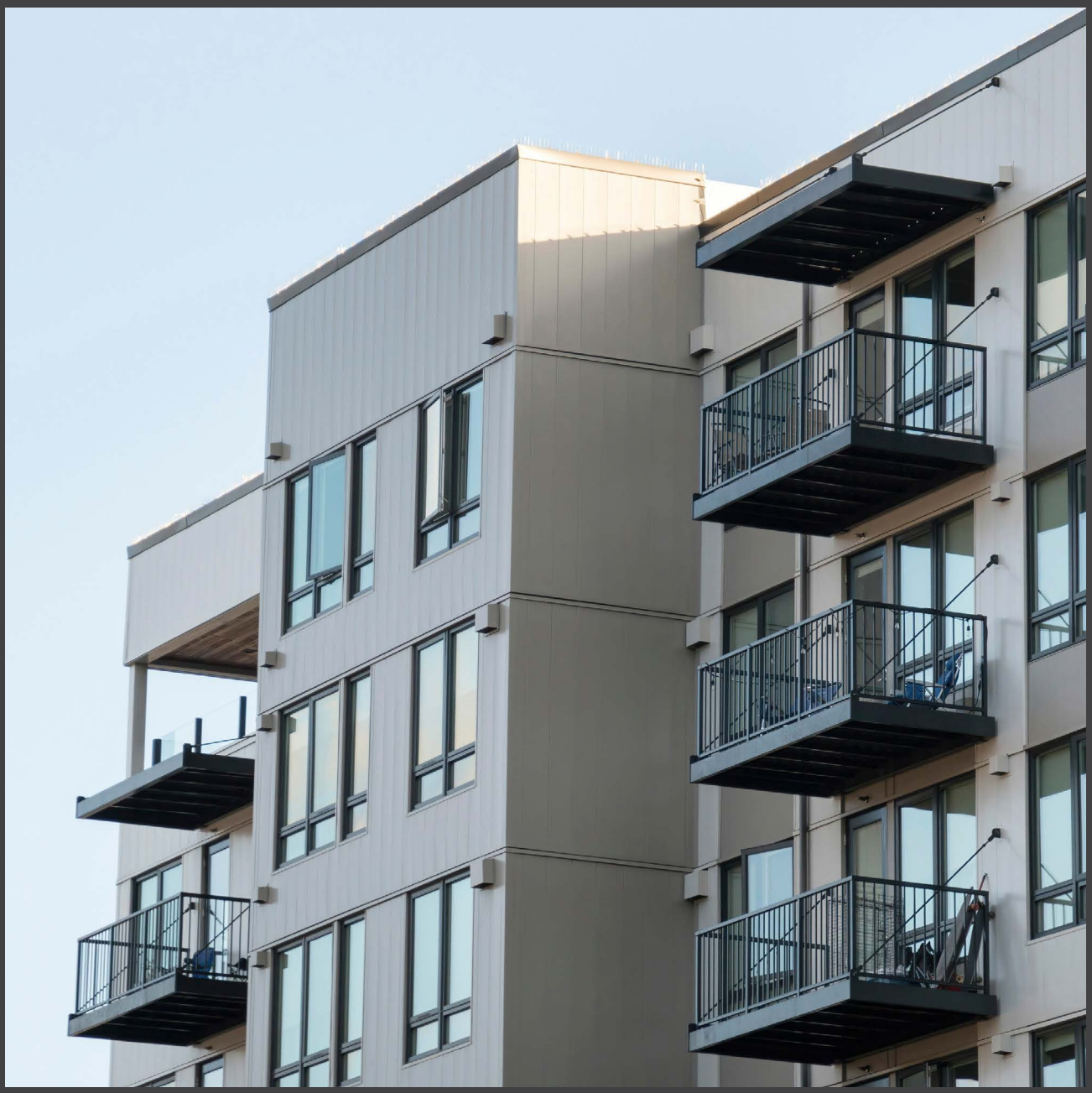
Rethinking Value

The Business Impact of Multi-Unit Residential Buildings



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At a Glance

Objective

Assess the business case for LEED® and Zero Carbon Building Standards™ (ZCB Standards) certification in Canadian multi-unit residential buildings — encompassing both market-rate rental and condominium developments and projects with a significant affordable housing component.

