NEW BRUNSWICK INSULATION

Wall Insulation

Wall cavity insulation, exterior continuous insulation, thermal bridging solutions, and wall retrofit methods for NB climate

18 Expert Answers from Insulation IQ

newbrunswickinsulation.com/construction-brain

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Q1

How much does it cost to insulate a 600 sq ft addition on a Riverview NB home including wall, attic, and floor insulation with permits?

A 600 sq ft addition in Riverview will typically cost $4,500-$9,500 for complete insulation including walls, attic, and floor, plus $300-$800 for building permits. The wide range depends on insulation types chosen, foundation design, and whether you're building over a basement, crawl space, or slab-on-grade.

Wall Insulation Costs For a 600 sq ft addition, you're looking at roughly 400-500 sq ft of exterior wall area (assuming 8-foot ceilings). Standard 2x6 wall construction with R-22 fibreglass batts costs $600-$1,200 installed. Upgrading to mineral wool batts (Rockwool) adds $200-$400 but provides better moisture resistance and soundproofing — valuable in Riverview's humid Maritime climate. If you want premium performance, 2x6 walls with R-22 batts plus 2 inches of exterior rigid foam (XPS) for continuous insulation runs $1,800-$3,200 but eliminates thermal bridging and achieves true R-32 whole-wall performance.

Attic Insulation Costs The 600 sq ft attic floor requires R-50 to R-60 under current NB Building Code. Blown-in cellulose or fibreglass to achieve R-60 costs $900-$1,800 installed. The key is proper air sealing before insulation — sealing all electrical penetrations, pot light housings, and the attic hatch. Many contractors skip this step, but it provides 50% of the energy benefit. Budget an extra $200-$500 for comprehensive attic air sealing, which is money extremely well spent in Riverview's 5,000+ heating degree day climate.

Floor Insulation Variables Floor insulation costs depend entirely on your foundation type. **Slab-on-grade** requires R-10 perimeter insulation (2 inches of XPS around the slab edge) costing $400-$800. **Full basement** underneath means insulating the basement ceiling with R-31 batts ($600-$1,200) or insulating the basement walls instead with spray foam or rigid foam ($1,200-$2,500). **Crawl space** construction requires wall insulation plus vapour barrier on the ground — budget $800-$1,800 for proper crawl space encapsulation.

Permit Costs and Requirements Building permits in Riverview run $300-$800 for a 600 sq ft addition, depending on complexity and whether you're adding electrical, plumbing, or HVAC. The insulation work itself doesn't require a separate permit, but it will be inspected as part of the overall building permit process. The inspector will verify R-values, vapour barrier placement (warm side of the assembly in NB's cold climate), and proper ventilation details.

Riverview-Specific Considerations Riverview sits in the Petitcodiac River valley with high humidity year-round and significant temperature swings. Proper vapour barrier installation is critical — 6-mil polyethylene on the warm (interior) side of all exterior walls and ceiling assemblies, with all seams sealed and penetrations carefully detailed. Many addition projects in the area experience moisture problems because contractors rush the vapour barrier work or install it on the wrong side of the insulation.

Money-Saving Strategies The most cost-effective approach for a Riverview addition is 2x6 construction with R-22 mineral wool batts in the walls, blown-in cellulose to R-60 in the attic, and appropriate floor insulation for your foundation type. This typically runs $4,500-$6,500 total. Adding exterior continuous insulation pushes costs toward $7,000-$9,500 but dramatically improves performance and comfort.

Rebate Opportunities New additions may qualify for NB Power rebates if the entire home achieves improved energy performance through the Total Home Energy Savings Program. Consider getting an EnerGuide evaluation before construction to explore rebate eligibility — potential savings of $2,000-$5,000 on comprehensive energy upgrades.

When to Hire a Professional All insulation work for a permitted addition should be done by professionals to ensure code compliance and proper building science. The inspector will verify R-values, vapour barrier continuity, and ventilation details. Poor insulation installation can fail inspection and require costly rework.

Need help finding experienced insulation contractors for your Riverview addition? New Brunswick Insulation can match you with local professionals who understand Maritime climate building science and NB code requirements.

Looking for experienced contractors? The New Brunswick Construction Network connects homeowners with qualified professionals:

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Q2

Can I install exterior wall insulation on my Moncton home myself during a renovation or is this strictly a contractor job?

Exterior wall insulation can be a DIY project for experienced renovators, but it requires significant building science knowledge and carries high stakes for moisture management mistakes. Whether you should tackle it yourself depends on the specific method, your skill level, and your comfort with complex building envelope work.

DIY-Friendly Exterior Insulation Approaches

If you're already planning to replace your siding, adding **rigid foam board insulation** over the existing sheathing is the most DIY-accessible method. This involves installing 1-2 inches of XPS or EPS foam board, sealing the joints with tape or spray foam, then installing furring strips and new siding. For a handy homeowner comfortable with siding installation, this can save $8,000-$15,000 in labour costs on a typical Moncton home.

Mineral wool continuous insulation (Rockwool ComfortBoard) is another DIY option gaining popularity. It's more forgiving than rigid foam because it's vapour-permeable and doesn't trap moisture if installation isn't perfect. The boards cut easily with a serrated knife and attach with long screws through to the studs.

Critical Building Science Considerations

The challenge isn't the physical installation — it's understanding **moisture management and thermal bridging**. Adding exterior insulation changes where the dew point occurs within your wall assembly. In Moncton's Maritime climate with high humidity, getting this wrong can trap moisture and cause hidden mould or rot that costs $15,000-$30,000 to remediate years later.

Your existing wall assembly (likely 2x6 with R-20 batts and poly vapour barrier) was designed to work as a system. Adding exterior insulation keeps the wall sheathing warmer, which is generally good, but you must ensure the assembly can still dry if moisture gets in. This requires understanding vapour permeance, calculating dew points, and potentially modifying your interior vapour barrier strategy.

When to Hire a Professional

Spray foam exterior insulation absolutely requires professional installation — the equipment, safety protocols, and application expertise are beyond DIY scope. **EIFS (synthetic stucco) systems** also need professional installation due to their complex moisture management details.

If your home has **existing moisture problems, unusual construction details, or you're not replacing the siding anyway**, hire a professional. An experienced contractor can assess your specific wall assembly, calculate the thermal and moisture implications, and ensure the new insulation integrates properly with your existing building envelope.

Practical DIY Steps

If you decide to proceed, start with a **blower door test** to identify air leakage locations — seal these before adding insulation. Install the rigid foam with all joints sealed, use proper fasteners long enough to reach the studs, and install furring strips to create a drainage plane behind the new siding. The furring strips are critical — they allow any moisture that gets behind the siding to drain out rather than being trapped against the foam.

Timing and Permits

Moncton's building department typically requires permits for exterior insulation when it's part of a siding replacement project. The work is best done during dry weather between May and October when you can leave the sheathing exposed briefly without moisture concerns.

Need help finding a professional insulation contractor to assess your specific situation? New Brunswick Insulation can match you with experienced contractors who understand Maritime climate building science and can provide guidance on whether your project is suitable for DIY or requires professional installation.

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Q3

How much does it cost to insulate exterior walls in a Fredericton home? | Insulation IQ?

Exterior wall insulation in Fredericton is one of the most impactful upgrades you can make to an older home, and the cost varies considerably depending on the approach, the home's size, and the existing wall construction. Here is a realistic breakdown of what homeowners in the Fredericton area are seeing in 2025–2026.

The main methods and their costs:

Blown-in dense-pack insulation through the exterior or interior is the most common retrofit approach in New Brunswick for existing walls. A contractor drills a series of holes — either through the exterior siding or through the drywall inside — injects dense-pack cellulose or fibreglass at high pressure to fully fill the cavity, then plugs and finishes the holes. This method adds minimal disruption and is effective for 2x4 and 2x6 walls. In Fredericton, expect to pay **$3 to $6 per square foot** of wall area for dense-pack blown-in. For a typical 1,500 sq ft bungalow

with roughly 900 to 1,100 sq ft of above-grade exterior wall area, total cost typically falls in the **$3,000 to $6,500 range**. Dense-pack cellulose achieves about R-3.7 per inch, filling a 3.5-inch stud bay to approximately R-13.

