour retarder**) requirements for insulated assemblies, and these requirements are critically important to understand -- because a misplaced or inadequate vapour control layer is one of the leading causes of moisture damage, mould growth, and premature structural decay in Maritime homes.

Under the NBC as adopted in New Brunswick, a **Class II vapour retarder** (with a permeance of 60 ng/Pasm2 or less) must be installed on the **warm-in-winter side** of all insulated wall, ceiling, and floor assemblies that separate conditioned space from unconditioned or exterior environments. In practical terms, this means the vapour retarder goes on the interior side -- behind the drywall, facing the living space -- in New Brunswick's heating-dominated climate. The standard product used to meet this requirement is **6-mil polyethylene sheeting**, which has very low vapour permeance and is familiar to anyone who has watched a New Brunswick house being framed and insulated.

The physics behind this requirement are straightforward: during winter, warm moist interior air contains more moisture than cold exterior air. If that moisture-laden air migrates into the wall cavity and reaches the cold outer sheathing, it condenses. Over time, that condensation leads to wood rot, mould, and degraded insulation performance. The poly barrier, installed as a continuous and well-sealed membrane, keeps interior moisture from entering the wall cavity in the first place.

Continuity and sealing are as important as the barrier material itself. The NBC requires that penetrations through the vapour retarder -- for electrical boxes, plumbing, and other services -- be sealed with acoustical sealant, tape, or gaskets. Junction boxes that penetrate the poly should be sealed at both the box perimeter and where wiring enters. Poor sealing is endemic in older NB homes and is often the primary moisture pathway even when the poly is nominally present. During a renovation or new build in Fredericton or Dieppe, having the poly installed by an experienced crew and inspected before drywall is worth the extra attention.

There is an important nuance in the code around **vapour barrier placement** when using exterior continuous insulation. When rigid foam insulation (such as EPS or polyisocyanurate) is applied to the exterior of a wall, it raises the temperature of the interior wall cavity, shifting the dew point outward. In these assemblies, a vapour retarder may not be required on the interior, or a **variable-permeance smart vapour retarder** (such as MemBrain or similar) may be preferred over 6-mil poly. Using a perfectly vapour-impermeable poly on the interior of a wall that also has a vapour-impermeable exterior foam layer can create a **double-barrier assembly** -- trapping any construction moisture with nowhere to dry -- which is a code deficiency and a moisture risk. Builders and insulation contractors in New Brunswick working with hybrid wall assemblies (cavity insulation plus exterior rigid) need to

understand which side of the assembly controls vapour drive.

Spray foam considerations add another layer of complexity. Closed-cell spray polyurethane foam (ccSPF) applied to the interior of a wall cavity or as part of a hybrid assembly is itself a Class II or Class III vapour retarder depending on thickness. If sufficient thickness of ccSPF is applied (typically 50 mm or more in climate zone 6), the poly vapour barrier requirement may be satisfied by the foam itself, eliminating the need for a separate poly layer. Open-cell SPF (ocSPF), however, is highly vapour permeable and does not function as a vapour retarder -- poly or another vapour control layer is still required with ocSPF assemblies.

In **basement assemblies**, the code approach shifts somewhat. Basement walls typically receive rigid foam on the interior or exterior, and because below-grade moisture drive can come from both directions (exterior soil moisture and interior conditioned air), the vapour management strategy must account for the specific construction. Dimple mat drainage and drainage tile address bulk water; the vapour retarder or control layer must address vapour.

For homeowners in Moncton, Saint John, or anywhere in New Brunswick undertaking new construction or significant renovations, understanding vapour barrier requirements and ensuring they're correctly executed is non-negotiable from both a code compliance and a long-term building health standpoint. Find qualified professionals through **New Brunswick Insulation** at newbrunswickinsulation.com.

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Q11

What insulation standards apply to additions and renovations in Fredericton? | Insulation IQ?

Fredericton homeowners undertaking additions or renovations are subject to the **New Brunswick Building Code**, which adopts the National Building Code of Canada with provincial amendments and applies uniformly across the province -- though local enforcement is administered through the City of Fredericton's Building Inspection Division. Understanding which standards apply to your specific project can help you plan costs, meet permit requirements, and take full advantage of available rebates.