Methods and Sample

Mixed-methods primary research comprising four project surveys and three semi-structured interviews with owners, developers, and asset managers of certified multi-unit residential buildings in Ontario and Quebec.

Headline Findings

In the context of the research objective and approach, this brief examines LEED- and/or ZCB Standard-certified multi-unit residential buildings, representing a mix of market-rate rental and affordable housing projects across multiple Canadian regions. The projects were selected because they sit at the leading edge of residential certification in Canada — offering directional insight into the cost, performance, and decision dynamics that will shape the next wave of high-performance multi-unit housing. The findings reflect preliminary, decision-relevant evidence from early adopters operating at the intersection of Canada Mortgage and Housing Corporation (CMHC) aligned financing, zero-carbon building adoption, and delivery at scale.

Reported capital cost premiums in this limited sample size range significantly, as the upper bound reflects a COVID-era project affected by unprecedented supply chain disruption that inflated costs for all building types, whether certified or not. Excluding that outlier, premiums clustered between zero and 11 percent, with lower costs consistently associated with early design integration and simplified electrified mechanical systems. These findings suggest that while certification does carry an incremental cost, the magnitude is highly sensitive to procurement approach, project timing, and design philosophy — and is not inherently prohibitive.

Once operational, certified buildings in the sample achieved 25 to 35 percent energy cost reductions relative to code-built comparables. For condominium purchasers, these savings translate into lower monthly fees and reduced energy costs — among the highest recurring expenses for unit owners. For rental operators, the link between certification-driven efficiency and net operating income improvement represents one of the most tangible and bankable value propositions in the residential sector. Several respondents noted that operating savings were a confirming factor rather than the primary motivation, but one that strengthened the overall hold strategy and supported long-term asset performance.

Savings alone were not what made these projects viable, however. Access to preferential financing — particularly through CMHC's Mortgage Loan Insurance (MLI) Select program and the Apartment Construction Loan Program (ACLP) — emerged as the most significant factor in the certification decision. Reduced interest rates and enhanced loan terms tied to energy performance improved overall project feasibility and, in several cases, made the difference between a project proceeding and stalling. Respondents described a clear pattern: where financing is aligned with certification, adoption tends to follow; where it is not, sustainability arguments alone may not be sufficient to shift project economics. Performance-linked financing was identified as more effective than fragmented incentive programs, which respondents described as time-consuming to navigate and rarely substantial enough to materially change project outcomes.

Beyond the financial case, respondents pointed to a reinforcing set of co-benefits that strengthened the decision rationale over time. Improved indoor air quality and thermal comfort, fewer tenant complaints, lower maintenance-related turnover, and reduced operational friction were consistently cited by owners with long-term hold strategies. Building-level resilience also featured prominently: airtightness and mechanical ventilation with filtration provide meaningful occupant protection during wildfire smoke events, heat domes, and atmospheric inversions — an increasingly material consideration in several Canadian markets. From an owner and operator perspective, certified buildings were associated with fewer service calls, more stable tenant relationships, and a more predictable cost profile over the hold period.

These initial findings represent the first phase of a planned research trajectory. A follow-on phase targeting ZCB-Design multi-unit residential buildings and operational performance data is planned for 2027, with the objective of expanding the evidence base and tracking performance outcomes as the market matures.

Metric	Range Observed	Evidence
Operating cost savings	17-37% vs. code-minimum baseline	Projects 1, 3
Construction cost premium	Sub-1% to ~11%[1] (wide range reflecting project complexity, COVID inflation, and system choices)	Projects 1-4; Interviews 1-3
Annual energy use	96k-8.2M kWh/year	Projects 1, 3
Payback period	5-10 years (where reported); 15+ years in low-cost-electricity markets	Projects 1, 3; Interviews 1-2
CMHC financing accessed	MLI Select, ACLP	Projects 2, 4; Interviews 1-2
Mechanical system reduction	Up to 25% elimination of conventional mechanical equipment	Interview 3

[1] An upper bound from 11-20% was estimated by one owner, in relation to a project undertaken during the COVID-19 lockdown where it was difficult for them to estimate precisely what cost increases could be linked directly to sustainability.