Exterior rigid foam insulation involves adding a continuous layer of rigid foam board (EPS, XPS, or polyisocyanurate) over the existing sheathing, then re-cladding the exterior. This is the most thermally effective approach because it eliminates thermal bridging through studs, which can rob 20 to 30% of the nominal R-value in a standard stud wall. The trade-off is cost and disruption — you are essentially re-siding the home. In Fredericton, adding 2 inches of XPS (R-10) under new vinyl siding runs **$18 to $28 per square foot of wall** including siding, putting a full exterior re-cladding with insulation upgrade on a 1,500 sq ft bungalow anywhere from **$25,000 to $45,000** depending on the siding product chosen. This is a major renovation, typically done when the existing cladding needs replacement anyway.

Interior rigid foam or batt upgrades are the budget-friendly option when you are already renovating a room and the walls are open. Adding R-14 mineral wool batts to a 2x4 stud bay, then closing with new drywall, costs roughly **$4 to $8 per square foot** installed, but that assumes existing drywall is already removed.

Spray foam in wall cavities is used in specific situations, particularly where air sealing and moisture management are concerns in a single step. Two-component open-cell spray foam costs **$6 to $10 per square foot** of wall for cavity filling, and closed-cell (which also acts as a vapour retarder) runs **$10 to $16 per square foot** in Fredericton-area pricing.

What the NB Building Code requires for new construction: Part 9 of the NB Building Code requires an effective thermal resistance for above-grade walls in climate zone 6 of at least **RSI 3.08 (roughly R-17.5)**. This is an effective R-value accounting for framing, not just cavity insulation. Most older Fredericton homes with 2x4 walls and unfilled cavities sit at R-0 to R-7 effective — well below what would be required today and far below what is economical to heat through a NB winter.

Rebate eligibility: Wall insulation upgrades are eligible under the **Canada Greener Homes Grant** (up to $1,000 for above-grade walls) and **NB Power's Home Energy Efficiency Program**, which can provide rebates of $125 to $500 depending on the improvement achieved. An energy audit before and after the work is required to access these programs. With a mid-scale dense-pack project costing around $4,500, a combined $1,000 to $1,500 in rebates brings the net cost down meaningfully.

One practical consideration for Fredericton's climate zone 6 heating season: properly air-sealed and insulated walls pay back quickly. Dense-pack cellulose in a previously uninsulated 2x4 wall can cut wall-related heat loss by 60 to 70%, with payback periods of 7 to 12 years on the insulation cost alone before counting rebates.

For accurate pricing on your specific home, connect with qualified insulation contractors through **New Brunswick Insulation** or the **New Brunswick Construction Network** — they can assess your wall assembly and recommend

the most cost-effective approach.

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Q4

Can I add insulation to existing walls without removing drywall in NB? | Insulation IQ?

Yes — in most cases you can add insulation to existing walls in New Brunswick without touching the drywall, and this is actually the most practical approach for the majority of retrofit projects across the province. The technique is called **dense-pack injection** (or blown-in wall insulation), and it has become the standard method for upgrading wall cavities in older Moncton, Fredericton, and Saint John homes without gut-level renovation.

Here is how the process works. A contractor locates each stud bay by probing or using a stud finder, then drills a series of holes — typically 2 to 3 inches in diameter — spaced every 12 to 18 inches vertically in each bay. These holes are made either through the **exterior cladding** (siding, trim, or sheathing is removed in strips, holes drilled, then everything reinstalled) or through the **interior drywall** if the exterior approach is not practical. A dense-pack hose is inserted to the bottom of the cavity, insulation is injected under pressure as the hose is gradually withdrawn, and the result is a tightly packed cavity with no voids. Holes are then plugged and the surface is patched.

The exterior approach is generally preferred in New Brunswick when the home is getting re-sided anyway, or when the siding is vinyl that can be temporarily removed in sections without damage. Drilling from outside means no interior patching, painting, or disruption to lived-in spaces. It also gives the contractor visual access to the cavity, allowing them to check for and remove any old, degraded insulation or debris before injecting fresh material.

The interior approach works well when the exterior cladding is brick, stone, or stucco — materials that cannot be easily re-drilled and patched. Interior holes are smaller and can be finished with drywall plugs and a coat of paint, leaving minimal evidence of the work.

Dense-pack cellulose is the most common material used for this application in NB. It is made from recycled paper fibre, treated with borate for fire and pest resistance, and achieves approximately R-3.7 per inch when packed at the correct density (typically 3.5 lbs/ft³ or higher). A standard 2x4 stud bay filled with dense-pack cellulose reaches roughly R-13. For 2x6 walls, the result is approximately R-20 — close to what the NB Building Code requires for climate zone 6 effective wall performance in new construction.

Dense-pack fibreglass (such as Spider or similar products) is an alternative that some contractors use. It is slightly less dense than cellulose by nature but achieves similar R-values and has a slightly lower moisture absorption rate, which can be a consideration in older New Brunswick wall assemblies with variable vapour control.

There are some limitations to the drill-and-fill approach. Walls with internal **fire blocking** (horizontal blocking between the studs, common in older NB homes) require holes drilled in multiple zones — above and below each block — to ensure the full cavity is filled. Cathedral walls or walls with unusual framing may also require more holes.

An experienced contractor will probe each bay before injecting to map out any obstructions.

Walls that are already partially filled with old fibreglass batts that have shifted or settled may need the old material removed before dense-packing. Trying to inject over settled batts leaves voids, reducing the effectiveness of the upgrade.

Air sealing is an important companion to any wall insulation retrofit. Even well-filled cavities have gaps at electrical boxes, pipe penetrations, and top and bottom plates. Some contractors use a brief spray of two-component foam at these locations before dense-packing. In a New Brunswick home, wall air leakage is responsible for a significant share of total heating energy loss — sealing as you go makes the insulation dollar go further.

For rebate eligibility, above-grade wall insulation improvements qualify under the **Canada Greener Homes Grant** (up to $1,000) and NB Power's efficiency programs, provided you have a registered energy advisor perform pre- and post-upgrade EnerGuide audits.

For homes in heritage neighbourhoods in Saint John's uptown or Fredericton's old residential streets, the non-invasive nature of dense-pack injection is particularly valuable — you preserve the original interior and exterior character while dramatically improving thermal performance.

To find contractors who specialize in drill-and-fill wall insulation across New Brunswick, browse the listings at **New Brunswick Insulation** or the **New Brunswick Construction Network**.

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Q5

What is the best insulation for 2x4 walls in older New Brunswick homes? | Insulation IQ?

Older New Brunswick homes — those built before the 1980s in particular — typically have 2x4 exterior wall framing, giving you a stud cavity of only 3.5 inches to work with. That physical constraint shapes every insulation decision you make, and choosing the right product matters both for thermal performance and for managing moisture in a climate zone 6 environment.

The most important thing to understand upfront: 3.5 inches of cavity can never get you to the R-17.5 effective wall performance the NB Building Code now requires for new construction, no matter what material you fill it with. A 2x4 wall fully packed with the best cavity insulation available tops out around R-13 to R-15 in nominal terms, and effective performance after thermal bridging through studs drops that to roughly R-10 to R-12. This is a limitation of the framing, not the insulation. For a significant upgrade, cavity filling must be paired with a continuous layer of exterior or interior rigid insulation — but that is a separate decision from what goes in the cavity.

Dense-pack cellulose is, for most older NB homes, the top recommendation for a retrofit cavity fill. It achieves R-3.7 per inch, fully filling a 3.5-inch bay to approximately R-13. More importantly, dense-pack cellulose excels at **air sealing** — packed at proper density, it significantly reduces air movement through the wall cavity, which is often the bigger heat-loss driver in drafty older homes in Moncton, Saint John, and Fredericton. Cellulose is also hygroscopic in a helpful way: it can absorb and re-release modest amounts of moisture without losing structural integrity, buffering wall assembly humidity rather than concentrating it. It is treated with borate, making it resistant to mould, insects, and fire. Cost for a blown-in dense-pack job on a typical older NB home runs $3 to $6 per square foot of wall, depending on access method.

High-density mineral wool batts are an excellent choice when walls are open during a renovation. Rockwool or Comfortbatt at 2x4 thickness delivers R-15 in a 3.5-inch bay — slightly better than cellulose — and has exceptional fire resistance and vapour permeability. Mineral wool allows moisture to pass through the wall assembly and dry naturally, which matters in older homes where the vapour control layer is inconsistent or missing entirely. The challenge: mineral wool batts require open-cavity access, meaning the drywall must be removed. For a whole-house retrofit without renovation, this is impractical. For a room being renovated anyway, it is the best performing cavity option.