For **new additions** -- whether a sunroom off the back of a McKeen Street heritage home, a garage conversion in Skyline Acres, or a secondary suite above a detached garage in Brookside -- the new construction must comply fully with current code as though it were a stand-alone new build. This means the thermal envelope of the addition must meet the prescriptive minimums of **NBC Supplementary Standard SB-12** for climate zone 6. Above-grade walls require a minimum effective R-value of R-20, typically achieved with R-22 or R-24 batt insulation in a 2x6 wall cavity, or R-20 cavity plus continuous exterior rigid insulation for enhanced performance. Attic and ceiling assemblies below an unconditioned attic require R-40 minimum. Cathedral or sloped ceilings require R-31 minimum. Floors over unheated crawlspaces or garages require R-24 minimum. Basement walls require R-12 minimum effective, though R-17 to R-20 is increasingly common for comfort and energy savings.

These minimums represent the **prescriptive compliance path**. Fredericton builders can also use the **performance compliance path**, where an energy model demonstrates the overall addition meets or beats the energy performance of a code-minimum prescriptive design -- this gives flexibility to trade off insulation values between assemblies.

For **renovations to existing structures**, the standard that applies depends critically on what is being disturbed. Fredericton's building inspectors apply the principle that any portion of the thermal envelope that is opened, removed, or replaced must be brought up to current minimums before being re-enclosed. A kitchen renovation that strips an exterior wall back to studs triggers the R-20 wall insulation requirement for those cavities. A bathroom addition that opens into a roof assembly triggers ceiling insulation compliance. Work that is entirely interior -- new flooring, kitchen cabinets, interior partitions -- and does not touch the building envelope does not trigger envelope upgrades.

Fredericton-specific context matters here: the city sits in the Saint John River Valley and experiences **heating degree days** of approximately 4,900 to 5,200, solidly within climate zone 6. Older Fredericton neighbourhoods like Skyline Acres, Barker's Point, and the North Side have significant housing stock from the 1960s to 1980s with wall insulation of R-10 to R-14 and attics at R-12 to R-22. Renovation permits in these areas frequently surface code deficiencies that inspectors require to be addressed in the work scope.

Heritage properties in Fredericton's designated heritage areas (York Street, Brunswick Street, and portions of the downtown residential core) present a particular challenge. The City of Fredericton Heritage Officer may place restrictions on exterior changes -- including exterior insulation cladding -- to preserve heritage character. In these

cases, insulation is generally driven to the interior, which can reduce usable room dimensions but is still code-compliant if the correct R-values are achieved. Interior rigid foam plus cavity insulation is a common solution in heritage wall retrofits.

For **permit applications** in Fredericton, the building permit package for an addition must include an energy compliance summary identifying the wall, ceiling, window, and floor R-values proposed. The inspector will check that the submitted values meet the SB-12 prescriptive path or that an energy model accompanies the permit if using the performance path.

From a financial standpoint, Fredericton homeowners undertaking renovations are well-positioned to access **NB Power's Home Energy Efficiency Program** rebates -- up to $2,000 for insulation upgrades -- and the **Canada Greener Homes Grant** (up to $5,600 total for eligible improvements documented through EnerGuide evaluations). Scheduling a pre-renovation EnerGuide assessment ensures that any upgrades made during the project are captured for grant purposes. Many Fredericton homeowners find that a planned renovation, once the walls are open, is the lowest-cost opportunity to exceed code minimums significantly.

For help finding qualified insulation professionals familiar with Fredericton permit requirements and NB code standards, visit **New Brunswick Insulation** at newbrunswickinsulation.com.

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Q12

Is there a difference in code requirements between heated and unheated spaces in NB? | Insulation IQ?

Yes, there is a meaningful and intentional distinction in the New Brunswick Building Code between heated and unheated spaces, and understanding that distinction is essential for any renovation or new construction project in the province. The code logic is straightforward: insulation is required at the **thermal boundary** — the point where conditioned living space meets unconditioned or exterior space. Where no heating occurs, different thresholds apply, and in some cases no insulation requirement exists at all within that unheated area itself.