Key Terms and Definitions

Incremental Capital Cost (Green Premium)	The additional upfront construction cost attributable to achieving green certification, reported relative to each respondent's conventional code-minimum baseline. Excludes soft costs (certification fees, consultants, documentation) unless otherwise noted.
Operating Cost Savings	Reduction in annual building operating expenses (utilities, maintenance) relative to either the applicable building code baseline or the owner's own conventional (non-certified) project benchmarks, as reported by each respondent.
Code Baseline	The minimum energy performance requirements set by the applicable building code (e.g., National Energy Code of Canada for Buildings, Ontario Building Code) used as the reference point for reporting savings.
Net Operating Income (NOI)	Total property revenue minus operating expenses, before debt service and capital expenditure.
Cap Rate (Capitalization Rate)	A property's NOI divided by its market value; a lower cap rate implies higher asset value. Cap rate compression refers to a decrease in cap rate (i.e., an increase in implied value) associated with certified or higher-performing assets.
Rent Premium	Additional rent achievable above the comparable market rate, attributable to green certification or sustainability features.
Simple Payback Period	The time required for cumulative operating cost savings to equal the incremental capital investment, expressed in years.
Energy Use Intensity (EUI)	Total energy consumed per unit of floor area per year, typically expressed in kilowatt-hours per square meter (kWh/m²) or gigajoules per square meter (GJ/m²). Used to benchmark building performance independent of building size.
Thermal Energy Demand Intensity (TEDI)	The annual heating energy demand per unit of floor area (kWh/m²), reflecting envelope performance. A key metric in the ZCB Standards.

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1 Introduction and Purpose

Green building certification is often evaluated through a narrowly defined financial lens, shaped by a persistent industry assumption that it carries a significant upfront cost premium. Growing concerns around increased capital costs, design complexity, and evolving regulatory requirements, continue to influence decision making and can act as barriers to broader uptake. As a result, the business case for green certification is frequently framed in terms of incremental costs limiting how value is understood and assessed.

Across the residential sample, one finding emerged consistently: preferential financing is the most significant driver of green building certification in this sector. Access to Canada Mortgage Housing Corporation (CMHC) programs — particularly Mortgage Loan Insurance (MLI) Select and the Affordable Construction Loan Program (ACLP) — improves project feasibility through reduced interest rates and enhanced loan terms tied to energy performance. In this environment, certification functions not as a cost burden but as an efficient pathway to unlocking financing outcomes that can produce savings of hundreds of thousands to millions of dollars per project. This finding carries direct implications for policy: where financing is aligned with certification, adoption tends to follow; where it is not, sustainability arguments alone may not be sufficient to shift project economics.

This research is part of an initial series that aims to move beyond hypothetical or modelled scenarios by presenting original primary findings drawn from survey responses and in-depth interviews with owners, operators, and developers of certified buildings from across Canada and asset types. The results offer direct insight into real-world experiences of delivering and operating certified assets, revealing how perceived cost premiums often differ from realized outcomes. The insights also uncover co-benefits associated with sustainability investments — such as improved occupant well being, operational stability, market competitiveness, risk mitigation, and long-term asset performance — that are not consistently captured in conventional business cases.

Canada's multi-unit residential sector — encompassing purpose-built rental, condominium, and mixed-income developments — faces a unique set of pressures that distinguish it from commercial and institutional asset classes. Housing affordability is a national priority, construction costs have escalated sharply through the COVID era, and developers must navigate increasingly stringent energy codes while maintaining financial feasibility for investors and lenders — and tenants. Within this environment, green building certifications — specifically Leadership in Energy and Environmental Design® or LEED® (Gold and Platinum) and the Canada Green Building Council™ (CAGBC) Zero Carbon Building Standards™ (ZCB Standards) — are gaining adoption, driven primarily by financing imperatives and long-term asset strategy.

For market rate residential projects, certification decisions are closely tied to access to CMHC financing programs. Programs such as MLI Select explicitly reward higher energy performance with preferential interest rates and loan terms, producing material savings over the life of a project. In this environment, certification — particularly ZCB-Design — functions as an efficient and credible pathway to achieving the performance thresholds required for enhanced financing outcomes. For projects with meaningful, affordable housing components, the business case is more constrained and multi-layered. Developers cannot rely on market-rate rents to absorb capital premiums, and project feasibility often depends on assembling complex capital stacks that combine CMHC programs, affordable housing funds, and other public or quasi-public sources. In these cases, certification supports access to financing but must be balanced with the realities of affordable unit design, cost containment, and delivery targets.