Closed-cell spray polyurethane foam (ccSPF) at 3.5 inches achieves R-21 to R-24 — by far the highest R-value in a 2x4 bay. It also air-seals and acts as a class II vapour retarder all in one application. The drawbacks: cost ($10 to $16 per square foot installed in NB), and the vapour barrier effect. In older homes with existing moisture management issues, trapping moisture with an impermeable foam on the wrong side of the assembly can cause problems. Closed-cell spray foam in 2x4 walls is best specified by someone who understands the building science of your particular wall assembly — it is not a one-size-fits-all solution.

Open-cell spray foam at R-3.7 per inch fills the bay to approximately R-13, adds excellent air sealing, but is vapour-permeable and requires a separate vapour retarder to meet NB code requirements. It also expands and

must be trimmed flush with the studs before drywall, adding labour. It is less commonly used for retrofit wall work in NB than for new construction or open-wall renovations.

Fibreglass batts (the pink or yellow rolls most homeowners recognize) are the least recommended option for a retrofit in an older NB home. Standard batts are not air-tight — they rely on perfectly sealed wall assemblies to achieve rated R-value, which simply does not exist in a 60-year-old house with gaps at electrical boxes, top plates, and settling framing. Batts also leave voids if not carefully installed around obstructions. Their nominal R-13 performance in a 3.5-inch cavity drops substantially in real-world older-home conditions.

The right answer for most older NB homes is dense-pack cellulose or dense-pack fibreglass blown in through the existing drywall or siding, combined with thorough air sealing at all penetrations. This approach requires no gut renovation, qualifies for **Canada Greener Homes Grant** rebates (up to $1,000 for above-grade walls) and **NB Power Home Energy Efficiency** incentives, and delivers measurable heating bill reduction through a NB winter.

For guidance on which product suits your specific home and wall assembly, connect with insulation specialists through **New Brunswick Insulation** or the **New Brunswick Construction Network**.

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Q6

Should I insulate interior walls between rooms in my Moncton home? | Insulation IQ?

Interior wall insulation is one of those improvements that most Moncton homeowners never think about — and yet it can make a meaningful difference to both comfort and energy use depending on your home's layout and how you use each space. The short answer is: it depends on what you're trying to achieve, but in many cases it's absolutely

worth doing.

The most compelling reason to insulate interior walls is **acoustic separation**. Moncton homes built before the 1990s were rarely constructed with sound control in mind, meaning noise travels freely between bedrooms, between a home office and living areas, or between a finished basement suite and the main floor. Adding **mineral wool (rock wool) batt insulation** — such as Rockwool Safe'n'Sound or an equivalent — inside interior walls dramatically reduces airborne sound transmission. Unlike fibreglass batts, mineral wool has a denser fibre structure designed specifically for sound damping while also offering a modest thermal benefit (roughly R-3 to R-4 per inch).

Thermal separation between zones is the second strong reason. If you have rooms that are regularly kept at very different temperatures — a guest bedroom left unheated in winter, a basement workshop that runs cold, or a home server room that generates heat — insulated interior walls reduce the thermal bleed between spaces. This means your furnace and cooling systems work less to maintain comfort in occupied zones. In older Moncton homes with baseboard electric heat in individual rooms, this can translate to real savings on your NB Power bill.

There are also scenarios involving **fire and smoke separation**. Interior walls in certain locations — such as between an attached garage and living space, or between separate dwelling units — are required by the National Building Code of Canada as adopted in New Brunswick to provide fire-resistance rating. While insulation alone doesn't create a fire separation, the work of opening walls for insulation is an opportunity to verify that proper fire blocking and vapour control are in place.

For pure thermal efficiency between conditioned rooms that are all kept at the same temperature, the payback on interior wall insulation is modest. If every room in your Moncton home is heated to 20°C, there's no meaningful temperature differential across those interior walls, so thermal resistance matters very little. In that scenario, the investment is better directed at the building envelope — exterior walls, attic, and basement — where the real heat loss occurs.

Cost and logistics are worth considering. Interior wall insulation typically requires opening walls from one side, installing batts, and then repatching and repainting. In a renovation where walls are already open, the incremental cost is low — roughly $1.50 to $3.00 per square foot for materials and labour when done alongside other work. As a standalone project on finished walls, blown-in dense-pack cellulose or fibreglass can be injected through small holes without full demolition, keeping costs more manageable, typically $3.00 to $6.00 per square foot installed.

If sound control is your priority — particularly for a home office, bedroom, or basement rental unit — interior wall insulation in Moncton is absolutely worth the investment. If you're purely chasing heating cost reductions, focus first on the attic and exterior walls, where New Brunswick's climate zone 6 conditions create far larger heat losses. A qualified insulation contractor can assess your home and help you prioritise where your insulation dollars will have the greatest impact. The listings on **New Brunswick Insulation** connect you with experienced local professionals

who can evaluate your specific situation.

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Q7

How do I insulate a knee wall in my New Brunswick Cape Cod style home? | Insulation IQ?

Cape Cod style homes are extremely common across New Brunswick — from the tree-lined streets of Fredericton to the older residential neighbourhoods of Saint John and Moncton. Their charming roofline comes with a structural quirk that creates one of the most persistently cold and energy-wasting areas in any home: the **knee wall**. Getting this right requires understanding how heat, air, and moisture move through this unique assembly.

A knee wall is the short vertical wall — typically 1.2 to 1.5 metres tall — that sits inside the upper floor of a Cape Cod, separating the conditioned living space from the unconditioned triangular attic cavities behind it. These triangular side attics are notorious in New Brunswick for being brutally cold in winter and baking hot in summer, and without proper treatment, that extreme temperature bleeds directly into your living space through the knee wall, the floor behind it, and the sloped ceiling above.

The critical principle is that you must decide whether to treat the knee wall area as inside or outside the thermal envelope — and then commit fully. The most common and effective approach is to bring the triangular attic space inside the conditioned envelope by insulating the **roof slope** (the rafter bays above the triangular attic) and **the end gable walls**, rather than insulating the knee wall itself. This eliminates the unconditioned buffer zone entirely. If you go this route, use **closed-cell spray polyurethane foam** applied directly to the underside of the roof sheathing in the rafter bays, achieving at minimum R-24 to meet the NB Building Code requirements for cathedral ceiling assemblies, though R-30 to R-40 is recommended for climate zone 6. The floor of the triangular attic can then be left uninsulated, and the space becomes a semi-conditioned attic that stays much closer to interior temperatures year-round.

If you prefer to keep the triangular attic unconditioned and insulate the knee wall itself, the work is more involved and must be done correctly or it will fail. The **knee wall** should receive batts of at minimum R-20 (nominal 140mm fibreglass or mineral wool) with a continuous **polyethylene vapour barrier** (6 mil minimum) on the warm-in-winter side — the living space side — sealed at all seams and penetrations. Critically, you must also insulate the **floor of the triangular attic** (the attic floor behind the knee wall) to a minimum of R-40, since this is where massive heat loss occurs. And the **kneeling space floor** — the flat floor of the triangular attic — needs to remain accessible for inspection and any utilities running through it.

Air sealing is arguably more important than R-value in this assembly. In New Brunswick's cold winters, warm humid air leaking from the living space into the cold triangular attic deposits moisture that can cause mould, rot, and sheathing damage within a few years. Every electrical outlet, light fixture, and pipe penetration through the knee wall must be air-sealed before insulating. **Rigid foam backing** behind batts on the knee wall adds a secondary air

barrier and increases effective R-value in a thin assembly.

Typical costs in New Brunswick for a knee wall insulation project run from $2,500 to $6,500 for an average Cape Cod, depending on whether you're insulating the knee wall assembly alone or bringing the entire triangular attic into the envelope. **NB Power's Home Energy Savings Program** may offer rebates for qualifying upgrades, and the **Canada Greener Homes Grant** can offset costs when insulation improvements are part of a pre- and post-assessment EnerGuide evaluation.

The geometry of Cape Cod knee walls makes DIY work difficult — particularly for achieving proper vapour barrier continuity and adequate coverage in the rafter bays. A professional insulation contractor with experience in Cape Cod assemblies will identify the hidden cold spots and moisture risks that a general approach misses. Listings on **New Brunswick Insulation** can connect you with qualified local contractors familiar with these common NB home types.