For a typical New Brunswick home in **Climate Zone 6**, the thermal boundary is what drives all the R-value requirements. A heated basement, for instance, is considered conditioned space, so the insulation requirements shift from the basement floor to the above-grade basement walls — the code requires those walls to achieve **RSI 1.96 (approximately R-11)** for the portion below grade, though the Part 9 residential prescriptive path and energy code alignment push effective wall assembly values considerably higher in practice. An unheated basement or crawlspace, by contrast, moves the thermal boundary up to the floor assembly above it. In that scenario, the floor over the unheated space must meet a minimum of **RSI 5.02 (R-28.6)** under the current NB prescriptive requirements for Climate Zone 6.

This distinction matters enormously in older Moncton, Fredericton, and Saint John homes where a garage might be attached but unheated, or where a crawlspace is vented and unconditioned. If you insulate the wrong plane — say, the crawlspace walls instead of the floor above it — you may end up with inadequate thermal performance, moisture issues, and a code deficiency. Inspectors will look at where the thermal boundary is and whether the insulation at that boundary meets the minimum RSI.

The same logic applies to **attached unheated garages**. The shared wall between a heated living space and an unheated garage is a thermal boundary wall and must be insulated to meet the wall assembly R-value requirements (effectively **R-22 to R-24** in a wood-frame assembly). The garage floor itself, being unheated and not adjacent to conditioned space from below, has no thermal insulation requirement under the code — though a vapour barrier on the slab may still be required depending on the design.

Attic spaces present an interesting case. A vented unconditioned attic is not a heated space, so the code doesn't require you to insulate the attic walls or roof deck. Instead, the thermal boundary sits at the **attic floor** (the ceiling of the floor below), and that's where the R-60 or higher requirement for Climate Zone 6 attic insulation applies. If you convert that attic to a conditioned living space or create an unvented conditioned attic assembly, the thermal boundary moves to the roof deck, triggering different requirements entirely.

One nuance worth highlighting: **Part 11 of the NB Building Code** covers existing buildings and energy efficiency retrofits, and it acknowledges that full prescriptive compliance isn't always physically achievable in older structures. However, any new insulation work still needs to meet minimum thermal resistance levels at the applicable boundary. Permit requirements and inspections also differ — a full renovation in a heated living area will almost always require a permit and insulation inspection, while simply adding batt insulation in an unheated utility space

may not.

For homeowners planning upgrades to qualify for **NB Power's Home Energy Savings Program** or the **Canada Greener Homes Grant**, understanding heated vs. unheated space distinctions is also financially important. Rebates are typically calculated based on improvements to the thermal boundary — insulating an unheated space itself won't trigger a rebate unless it changes the thermal performance of the boundary separating conditioned from unconditioned area.

If you're unsure where your thermal boundary sits or whether your planned insulation work meets the code for your specific home configuration, the professionals listed on **New Brunswick Insulation** can assess your project and ensure you're insulating the right plane at the right R-value.

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Q13

What R-value does NB code require for floors over unheated spaces? | Insulation IQ?

Under the New Brunswick Building Code, floors over unheated spaces — such as vented crawlspaces, unheated garages, and unconditioned storage areas — must meet a minimum effective thermal resistance of **RSI 5.02, which converts to approximately R-28.6**, for Climate Zone 6. This is the prescriptive requirement that applies to the vast majority of residential construction in New Brunswick, including homes in Fredericton, Moncton, Saint John, Miramichi, Bathurst, and surrounding communities.

This R-value represents the **total effective thermal resistance of the floor assembly**, not just the insulation product's nominal rating. That distinction matters because the structural framing, air films, subfloor sheathing, and finished flooring all contribute something to the total, but they also create thermal bridging through the framing members. In a standard 2x10 joist bay, the usable cavity depth is about 235mm (9.25 inches). Filling that cavity with **fibreglass batts** rated at RSI 3.35 (R-19) gets you partway there, but it falls well short of the R-28.6 target. That's why many NB contractors use a combination of **R-20 or R-22 high-density fibreglass batts** plus an additional layer of rigid foam board applied to the underside of the joists, or alternatively use **spray foam** to achieve both air sealing and thermal performance in a single product.