This research brief, jointly prepared by CAGBC and PricewaterhouseCoopers LLP (PwC), presents original primary research from four survey responses and three in-depth interviews with owners, developers, and asset managers of certified multi-unit residential buildings in Ontario and Quebec. The sample includes market-rate condominiums, purpose-built rental (including student housing), mixed-use residential developments, and a large-scale project with a significant affordable housing component. The purpose of this brief is to provide a concise, evidence-based synthesis of how green building certification functions in the residential sector, and to clearly distinguish the financial, design, and risk dynamics that differentiate market-rate and affordable housing business cases.

2 Methodology

The research brief is based on primary data collected through a national business case study, employing a mixed-methods approach. Primary data was collected through a structured online survey and semi-structured qualitative interviews, both conducted in early 2026. All responses are self-reported by building owners and developers.

The qualitative insights and contextual observations are drawn from both survey open-text responses and semi-structured interviews, along with a dedicated industry engagement session. The industry session involved a collaborative review of preliminary insights with 30 cross-sector experts (investors, owners, asset managers and finance professionals), to further ground the qualitative insights and contextual observations in broader market realities.

Data Collection

The study targeted certified multi-unit residential buildings that are LEED Gold or higher, and/or ZCB-Design or ZCB-Performance, across Canadian provinces. Survey data was aggregated to identify ranges and patterns. Interview data was coded thematically. All findings are derived directly from respondents; no data has been inferred or extrapolated. Interviews are references by number (Interview 1–3) and projects by coded identifiers (Project 1–4).

Quantitative surveys	Qualitative interviews
Structured questionnaires capturing project details, certification level, capital costs, operating performance, financing, asset valuation metrics, tenant experience, and future-proofing strategies.	Semi-structured virtual interviews (~45–60 minutes each) with developers, sustainability professionals, and asset managers. Topics included decision drivers, financial feasibility, technologies, tenant experience, market context, and lessons learned.

Interview Participants

Interviewee 1	Interviewee 2	Interviewee 3
The principal of a purpose-built rental development firm specializing in student housing, with projects in Kingston and Toronto. A mechanical engineer and former sustainability consultant, with experience in geo-exchange systems, CO_2 heat pumps, and CMHC financing optimization.	A sustainability and development leader at a major Canadian real estate investment and development firm, responsible for sustainable development strategy across existing and new assets. Extensive experience with geothermal systems, affordable housing financing ACLP, other CMHC programs), and embodied carbon reduction.	The principal of a residential development company focused on purpose-built rental buildings designed for sustainability from inception. Experience with reductive design approaches, air source heat pumps, high-performance envelopes, and CMHC financing.

Sample Overview

Project	City	Province	Certification	Ownership	Building Type
Project 1	Toronto	Ontario	LEED Gold NC 2009, Toronto Green Standard (TGS) v2 Tier 2	Private	Market (Condo)
Project 2	Kingston	Ontario	ZCB-Design v3	Private	Market (Purpose-Built Rental / Student Housing)
Project 3	Montreal	Quebec	LEED v4 Homes and Multifamily Midrise; ZCB-Design v1	Private	Market (Mixed-Use / Residential)
Project 4	Toronto	Ontario	ZCB-Design v2	Private	Market + Affordable (40% affordable units)

Project 1 is a condominium development in Toronto, certified LEED Gold NC 2009 with Toronto Green Standard (TGS) v2 Tier 2, featuring in-suite variable refrigerant flow (VRF) units, a green roof, and high albedo landscape materials.

Project 2 is a purpose-built rental student residence in Kingston, Ontario, achieving ZCB-Design v3 certification in 2024, with a total development cost of approximately $76.5 million. The project has only four months of occupancy data.

Project 3 is a small-scale mixed-use building in Montreal (office at ground floor, eight apartments above), designed to LEED v4 Homes and Multifamily Midrise and ZCB-Design v1, with a total development cost of approximately $4.5 million.

Project 4 is a large-scale purpose-built rental development in Toronto comprising a 10- and 29-storey building with over 390 residential units, 40 percent of which are affordable, targeting ZCB-Design v2 certification, with a total development cost of $200–$300 million. The project was under construction and at the time of writing.