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Q8

Is exterior rigid foam insulation effective on New Brunswick homes? | Insulation IQ?

Exterior rigid foam insulation is one of the most effective upgrades you can make to a New Brunswick home — and it's significantly underused compared to its performance potential. For a province sitting squarely in **climate zone 6**, where heating degree-days in Fredericton, Moncton, and Saint John consistently exceed 4,400, the thermal performance gains from continuous exterior insulation are substantial and well-supported by building science.

The fundamental advantage of exterior rigid foam is that it creates a **continuous thermal break** across the entire wall assembly. Conventional stud-wall insulation — fibreglass or mineral wool batts between 38x140mm studs — is interrupted every 406mm or 610mm by a wood stud that conducts heat roughly 5 to 6 times faster than the batt material beside it. In a typical 2x6 stud wall with R-20 batts, the effective whole-wall R-value drops to approximately R-14 to R-16 once you account for thermal bridging through the framing. Adding even 50mm of exterior XPS (extruded polystyrene) foam at R-10 over the entire wall surface lifts the effective assembly to roughly R-24 to R-26 — a dramatic improvement with no demolition of the interior.

Types of rigid foam commonly used on NB homes each have their strengths. **EPS (expanded polystyrene)** — the white beadboard foam — is the most cost-effective and environmentally friendlier option, typically R-3.8 to R-4.0 per inch. It retains its R-value when wet better than XPS. **XPS (extruded polystyrene)** — the pink or blue foam boards — offers R-5 per inch and a higher moisture resistance, making it well-suited for below-grade wall applications, though its long-term R-value degrades slightly over decades. **Polyisocyanurate (polyiso)** offers the highest R-value at R-6 to R-6.5 per inch but loses performance in very cold conditions, making it less ideal as the outermost layer in New Brunswick winters unless protected by a cladding assembly.

For a typical retrofit or new build in New Brunswick, a common high-performance wall assembly involves 2x6 studs with R-20 batts (fibreglass or mineral wool), 6-mil polyethylene vapour barrier, then **75mm to 100mm of EPS or XPS** (R-15 to R-20) on the exterior, strapped with vertical furring strips to create a **rainscreen drainage plane**, then finished with siding. This approach meets or exceeds the NB Building Code's **Part 11 effective thermal resistance** requirements for climate zone 6 and significantly reduces the risk of condensation within the wall cavity by keeping the sheathing warmer.

Moisture management is a critical consideration specific to New Brunswick's climate. By placing insulation on the exterior, you push the **dew point** outward — the sheathing stays warmer and drier in winter, dramatically reducing the risk of interstitial condensation and the mould and rot problems that follow. This is why exterior foam is often described as the "right" solution for cold climates, where interior cavity insulation alone leaves the sheathing cold and vulnerable.

Costs for exterior rigid foam installation in New Brunswick typically range from **$8,000 to $18,000** for a full house re-cladding project that includes foam, strapping, and new siding. Window and door extensions must also be accounted for since the wall thickness increases. When done as part of a siding replacement — where the cladding is coming off anyway — the incremental cost of adding rigid foam is much lower, often just $3,000 to $6,000 in added materials and labour.

The **Canada Greener Homes Grant** (when active) provided up to $5,000 for insulation upgrades including exterior wall insulation following an EnerGuide assessment, and **NB Power rebates** may apply depending on the scope of the upgrade. Both programs reward the higher R-value assemblies that exterior foam enables.

For any New Brunswick homeowner re-siding their home, replacing windows, or undertaking a major renovation, adding exterior rigid foam to the scope is one of the highest-value decisions you can make. Connect with experienced local contractors through **New Brunswick Insulation** to get assessments and quotes for your specific home.

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Q9

What R-value should exterior walls have in New Brunswick according to code? | Insulation IQ?

Understanding what the New Brunswick Building Code actually requires for exterior wall insulation — and how that compares to what performs well in the province's climate — is essential knowledge for any renovation or new construction project. The short version: code sets a minimum floor, not a performance target, and most building professionals recommend exceeding it significantly.

New Brunswick adopts the **National Building Code of Canada (NBC)** with provincial amendments. Under the NBC 2015 (and the 2020 edition now in transition), New Brunswick is located primarily in **climate zone 6**, with portions of the province at the boundary of zone 7. For **Part 9 buildings** (houses and small buildings up to three storeys), the code prescribes minimum effective thermal resistance for above-grade walls.

For climate zone 6 under the NBC prescriptive path, the minimum **effective R-value** (whole-wall, accounting for framing) for above-grade walls is approximately **R-22 effective** (RSI 3.9). This can be achieved through several assemblies:

- A **2x6 stud wall** (140mm) with **R-20 fibreglass or mineral wool batts** and **R-5 continuous exterior rigid foam** achieves roughly R-22 to R-24 effective — the standard high-performance approach.
- A **2x4 stud wall** with batts alone falls well short, achieving only R-9 to R-11 effective due to thermal bridging, and would require substantial exterior insulation to reach code minimums.
- **Advanced framing** (stud spacing at 600mm o.c. instead of 400mm) with R-20 batts improves performance modestly but still benefits from exterior continuous insulation.

  The critical distinction is between **nominal R-value** (the R-value of the insulation product alone) and **effective R-value** (the actual whole-wall performance accounting for thermal bridging through studs, headers, corner intersections, and other framing members). Building inspectors in New Brunswick and across Canada increasingly apply the effective R-value lens, particularly for new construction permits filed under newer editions of the NBC.

  Beyond the prescriptive minimums, the NBC also allows a **performance path** through whole-building energy modelling (using tools like HOT2000), where a lower wall R-value can be offset by superior attic insulation, triple-glazed windows, or heat recovery ventilation. This flexibility is often used by builders pursuing net-zero or near-net-zero construction in New Brunswick.

  What actually performs well in New Brunswick's climate is a higher target than code minimum. The **R-2000 standard** (a federal voluntary standard for high-performance homes) targets effective wall performance of R-24 to R-28. The **Net Zero Ready** program from the Canadian Home Builders' Association pushes even further toward R-30+ effective walls. In a province where Moncton averages roughly -12°C in January and heating costs dominate household energy budgets, the payback on exceeding code minimums is real over a 20-to-30-year ownership horizon.

  For **existing homes being renovated**, the code requirements apply differently depending on the scope of work. A full exterior re-cladding that involves removing and replacing sheathing typically triggers current code compliance for the wall assembly. A simple siding replacement over existing sheathing may not. New Brunswick homeowners should confirm with their local building permit office — in Moncton, Fredericton, or Saint John — what triggers a full thermal envelope upgrade requirement for their specific project.

  NB Power's Home Energy Savings Program and the **Canada Greener Homes Grant** both reward wall insulation upgrades that exceed code minimums. An EnerGuide pre-assessment (required for the federal grant) will identify exactly where your current walls fall relative to both code and optimal performance benchmarks, and a qualified energy advisor will recommend the upgrade path with the best return for your home's specific construction.

For New Brunswick homeowners navigating building code requirements and insulation decisions, the listings on **New Brunswick Insulation** connect you with contractors experienced in both code compliance and high-performance building assemblies suited to the province's climate.

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Q10

Can I blow insulation into my wall cavities through small holes in Saint John NB? | Insulation IQ?

Yes — blowing insulation into existing wall cavities through small holes is a well-established retrofit technique used widely in older Saint John homes and throughout New Brunswick. It's called **dense-pack insulation** when done properly, and when executed correctly it's one of the most cost-effective ways to improve the thermal performance of an older home without a major interior or exterior renovation.

The most common materials used for this application are **blown-in fibreglass** (such as Spider or similar loose-fill products), **dense-pack cellulose**, and **injection foam** (two-component slow-rise polyurethane). Each has a different performance profile and is suited to different situations.

Dense-pack cellulose is the most widely used option for this type of retrofit in Atlantic Canada. It's made from recycled paper fibre treated with borate for fire resistance and mould inhibition. When blown into a closed wall cavity at high density — typically 55 to 65 kg/m³ — it creates a mass that resists further settling and provides meaningful air resistance in addition to its thermal properties. Cellulose achieves roughly **R-3.5 per inch**, so a standard 3.5-inch (89mm) 2x4 cavity achieves R-12 to R-13, and a 5.5-inch (140mm) 2x6 cavity achieves R-18 to R-19. This is a significant improvement over an empty or minimally insulated cavity.