Open-cell spray foam at around R-3.5 per inch and **closed-cell spray foam** at approximately R-6.5 per inch are both used for floor applications in New Brunswick, though closed-cell is generally favoured for floors over crawlspaces because it is also a **vapour retarder**, which is critical in NB's cold climate. The National Energy Code for Buildings (NECB) and the Part 9 prescriptive path in the NB Building Code both recognize that vapour control is inseparable from thermal performance in Climate Zone 6 — moisture moving through an insufficiently controlled floor assembly can cause joist rot, mould growth, and structural damage over time.

For floors over **unheated attached garages**, the same RSI 5.02 minimum applies, but the details differ slightly. Garage environments are more variable than crawlspaces — they experience vehicle exhaust, temperature cycling, and potential fuel spills — so the air barrier and vapour control layer on the garage side of the floor assembly must be robust. Many NB building inspectors pay close attention to continuity of the air barrier at the rim joist where the floor assembly meets the foundation wall, as this junction is a common weak point.

It's worth noting that **RSI 5.02 (R-28.6) is the minimum** — it is not the recommended target for energy-efficient construction. The **NB Power Home Energy Savings Program** and the **Canada Greener Homes Grant** both push for higher performance. Greener Homes, for instance, encourages homeowners to aim for **R-35 or higher** in floor assemblies over unheated spaces to maximize energy savings and rebate eligibility. NB Power's energy advisors will model your home and calculate the incremental savings from going beyond code minimum, and in many cases

the payback period for the upgrade from R-28.6 to R-35+ is under ten years given New Brunswick's heating costs.

The **air sealing requirement** that accompanies floor insulation in the NB code is often overlooked by homeowners. Section 9.25 of the NB Building Code requires that the air barrier system be continuous — gaps at the rim joist, around plumbing penetrations, and at partition walls that intersect the floor assembly must all be sealed before or alongside insulation installation. An uninsulated but unsealed floor can lose far more heat through air leakage than through conduction, so product R-value alone doesn't tell the full story.

For floors over crawlspaces specifically, NB code also addresses whether the crawlspace is vented or unvented. In a **vented crawlspace**, the floor above is the thermal boundary and must hit RSI 5.02. In an **unvented conditioned crawlspace**, the thermal boundary moves to the crawlspace walls instead, which changes the required R-values entirely and introduces different vapour management requirements.

If you're planning a floor insulation project and want to confirm your assembly will pass inspection and qualify for available rebates, connecting with a qualified insulation contractor through **New Brunswick Insulation** is a good starting point.

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Q14

Do I need an inspection after insulating my Bathurst NB home? | Insulation IQ?

Whether you need a formal inspection after insulating your Bathurst home depends on a few key factors: the scope of work, whether a building permit was required, and the specific area of the home being insulated. The short answer for most significant insulation projects is **yes, an inspection is advisable and often legally required** if a permit was pulled — and understanding when a permit is required is the first step.

In Bathurst, as in all New Brunswick municipalities, **building permits are required for renovations or alterations that affect the building's energy performance or structural envelope**. Adding insulation as part of a basement renovation, an attic conversion, a crawlspace enclosure, or an exterior wall re-cladding project will almost certainly require a permit and a subsequent insulation inspection. Simple top-ups of attic insulation — for example, adding blown-in cellulose on top of existing attic batts without disturbing the ceiling or structure below — may not require a permit in all cases, but this varies by municipality and project specifics.

When a permit is obtained for insulation work in Bathurst, the **New Brunswick Building Code** requires that insulation be inspected and approved **before it is covered**. This is a critical timing point. If you install vapour barriers, drywall, or any other covering over the insulation before the inspector signs off, the inspector may require you to remove the covering so they can verify the insulation installation. Spray foam is sometimes an exception because it is visible and measurable after installation, but fibreglass and mineral wool batts behind a vapour barrier must be inspected while still exposed.

The insulation inspection in Bathurst will typically verify several things: that the **correct R-value or RSI rating** has been achieved for the climate zone (New Brunswick falls in **Climate Zone 6**, requiring minimum R-60 in attics, R-22+ in walls, RSI 5.02 in floors over unheated spaces, and so on); that the **vapour barrier is properly installed** on the warm side of the insulation with appropriate laps and sealing; that **air sealing** at penetrations, rim joists, and partition wall intersections is adequate; and that insulation clearance from heat sources like chimneys and recessed lighting has been maintained.