Dense-pack fibreglass (not the same as loose-fill attic fibreglass) is blown at similar density and performs at roughly R-4.2 per inch — slightly better thermally than cellulose and less susceptible to moisture absorption, which is relevant in Saint John's coastal climate with its higher humidity levels and salt-air exposure. It's generally slightly more expensive than cellulose but preferred by many contractors for below-grade or high-moisture adjacent assemblies.

Injection foam (slow-rise two-component foam) fills cavities completely with nearly zero settling and excellent air sealing. It achieves R-4 to R-5 per inch and is particularly well-suited for complex cavity geometries with fire blocking, cross-bracing, or irregular framing — common in Saint John's older Victorian and Century homes. It's the most expensive of the three options but delivers the most complete coverage.

The process involves drilling 50mm to 63mm holes at regular intervals — typically every 400mm to 600mm between studs, at mid-wall height — through either the exterior siding (from outside) or the interior drywall (from inside). The installer inserts a fill tube, blows the material to density, withdraws the tube, and plugs the holes. When done from the exterior through wood siding or clapboard, the patches are typically painted over and nearly invisible. Vinyl siding can often be temporarily removed and reinstalled. Drilling from the interior through drywall requires patching and repainting but avoids exterior weather exposure.

Before drilling, a competent contractor should perform a **thermal imaging inspection** (ideally on a cold day) and sometimes a **borescope inspection** — inserting a small camera through a test hole — to identify what's in the cavity. Saint John's older housing stock frequently has surprises: knob-and-tube wiring requiring clearance before insulation, fire blocking (horizontal wood blocking midway up the cavity) requiring additional holes, settled or partial insulation already present, and moisture issues that need addressing first. Blowing insulation over active moisture problems can trap moisture and accelerate rot.

Costs in New Brunswick typically range from **$2.50 to $5.50 per square foot** of wall area for blown-in wall insulation, depending on material choice, access method (interior vs. exterior), cavity dimensions, and the complexity of the existing framing. A typical Saint John two-storey home with 1,200 to 1,500 square feet of exterior wall area might expect a total project cost of $3,500 to $8,000.

The **Canada Greener Homes Grant** can offset costs for wall insulation improvements when combined with an EnerGuide assessment, and **NB Power rebates** may apply. Given Saint John's significant heating load and the large stock of older, under-insulated housing, the payback on this type of project is often 8 to 12 years even without grants factored in.

For Saint John homeowners considering blown-in wall insulation, the listings on **New Brunswick Insulation** connect you with contractors experienced in retrofit insulation techniques suited to the city's unique older housing stock.

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Q11

How do I insulate around windows and doors in my Woodstock NB home? | Insulation IQ?

Insulating around windows and doors is one of the highest-impact air-sealing tasks you can tackle in a Woodstock home. The gaps between a window or door frame and the rough framing opening behind it are notorious infiltration points — on a cold January day when temperatures drop to -25°C, unaddressed gaps here allow frigid outdoor air to bypass your wall insulation entirely, driving up heating bills and making rooms beside exterior walls feel perpetually cold.

The primary material for filling the gap between the window or door frame and the jack studs is **low-expansion polyurethane spray foam**. The critical word is *low-expansion*. Standard or high-expansion foam generates considerable force as it cures, and using it in a window or door rough opening can actually bow the frame inward, binding sashes and preventing doors from closing squarely. Low-expansion foam — sold in cans labelled "window and door" foam — is specifically formulated to cure with minimal outward pressure. Apply it in thin, controlled beads rather than filling the cavity in one shot; foam expands and thin lifts cure more cleanly than a single overfilled application.

Before foaming, check the gap width. Gaps up to about 3 cm are well suited to spray foam. Wider gaps — common in older Woodstock homes where settling has created large voids around door frames — benefit from being partially filled with **backer rod** (a compressible foam cord sold at building supply stores) before foaming over the top. This conserves foam and gives you a more uniform, fully adhered seal.

Once the foam has cured (typically 1–4 hours), trim the excess flush with the framing using a utility knife or handsaw. This creates a flat, paintable surface for interior trim. If you are working on an exterior door, also inspect the **door sill pan** and threshold seal. In New Brunswick's freeze-thaw climate, sill pan flashings that were never properly sloped or that have delaminated over the years allow meltwater to infiltrate, rotting the subfloor beneath and creating mould conditions inside the wall cavity.

For existing windows and doors — where you cannot access the rough opening without removing trim — **acrylic latex caulk** is your primary tool. Apply it to the interior joint between the window or door casing and the drywall, and to the exterior joint between the frame and the exterior cladding. Choose a caulk rated for exterior use and suitable for painting; silicone caulk is more flexible and durable outdoors but cannot be painted, so it works best for exterior applications where cosmetics are less important. Budget roughly $8–$15 per tube of quality caulk, and expect to use one to three tubes per window depending on the size of gaps.

Weatherstripping handles the moving parts of the equation. The seal between a door slab and its frame degrades over years of compression, UV exposure, and temperature cycling. Foam tape weatherstripping costs $15–$30 per door and is a DIY-friendly replacement, though door sweep replacement at the threshold — the rubber or vinyl strip that wipes the floor — typically yields the greatest single-point air leakage improvement on older NB exterior doors. A quality door sweep costs $20–$45 installed.

For windows, check whether the sash seals properly against the frame. In double-hung windows, there is commonly a gap at the meeting rail (the point where upper and lower sash overlap at mid-window) — a strip of foam tape or a v-strip metal weatherstrip pressed into this joint dramatically reduces air infiltration without affecting the window's operation.

If your Woodstock home participates in the **Canada Greener Homes Grant** program, air-sealing work performed by an energy assessor-identified scope of work can contribute toward rebate eligibility. An EnerGuide assessment identifies exactly where window and door perimeters are leaking using a blower-door test, which depressurises the house and allows an infrared camera to make infiltration points visible. Identifying all your problem areas before investing in materials saves money and ensures you address the most significant gaps first.

For help assessing and sealing your home's windows and doors properly, the listings at New Brunswick Insulation connect you with qualified local contractors familiar with Woodstock's housing stock.

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Q12

What is the difference between insulating from inside vs outside walls in NB? | Insulation IQ?

When a New Brunswick homeowner decides to improve wall insulation, they face a fundamental choice that shapes the entire project: add insulation from the interior or from the exterior. Both approaches are legitimate and widely used across NB, but they have profoundly different costs, disruption levels, impacts on moisture management, and effectiveness at addressing thermal bridging. Understanding the trade-offs helps you choose the right strategy for your home and budget.

Interior wall insulation involves working from inside the house. The classic approach is to strip drywall from exterior walls, add insulation between or in front of the studs, update the vapour barrier, and re-drywall. A less invasive interior option for existing walls with some insulation already in place is **dense-pack cellulose or fibreglass** blown through small holes drilled through the interior drywall — or from outside through the cladding — without full teardown. Interior approaches give direct access to the stud cavities and allow easy inspection and remediation of any rot or wiring issues found during the work.

The biggest limitation of interior insulation is **thermal bridging**. A standard 2×6 stud wall filled with R-22 spray foam or R-20 fibreglass still loses roughly 20–30% of its theoretical assembly R-value because heat moves readily through the wooden studs themselves, which conduct far better than the insulation in between. In New Brunswick's Climate Zone 6 environment, where the NB Building Code targets an effective wall assembly R-value of approximately **R-24 effective** (not just nominal cavity R-value) for new construction, relying on cavity fill alone often falls short of optimal performance without adding a continuous insulating layer inside or out.

To address bridging from the interior, contractors sometimes add a **continuous layer of rigid foam** — typically 1.5 to 2 inches of polyisocyanurate or EPS — to the interior face of the studs before drywalling. This adds R-10 or more continuously across the entire wall plane, bridging the studs thermally. The downside: this process furs the wall inward by 1.5–2 inches, reducing room dimensions, requiring all electrical boxes to be extended, and complicating window and door trim depths. In a kitchen in Fredericton or a tight bedroom in a Moncton bungalow, losing even an inch of depth on every exterior wall is a real consideration.