For **spray foam projects** specifically, Bathurst homeowners should be aware that a growing number of NB inspectors also want to verify the foam's **off-gassing period** before occupancy. Two-component spray polyurethane foam requires a curing period — typically 24 hours for low-pressure formulations and potentially longer for high-pressure applications — before the space should be occupied. The inspector may confirm this on the inspection report.

Even when no permit is technically required, many homeowners choose to have their insulation project reviewed by a **certified energy advisor** through the NB Power Home Energy Savings Program or as part of a Canada Greener Homes Grant application. The pre- and post-retrofit EnerGuide assessments effectively serve a quality assurance function similar to a code inspection — the energy advisor will verify that insulation has been installed correctly, that R-values are appropriate, and that air sealing is continuous. These assessments are required to access the federal **Canada Greener Homes Grant** (up to $5,600) and NB Power rebates.

For major retrofits — whole-home insulation upgrades, basement enclosures, or exterior continuous insulation installations — it is strongly recommended to treat the permit and inspection process as a **quality control tool**, not just a regulatory hurdle. Inspectors in Bathurst are familiar with Climate Zone 6 requirements and will flag common installation errors like compressed batts (which reduce effective R-value), unsupported vapour barriers, or missing

fire separation requirements in attached garage assemblies.

If you're unsure whether your specific project requires a permit, Bathurst's Building Inspection department can advise based on your project description. Alternatively, a qualified insulation contractor who regularly works in the Bathurst area will know exactly what triggers a permit and inspection requirement and can guide you through the process from start to finish. The contractors listed on **New Brunswick Insulation** operate throughout northern New Brunswick and can help ensure your project meets both code and rebate eligibility requirements.

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Q15

What is the NB energy code requirement for continuous insulation on exterior walls? | Insulation IQ?

The New Brunswick Building Code, aligned with the **National Energy Code for Buildings (NECB) 2015** and the Part 9 prescriptive path for residential construction, requires that exterior wall assemblies in Climate Zone 6 achieve a **minimum effective thermal resistance of RSI 3.08 (approximately R-17.5)**. However, the critical term here is *effective* — and this is where continuous insulation plays a central role in meeting that standard.

A standard 2x6 wood-frame wall filled with fibreglass batts has a **nominal cavity insulation value of about R-22**, but the effective R-value of the assembly is significantly lower — typically around **R-15 to R-16** — because wood framing members conduct heat at a much faster rate than insulation. This thermal bridging through the studs, plates, and headers can reduce the wall assembly's thermal performance by 20 to 30 percent. To compensate, the NB code and energy pathway increasingly rely on **continuous insulation (CI)** applied to the exterior side of the sheathing, where it wraps the framing without interruption and eliminates the thermal bridging penalty.

For a **2x6 wall with batt insulation plus exterior CI**, the typical code-compliant approach in NB involves one of the following combinations: **R-19 or R-22 batts plus RSI 1.25 (R-7.1) of exterior rigid foam**, or **R-20 batts plus a 1.5-inch layer of extruded polystyrene (XPS) or polyisocyanurate board** on the exterior. XPS delivers approximately **R-5 per inch**, while polyisocyanurate offers **R-6 to R-6.5 per inch** at ambient temperatures (though its effective R-value drops in very cold conditions, a consideration for NB winters). Mineral wool (rock wool) rigid board is also increasingly used for continuous insulation in NB because it is vapour-open, fire-resistant, and performs consistently across temperature ranges.

The **vapour management implications** of adding exterior CI are significant and must be understood before specifying the CI thickness. In Climate Zone 6, the vapour barrier (polyethylene sheet) is placed on the **warm-in-winter side** of the insulation — typically behind the interior drywall. When exterior CI is added, the sheathing (OSB or plywood) moves to a warmer position in the wall assembly because the CI keeps it above the dew point for a greater portion of the year. This is thermodynamically favourable and reduces the risk of condensation within the wall. However, if the exterior CI is too thin relative to the cavity insulation, the sheathing can still reach dew-point temperatures in severe cold — a concern NB Building Code Section 9.25 addresses through **condensation control requirements**.