Exterior wall insulation — often called an **exterior continuous insulation (ci) retrofit** — flips the approach. Rigid foam board, mineral wool board, or structural insulated sheathing is installed over the existing wall exterior before new cladding goes on. Popular products include EPS, XPS, and mineral wool (stone wool) board in thicknesses from 1 to 4 inches. A 3-inch layer of EPS board adds roughly R-12 continuously across the whole wall, eliminating thermal bridging entirely at the cladding plane.

Exterior insulation does not disrupt the interior living space at all — no furniture is moved, no rooms are taken out of service, and the work proceeds entirely outside. It also allows contractors to upgrade the **weather-resistive barrier and window flashing details** simultaneously, which is a significant opportunity in older NB homes where housewrap has failed or was never installed. The trade-off is cost and exterior appearance changes: adding 2–3 inches of exterior foam means all window and door trim must be extended (through the additional thickness), soffit and fascia details need revision, and the overall thickness of the wall assembly changes the home's visual profile. These details add labour cost and require skilled execution.

For a typical 1,500-square-foot Cape Cod or split-level in Saint John, interior wall re-insulation with dense-pack and vapour barrier replacement typically runs $8,000–$18,000 depending on scope. An exterior continuous insulation retrofit of similar scope — new foam, new housewrap, new cladding — typically costs $18,000–$35,000 or more,

but often bundles cladding replacement that the homeowner would have been spending on anyway.

From a **moisture management** standpoint, exterior insulation has a significant advantage in NB's climate: it keeps the sheathing and framing warmer, pushing the dew point well into the foam layer rather than at the sheathing face. This dramatically reduces the risk of condensation-driven rot and mould in the wall assembly over time — a real concern in NB where older homes were built without the vapour barrier placement strategies understood today.

For guidance on which approach best suits your specific home and budget, consult with an experienced insulation contractor listed through New Brunswick Insulation or the New Brunswick Construction Network.

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Q13

How do I know if my walls have any insulation in an older Sackville home? | Insulation IQ?

Sackville is one of New Brunswick's older communities, and many of its homes — particularly the century-old houses near Mount Allison University and along streets built during the town's earlier commercial era — were constructed at a time when wall insulation was minimal or completely absent. Knowing what is in your walls before you spend money on heating or plan a renovation is genuinely useful, and there are several reliable ways to find out.

The simplest starting point is a **visual inspection at an electrical outlet**. Choose an outlet on an exterior wall, turn off the circuit at the panel, and remove the cover plate. Using a flashlight and a thin tool like a bent wire or a screwdriver, probe gently into the gap at the side of the electrical box. In an uninsulated wall, you will feel open air and may be able to push the wire several inches into an empty stud bay. In an insulated wall, you will immediately encounter resistance from fibreglass batts or compressed cellulose. This method won't tell you *how much* insulation is there or confirm it runs to the full height of the wall, but it definitively answers the yes-or-no question in minutes at no cost.

Thermal imaging (infrared inspection) is the professional standard for diagnosing wall insulation conditions. An infrared camera detects surface temperature differences on your interior walls — areas with missing or settled insulation appear as cool zones in winter because the drywall surface above those voids is closer to outdoor temperature. A qualified energy assessor conducting an **EnerGuide home evaluation** will use exactly this technique, often combined with a **blower-door test** that depressurises the home to amplify temperature differences and make infiltration points more visible. NB Power's Home Energy Assessment program can connect you with certified assessors who conduct this work; the assessment itself costs approximately $150–$400 depending on provider, but is frequently subsidised under grant programs.

For an older Sackville home, it is worth understanding what was typical by decade of construction. Homes built **before 1950** almost universally have no wall insulation beyond whatever wood sheathing, lath, and plaster was used. It was simply not a standard practice. Homes built in the **1950s and 1960s** sometimes have fibreglass batt insulation in exterior walls, but coverage is inconsistent — contractors would skip sections, leave batt ends short of the top plate, or compress batts in ways that greatly reduce their performance. Homes from the **1970s** onward are more likely to have intentional insulation, but even then R-values are often R-12 or R-14 in 2×4 walls, well below what NB Building Code requires for new construction today (approximately R-24 effective in Climate Zone 6).

Another accessible check: look in your **attic** near the top of an exterior wall. If the wall cavity is open (no top plate insulation or blocking), you can often see whether the stud bays were ever filled. Bring a flashlight and check a few

representative bays at the attic perimeter. Similarly, if any section of exterior cladding is being repaired or replaced, use that moment as a diagnostic window — request that the contractor expose one or two stud bays before re-cladding to inspect what is behind the sheathing.

If your Sackville home is heated primarily with **electric baseboard heaters**, an uninsulated or under-insulated wall assembly is extremely costly. NB Power's residential rates have increased steadily, and a home losing 30–40% of its heat through uninsulated walls can see annual heating costs of $3,500–$6,000 or more for a modestly sized house. In those cases, wall insulation upgrades often pay for themselves in 7–12 years in energy savings alone — and that calculation improves significantly when **NB Power's Efficiency NB rebates** and the **Canada Greener Homes Grant** (up to $5,600 per eligible improvement) are factored in. Both programs have historically required a pre-improvement EnerGuide assessment, so booking that evaluation serves double duty as a diagnostic tool and a rebate qualification step.

Dense-pack cellulose blown into existing wall cavities through small holes drilled through exterior cladding or interior drywall is the standard retrofit approach for walls that were never insulated. It costs roughly $2.50–$4.50 per square foot of wall area and causes minimal disruption. For a typical 1,400-square-foot Sackville two-storey, expect wall insulation retrofit costs in the range of $6,000–$14,000 depending on wall area and accessibility.

If you're unsure about your home's insulation status, start with the outlet test today — it's free and takes five minutes. For a full picture, connect with a qualified insulation contractor through New Brunswick Insulation or the New Brunswick Construction Network.

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Q14

Can I use spray foam to insulate walls in a log home in rural New Brunswick? | Insulation IQ?

Log homes present one of the most distinctive insulation challenges in New Brunswick's rural landscape, and the question of whether spray foam belongs in or around a log wall requires some careful thinking before you commit to any product. The short answer is: spray foam has a limited and specific role in log home insulation — and using it carelessly can cause serious, expensive damage.

The fundamental nature of a log wall is that it is a **solid-mass construction**, not a stud-framed cavity wall. The logs themselves provide both structure and a significant portion of the thermal resistance. A solid 10-inch white or red pine log wall delivers roughly **R-12 to R-14** nominally, though its actual thermal performance is complicated by the high thermal mass of the wood, which moderates temperature swings through the day even if the steady-state R-value seems modest. NB Building Code's Climate Zone 6 prescriptive path requires considerably higher R-values for conventional wall assemblies — around R-24 effective — but log homes are typically addressed under alternative compliance paths that account for thermal mass.

The **critical problem** with spray foam on log walls is **moisture management and seasonal movement**. Logs shrink, swell, and settle dramatically across seasons and over the first decade of a building's life as the wood dries and stabilises. A material like closed-cell spray foam, once cured, is completely rigid and inelastic. If you apply closed-cell foam directly to the exterior or interior face of log walls to supplement R-value, the foam will resist the natural movement of the logs and is likely to crack, delaminate, and open up gaps — often in less than two or three seasons. Those gaps then become undetected air infiltration channels that defeat the purpose of insulating in the first place.

Where spray foam **does** serve a genuine and important role in log homes is at the **chinking joints, corner connections, window and door rough openings, and penetrations** through the log wall. These are points where logs meet dissimilar materials (concrete foundations, ridge beams, window frames), where movement is constrained, and where air sealing is critical. **Low-expansion spray foam** applied carefully in can form — not bulk two-component foam — into the gap between a log wall and a window frame or between the sill log and a concrete foundation can dramatically reduce air infiltration. These joints are the primary source of both air leakage and heat loss in many NB log homes, far outweighing the contribution of the solid log faces themselves.

For supplementing the thermal performance of the wall assembly overall, log homeowners in rural New Brunswick — especially those in areas like the upper Saint John River valley or the highlands near Sussex and Fundy Park where winter temperatures can sustain -30°C — often add insulation to **non-log walls and mechanical spaces** first. The ceiling/attic assembly above the living space is almost always the highest-priority upgrade since heat rises; bringing an attic from R-20 to R-60 has a far greater heating cost impact per dollar invested than trying to modify the log walls themselves.

If supplemental wall insulation is needed, the most log-appropriate approach is **adding a separate interior-stud-wall** set inward from the logs by 1–2 inches — creating a service cavity — and filling that studded wall with mineral wool batts or fibreglass. This leaves the logs free to move without any rigid foam adhered to their faces. The air gap between the log and the new wall also allows the logs to breathe and release moisture vapour. This approach is more labour-intensive than spraying foam but it protects the structural integrity of the log wall over decades.

Two-component closed-cell spray foam applied directly to log walls as an interior coating is sometimes marketed to rural homeowners as an upgrade, but several New Brunswick log home builders and restoration contractors advise strongly against it for the reasons above. If you see this suggested as a quick fix, ask the contractor specifically how they account for log movement — if they don't have a clear answer, that is a red flag.

A **professional energy assessment** under NB Power's program is especially valuable for log homes because the thermal characteristics of solid log construction are genuinely complex and the generic prescriptive Code paths don't capture the real performance of the building. An assessor with log home experience can identify where your actual heat losses are occurring using blower-door and infrared data, letting you prioritise spending on the upgrades that will make the greatest difference in your heating bills.

For rural New Brunswick log homes, working with a contractor experienced in log construction — rather than a generalist spray foam company — is essential. New Brunswick Insulation and the New Brunswick Construction Network can help connect you with contractors who understand this specialised work.

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Q15

Does adding exterior wall insulation change the look of my NB home? | Insulation IQ?

This is one of the most honest and practical questions a New Brunswick homeowner can ask before committing to an exterior continuous insulation retrofit — and the equally honest answer is: yes, it does change the look of your home, but the degree of change depends heavily on how the project is managed and what your home looks like to begin with.

When **rigid foam or mineral wool board is installed over existing wall sheathing** before new cladding goes on, the wall assembly gets physically thicker. A 2-inch layer of EPS or polyisocyanurate rigid foam adds exactly 2 inches to the exterior face of every wall. That doesn't sound like much, but it has visual consequences that cascade through several architectural details.

The most immediately noticeable change affects **windows and doors**. When your wall gets thicker, windows and doors that previously sat close to the exterior face of the cladding now appear recessed more deeply into the wall. The **window sill, jamb extensions, and exterior casing trim** all need to be widened to span the new wall thickness and present a clean, finished appearance. Done well — with carefully matched or new trim that complements the home's style — this can actually look handsome and add visual depth to the facade. Done poorly or skipped entirely, windows look like they are set into a bunker wall, which is not attractive on a modest Cape Cod in Riverview or a two-storey in Rothesay.

The **soffit and fascia junction at the roof eave** also requires attention. If the exterior foam runs up to the top of the wall, the transition between the thickened wall face and the existing soffit overhang needs to be properly detailed so there is no ugly gap or misaligned cladding joint visible from the street. On homes with generous overhangs — a 12 to 18-inch soffit is common on older NB designs — this detail is easier to manage than on homes with minimal eaves.

Cladding material choice shapes the visual outcome enormously. Many exterior insulation retrofits are combined with a cladding replacement anyway, because if you are tearing off old vinyl siding or cedar shingles to install the foam board, you will be re-cladding the entire home regardless. In that context, the visual change is simply "new siding" — homeowners typically see this as a positive. New fibre cement siding (James Hardie products are common in NB), fresh vinyl siding in a contemporary colour palette, or engineered wood siding panels can genuinely modernise a dated exterior. Some Fredericton and Moncton homeowners have used an exterior insulation retrofit as the occasion to transform a 1970s beige vinyl bungalow into something with significantly more curb appeal.

For homes where the existing cladding is in good condition and the owner wants to preserve it — particularly brick veneer, cut stone, or quality cedar shiplap on older heritage-adjacent homes — an exterior insulation approach may not be desirable at all. In those cases, **interior-side continuous insulation** (rigid foam installed against the interior face of studs before drywalling) preserves the exterior appearance entirely, at the cost of minor interior dimension reductions and electrical box extension work.

The **foundation-to-wall transition** is another area where exterior insulation affects appearance. If rigid foam on the walls extends down to grade or below, the transition between the foam/cladding assembly and the foundation must be carefully flashed, protected, and finished. Exposed foam board below the cladding termination line needs to be covered — typically with a metal kick-out flashing or a pre-formed foam trim system — or it looks unfinished and is vulnerable to UV degradation and physical damage. A well-executed exterior insulation installation will have this detail professionally finished, but it does change the visual profile of the base of the home compared to a conventional direct-applied cladding.

From a **cost standpoint**, the full exterior insulation package — foam board, new housewrap, cladding, and updated trim at all openings — typically runs $18,000–$40,000 for a typical NB home depending on size and cladding choice. That is a significant investment, but it can be partially offset by **Canada Greener Homes Grant** rebates (up to $5,600 per eligible improvement) and NB Power energy efficiency rebates, and it bundles a re-cladding project the homeowner might have been planning anyway.

The visual change, in summary, is manageable and often positive with a thoughtful contractor and clear design intent. For guidance on exterior insulation options in New Brunswick, connect with qualified contractors through New Brunswick Insulation or the New Brunswick Construction Network.

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Q16

How do I prevent thermal bridging in wall studs in a Tracadie NB home? | Insulation IQ?

Thermal bridging is one of the most underappreciated heat-loss problems in New Brunswick homes, and it's especially significant in Climate Zone 6 communities like Tracadie. A standard 2x6 stud wall filled with R-20 batt insulation doesn't actually deliver R-20 performance — the wooden studs themselves conduct heat far better than the insulation between them, reducing the effective whole-wall R-value to somewhere around R-14 to R-16 once you account for studs, top plates, headers, and corners. In a coastal Acadian community like Tracadie, where winter temperatures regularly drop to -20°C or colder with persistent wind chill, that difference translates directly into higher energy bills and cold spots on interior wall surfaces.

Continuous exterior insulation is the most effective solution and has become standard practice in high-performance NB construction. By installing a layer of rigid insulation — typically **extruded polystyrene (XPS)**, **expanded polystyrene (EPS)**, or **mineral wool board** — on the outside face of the sheathing before cladding is applied, you create a thermal break that interrupts the conductive path through every stud. Even 1.5 inches of XPS (R-7.5) added outside the stud cavity dramatically improves performance. The NB Building Code does not explicitly mandate continuous insulation in all residential assemblies, but energy compliance paths under the National Energy Code for Buildings increasingly reward or require it to meet effective R-value targets.

For a 2x6 wall in Tracadie, a practical high-performance assembly might be: drywall, poly vapour barrier, R-22 mineral wool batt in the cavity (mineral wool is preferred over fibreglass in cold climates for its dimensional stability and moisture resistance), 2-inch polyiso or XPS board on the exterior, then furring strips and cladding. This assembly can achieve an effective whole-wall R-value in the R-28 to R-32 range — a massive improvement over cavity insulation alone.

Mineral wool rigid board deserves particular mention as a thermal break material. Unlike XPS, which uses blowing agents with high global warming potential, mineral wool board is vapour-permeable. This means the wall assembly can dry to the exterior, which is important in Maritime climates where exterior cladding occasionally allows some moisture ingress. Vapour-permeable continuous insulation is a more forgiving choice in humid coastal areas.

Another approach that addresses bridging without adding exterior thickness is the **double-stud wall**. Two separate stud walls — often 2x4 each — are built with a gap between them, and the entire cavity is filled with dense-pack cellulose or blown-in fibreglass. Because the inner and outer studs are not aligned, there is no continuous wood path from interior to exterior. Double-stud walls can achieve R-40 or more and are popular in Passive House-inspired builds, though they do consume more floor space.

Thermal camera audits are an excellent diagnostic tool if you're renovating an existing Tracadie home rather than building new. A blower door test combined with an infrared scan during cold weather will reveal exactly where bridging is occurring — you'll see the stud pattern illuminated across the wall surface. Many Fredericton and Moncton energy auditors serve the Tracadie area and can perform these assessments, often as part of an NB Home Energy Assessment that qualifies the homeowner for **NB Power efficiency rebates** and the **Canada Greener Homes Grant** (up to $5,000 for eligible upgrades, though the grant program has been evolving — check current federal program status).

Don't overlook **rim joists and headers** as bridging locations. The doubled or tripled lumber over windows and doors creates high-conductivity zones. Cutting rigid foam to fit behind rim joist framing and over headers during a renovation, then air-sealing with spray foam at the edges, addresses these often-missed spots.