The prescriptive tables in **Part 9 of the NB Building Code** allow builders to choose between several wall assembly options without detailed energy modelling. These options include:

- **2x6 studs at 400mm O.C. + R-22 batt + RSI 1.25 CI** (approximately R-7 exterior foam)
- **2x6 studs + R-19 batt + RSI 1.76 CI** (approximately R-10 exterior foam)
- **Advanced framing (600mm O.C.) + R-22 batt + RSI 0.88 CI** (approximately R-5 exterior foam)

  For new construction targeting **Step Code or Net Zero Ready** performance — increasingly common in Fredericton, Moncton, and Saint John projects pursuing energy certifications — exterior CI requirements are substantially higher, often **R-15 to R-20 or more** on the exterior, combined with advanced framing and high-performance windows.

  For **retrofits on existing homes**, the most practical way to add continuous insulation is during a re-siding project. Stripping old cladding, adding 1.5 to 2 inches of rigid foam over the existing sheathing, re-furring the wall with vertical strapping, and installing new cladding over that strapping is a well-established approach in NB. This kind of retrofit qualifies for both **NB Power Home Energy Savings Program** rebates and the **Canada Greener Homes Grant**, which can offset a meaningful portion of the material cost.

  Building permit applications for new construction in NB must include wall assembly specifications that demonstrate code compliance, and the insulation inspection will verify that the specified CI thickness and type has actually been installed. If you're designing a wall assembly for a new build or major retrofit and want to

confirm it meets the NB energy code requirements, the insulation professionals on **New Brunswick Insulation** can help you specify the right combination of cavity and continuous insulation for your project.

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Q16

How does the National Building Code compare to NB provincial code for insulation? | Insulation IQ?

The relationship between the **National Building Code of Canada (NBC)** and the **New Brunswick Building Code (NBBC)** is one of adoption and adaptation rather than replacement. Understanding the difference between them helps homeowners, contractors, and designers in NB know exactly which document governs their project — and where NB has chosen to go its own direction.

The **National Building Code** is published by the **National Research Council of Canada (NRC)** and is developed through a consensus process involving engineers, architects, fire safety experts, and industry stakeholders from across the country. The NBC itself has no legal force — it becomes enforceable only when a province or territory formally adopts it, either verbatim or with provincial amendments. New Brunswick has adopted the NBC as the basis for its provincial building code, but the **New Brunswick Building Code** is the document that actually carries legal weight in the province. When you pull a permit in Moncton, Fredericton, Saint John, or Bathurst, the inspector enforces the NBBC — not the NBC directly.

For most residential insulation requirements covered under **Part 9** of the code (housing and small buildings), the NB provincial code tracks closely with the NBC. The **RSI and R-value minimums** for attics, walls, floors, and foundations in Climate Zone 6 are drawn from the same prescriptive tables that appear in the NBC's Part 9. This means that a homeowner or contractor familiar with the national document will find the NB requirements largely recognizable. The key Climate Zone 6 thresholds — **R-60 for attics, effective R-17.5 to R-22 for walls, RSI 5.02 for floors over unheated spaces** — are consistent between the two documents in their most recent iterations.

Where things diverge is in the pace and scope of **adoption**. The NRC releases new editions of the NBC periodically — the most recent major edition is the **2020 NBC**, which introduced a tiered energy performance pathway and more aggressive requirements for new construction. New Brunswick, like many provinces, does not adopt each NBC edition immediately. There is typically a lag of one to several years between the release of a new NBC edition and its formal adoption by NB through regulation. This means that at any given point, the NBBC may be based on an earlier edition of the NBC than the most current national version. Contractors and designers working in multiple provinces must always verify which edition has been adopted locally.

New Brunswick has also introduced **provincial amendments** that modify specific sections of the adopted NBC. These amendments reflect NB's climate realities, existing housing stock characteristics, local industry practice, and regulatory priorities. For insulation specifically, NB has generally maintained alignment with the national prescriptive tables but has the authority to require more stringent minimums where provincial policy directs it. Any future adoption of **Step Code** energy requirements — a tiered energy pathway piloted in BC and now referenced in the

2020 NBC — would be implemented through provincial regulation, not automatically through the national code.

The **National Energy Code for Buildings (NECB)** is a separate NRC document from the NBC and addresses energy efficiency specifically. The NECB is referenced in commercial and larger residential construction and establishes the energy performance pathway that Part 9 residential code increasingly aligns with. In NB, the energy efficiency provisions for new housing under Part 9 draw on NECB concepts — including effective thermal resistance, thermal bridging corrections, and whole-building energy modelling options — but the prescriptive tables in the residential section remain the primary compliance path for most NB homeowners and small builders.