If you're working with an existing home in Tracadie and exterior re-cladding isn't in the budget, interior continuous insulation is an option — adding 1–2 inches of polyiso on the interior before drywalling will provide a meaningful thermal break, though it requires moving all electrical outlets and trim. For professional guidance on which approach suits your specific wall assembly and budget, the contractors listed on **New Brunswick Insulation** can assess your home and recommend a solution appropriate for the Acadian Peninsula climate.

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Q17

What is the best way to insulate a shared wall in a Fredericton duplex? | Insulation IQ?

Insulating a shared wall — also called a **party wall** — in a Fredericton duplex serves two distinct purposes that are easy to conflate but require different approaches: **thermal performance** and **sound attenuation**. If the duplex is a

side-by-side unit where the shared wall separates two conditioned spaces, heat loss through that wall is minimal because both sides are typically heated to similar temperatures. The dominant concern in that scenario is sound transmission between units. If, however, one side of the party wall is an unconditioned space or the duplex is a top-bottom configuration with differing occupancy schedules and temperatures, thermal insulation matters more.

For the most common Fredericton scenario — a side-by-side duplex with both units heated — **acoustic performance** drives the specification. The NB Building Code, following Part 9 of the National Building Code of Canada, requires party walls between dwelling units to achieve a minimum **Sound Transmission Class (STC) of 50**. An uninsulated stud wall might test around STC 33–35. A single layer of drywall on each side of standard 2x4 framing with fibreglass batt insulation gets you to roughly STC 44–46 — still below code minimum. Reaching STC 50 typically requires either resilient channels on one side, double drywall layers, or specialty assemblies.

Mineral wool (rock wool) batt insulation is the preferred product in party wall assemblies because it significantly outperforms fibreglass batts for sound absorption. A 3.5-inch mineral wool batt in a 2x4 wall cavity absorbs mid-frequency sound energy far more effectively than a comparable fibreglass batt at the same thickness. Products like Rockwool Safe'n'Sound are designed specifically for this application. In a 2x6 stud wall cavity, a 5.5-inch mineral wool batt will provide even better results.

For Fredericton duplex renovations where you're opening the wall anyway, a high-performance party wall assembly might look like this: 5/8-inch Type X drywall on resilient channels on one side, mineral wool batts filling the cavity, standard 5/8-inch Type X drywall on the other side. This assembly can achieve STC 55–60, comfortably exceeding the code minimum and providing genuine acoustic privacy between units. The resilient channels mechanically decouple the drywall from the framing, preventing sound from transmitting through the structure itself — this is often called **structure-borne sound isolation** and is just as important as absorbing airborne sound in the cavity.

If the party wall in your Fredericton duplex is a **fire separation**, the Building Code also requires it to be constructed as a firewall with specific fire-resistance ratings. Mineral wool has an inherent advantage here as well — it is non-combustible and maintains its form under fire exposure, contributing to the fire-resistance rating of the assembly. Always verify the assembly with your local building permit office, as Fredericton's permit department will want documentation that the party wall meets both fire and acoustic requirements.

Spray polyurethane foam is sometimes proposed for party walls, but it is generally a poor choice. Closed-cell spray foam is dense and rigid, which actually transmits vibration efficiently — the opposite of what you want acoustically. Open-cell spray foam is softer and performs somewhat better for sound, but mineral wool batts typically outperform it at lower cost specifically for STC ratings.

When budgeting a Fredericton party wall project, expect costs of roughly **$4 to $8 per square foot** for a complete mineral wool batt installation with resilient channels and double drywall, depending on wall height and access

conditions. Labour accounts for most of this cost in the capital region. For a typical 8-foot wall shared between two units over two storeys, the total project might run $2,500 to $5,000 fully installed, though pricing varies widely.

If the goal is also to add thermal performance — perhaps because your duplex conversion has one unit that runs cooler — consider that even without thermal bridging concerns, the party wall benefits thermally from being well-sealed. Air leakage between units through outlet boxes, pot lights, and plumbing penetrations allows heated air to transfer between units and can affect both comfort and energy bills. Sealing all penetrations with acoustical sealant as part of the party wall project addresses both thermal and acoustic goals simultaneously. For specific product recommendations and installation quotes in the Fredericton area, **New Brunswick Insulation** connects homeowners and landlords with qualified insulation professionals familiar with duplex and multi-unit requirements.

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Q18

How much wall insulation is needed for a two-storey home in Grand Falls NB? | Insulation IQ?

Grand Falls (Grand-Sault) sits in the upper Saint John River valley in a region of New Brunswick that experiences some of the province's most demanding winters — temperatures regularly reaching -25°C or colder during January cold snaps, with the community firmly in **Climate Zone 6** under the National Energy Code for Buildings. For a two-storey home in Grand Falls, getting wall insulation right means understanding both the minimum code requirements and the practical performance standards that actually keep heating bills reasonable.

Under Part 9 of the National Building Code of Canada (as adopted by New Brunswick), the prescriptive minimum for above-grade walls in Climate Zone 6 is **effective R-22** for 2x6 framing. However, it's critical to understand that

"effective R-value" accounts for thermal bridging through studs and framing members, which means the nominal R-value of the insulation product installed in the cavity must be higher than R-22 to achieve R-22 effective. A 2x6 wall cavity filled with R-22 mineral wool batts, once accounting for the wood fraction of the framing (roughly 15–25% of the wall area), will deliver an effective whole-wall R-value of approximately R-14 to R-16. This is why code-compliant new construction in NB typically combines cavity insulation with some form of continuous insulation or thermal break on the exterior.

For a two-storey home being built in Grand Falls today, a common compliant assembly is **2x6 framing at 16-inch on-centre with R-22 fibreglass or mineral wool batts in the cavity**, plus **1.5 to 2 inches of continuous rigid insulation on the exterior** of the sheathing. Two inches of XPS (extruded polystyrene) adds approximately R-10, bringing the effective whole-wall value to roughly R-22 to R-24 once all components are accounted for. Alternatively, some builders use thicker 2x8 framing (R-28 cavity) without exterior insulation to meet the effective target.

For a **renovation** to an existing two-storey home in Grand Falls — say, a 1970s or 1980s build with original 2x4 walls and old fibreglass batts — the situation is different. Older 2x4 framing leaves only 3.5 inches of cavity depth, which limits cavity-only insulation to roughly R-13 to R-15. Renovation options include: adding interior strapping and 2 inches of polyiso on the interior side before drywalling (adds R-12 and a thermal break, though it reduces interior dimensions slightly), re-cladding the exterior with continuous rigid insulation on the outside of the existing sheathing, or in some cases converting to blown-in dense-pack insulation to better fill any voids left by settled batts.

Cost estimates for Grand Falls wall insulation work: blown-in dense-pack cellulose into existing 2x6 walls runs roughly **$1.50 to $2.50 per square foot** of wall area. For a two-storey home with approximately 2,000 square feet of above-grade wall area (accounting for windows and doors), that's $3,000 to $5,000 for a dense-pack upgrade. A full exterior continuous insulation project with re-cladding is substantially more — typically $15,000 to $30,000 for the insulation and cladding component on a two-storey home — but this approach also addresses air sealing and moisture management comprehensively.

NB Power's residential efficiency programs offer rebates for qualifying insulation upgrades. The specific rebate amounts and eligible measures change periodically, so it's worth checking with NB Power directly or completing an NRCan-registered energy assessment to understand what upgrades qualify. The **Canada Greener Homes Grant** has provided up to $5,000 for eligible building envelope improvements — verify current program availability as federal programs have been subject to funding changes.

For a two-storey home in Grand Falls, the wall area is substantial. The ground floor exterior walls might span 800 to 1,000 linear feet of perimeter (depending on floor plan), multiplied by 9-foot ceiling height, minus windows and doors. The upper storey adds a similar amount. This means wall insulation decisions have a significant cumulative

effect on annual heating costs — in a community where natural gas isn't available and homes typically rely on **oil, electric baseboard, or heat pump systems**, the payback on a proper wall insulation upgrade can be 7 to 12 years. Pair it with an air-source heat pump and the payback improves considerably.

For personalized guidance on the right wall assembly for your specific home and budget in Grand Falls, the professionals at **New Brunswick Insulation** and the **New Brunswick Construction Network** can connect you with experienced contractors who work in the upper Saint John River valley.

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