One practical implication of this federal-provincial structure: when you see an insulation contractor cite "code minimum" without specifying which code, it's worth asking whether they mean the NBC, the NBBC, or the NECB — and which edition. For rebate programs like **NB Power's Home Energy Savings Program** and the **Canada Greener Homes Grant**, the performance targets may reference the **EnerGuide Rating System**, which is tied to NRCan guidelines rather than the building code directly. These are separate compliance frameworks, and a home can meet NBBC insulation minimums while still scoring poorly on an EnerGuide assessment if air sealing or thermal bridging issues are present.

For any insulation project where code compliance matters — new construction, permitted renovations, or rebate-eligible upgrades — the professionals listed on **New Brunswick Insulation** stay current with both the NBBC and the energy programs that govern what gets funded and inspected in this province.

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Q17

Are there different insulation code requirements for northern vs southern NB? | Insulation IQ?

New Brunswick sits entirely within **ASHRAE Climate Zone 6**, which means the provincial building code applies a single, unified set of minimum thermal performance standards across the province — there is no formal split between northern and southern regions for the purposes of code compliance. That said, the practical reality of insulating a home in **Edmundston or Campbellton** versus one in **Sussex or Sackville** is quite different, and experienced contractors account for those local climate differences even when the code floor is the same.

The **New Brunswick Building Code** (which adopts and amends the National Building Code of Canada) sets the following minimums for new residential construction: **R-60 in the attic**, **R-24 in above-grade walls** (effective total assembly value), **R-28 for basement walls**, and **R-10 under basement slabs** in conditioned spaces. These numbers reflect Zone 6 heating demands — roughly 4,500 to 5,500 heating degree days across most of the province.

Where geography actually matters is in the **degree-day variation** between regions. Northern NB communities like Edmundston and Campbellton regularly record 5,400 to 5,600 heating degree days annually, while southern and coastal areas like Moncton and Saint John sit closer to 4,400 to 4,700. That gap is meaningful. A homeowner in **Edmundston** who only meets code minimums will pay noticeably more in heating costs over the life of their home than a comparable homeowner in **Sackville**, simply because the climate is harsher. This is why many energy-conscious builders in northern NB opt to exceed code — targeting R-70+ in attics and **R-30 or higher in walls** using advanced framing or exterior continuous insulation.

The **vapour barrier** requirement is the same across the province: a **Class II vapour retarder** (typically 6-mil polyethylene) on the warm-in-winter side of the insulation assembly. Coastal areas near Moncton and Saint John deal with higher humidity and more dramatic temperature swings, which can increase the risk of **interstitial condensation** if air sealing is not done carefully — but the code standard itself doesn't change.

Energy Step Code pathways and voluntary programs like **Net Zero Ready** allow builders to go beyond the base code through a performance path, and these are increasingly popular in new subdivisions around Fredericton and the Greater Moncton area. Under the performance path, a whole-building energy model replaces prescriptive R-value requirements, so a builder in Campbellton might use thicker wall assemblies or triple-glazed windows to hit the same energy target rather than relying on insulation alone.

For **renovations and additions**, the code minimums are somewhat lower than for new construction — existing wall cavities brought up to R-20 often satisfy requirements — but the Energy Efficiency Act and rebate programs through NB Power create strong financial incentives to go well beyond those minimums regardless of your location in the province.

The bottom line: the letter of the code is the same whether you're building in **Fredericton or Bathurst*, but smart builders and homeowners in northern and inland NB treat code minimums as a starting point rather than a target. If you're planning a build or renovation and want to ensure your insulation strategy is properly matched to your specific location's climate, the professionals listed on*** New Brunswick Insulation **or through the** New Brunswick Construction Network* can provide guidance tailored to your region.

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