3 Financial Performance

3.1. Capital Costs and Construction Premiums

In multi-unit residential, incremental capital costs associated with green building certification vary widely — but the evidence indicates that this variation is driven primarily by design approach and project complexity rather than sustainability requirements. Across the sample, reported premiums ranged from sub-one percent to approximately 14-20 percent. The outlier of 14-20 percent, Project 2, reflects a broader construction cost escalation during the COVID period; the owner identified the exact premium as difficult to identify but estimated it at 14-20%. Excluding the COVID-era project, reported incremental capital premiums clustered between approximately zero and 11 percent, with projects reporting near-zero premiums where sustainability was embedded from the outset. The highest figures should be understood in the context of unprecedented supply chain disruption and construction cost inflation that affected all buildings, not only certified projects.

Project	Incremental Capital Cost	Total Development Cost	Notes
Project 1	$3.2M	Not reported	LEED Gold + TGS v2 Tier 2
Project 2	~$11M (~14-20%)[2]	~$76.5M	ZCB-Design v3; difficult to parse due to COVID inflation
Project 3	$500k (~11%)	~$4.5M	LEED v4 Homes + ZCB-Design v1
Project 4	$3.5M (~1-2%)	$200M–$300M	ZCB-Design v2; 2% premium for geo + heat pump system alone

The most consistent finding is that capital premiums can be materially reduced — or eliminated — when sustainability is embedded from the outset rather than added to a conventional design.

Respondents described a reductive design approach in which high-performance envelopes and electrification allow developers to eliminate multiple conventional mechanical systems. As one developer explained: “We start from the beginning designing a building to be sustainable and actually removing things from our building to make it more sustainable… we’ve eliminated 25 percent of the mechanical systems from the building.” By consolidating space heating, cooling, and domestic hot water into simpler electrified systems, projects reduce ductwork, equipment counts, and trade coordination. In these cases, the incremental cost of better envelopes and windows is largely offset by savings from mechanical simplification and reduced construction complexity.

Conversely, projects that layer green features onto a conventional baseline tend to report higher apparent premiums. Respondents noted that sustainability can trigger automatic pricing uplifts from contractors, even where specified products are functionally comparable. Developers that avoided labelling components as “green” and instead focused on performance-based specifications reported better cost control, underscoring that perception and procurement practices materially influence reported premiums.

Large-scale residential projects (300+ units) reported that low incremental premiums remained achievable at scale. In reported cases, the incremental cost attributable solely to electrified heating systems (e.g., geothermal and heat pumps) was approximately two percent, with alternative system configurations capable of reducing this figure further. These findings suggest that certification targets can often be met through system selection rather than extensive envelope intensification.

[2] Data provided included $11,000,000 out of $76,500,000 and 20% premium as estimates for the incremental cost premium, with additional input that exact sustainability premium was difficult to estimate to COVID-inflation.

Affordable Housing Considerations

Affordable housing introduces a structurally different cost calculus. Developers cannot rely on market-rate rents to absorb capital premiums, making prioritization critical. Respondents emphasized the need to focus investment on measures that deliver the greatest performance impact per dollar. As one respondent noted, “there is a diminishing return on how much additional capital you invest in the envelope, especially when building an asset with a high proportion of affordable units… you have to pick and choose what is going to drive performance the most.”

Maximizing unit density is crucial for affordable housing, but this approach can clash with strict, intensity-based targets like Thermal Energy Demand Intensity (TEDI). One developer described reducing unit sizes to deliver more affordable housing, only to find that the project’s TEDI increased—: “If you want to push the market in the right direction, you have to allow for these nuances and adjustments.” Applying the built-in flexibility of existing certification pathways — specifically the all-electric option that enables fossil-fuel-free buildings to comply without driving up envelope costs — was identified as essential to maintaining feasibility.

Key Observation

The green building premium in multi-unit residential can approach zero when sustainability is designed in from the beginning rather than added to a conventional design. A reductive approach — eliminating conventional mechanical systems and simplifying the building — generates savings that offset the cost of better envelopes and windows. Fragmented municipal green building standards and lengthy, complex approval processes can add cost and complexity regardless of certification, reinforcing the value of nationally consistent frameworks.

3.2. Operating Performance and Energy Savings

Operating cost savings for green buildings represent a meaningful component of the residential green building business case, though the available evidence remains limited by short operating histories. Operating cost savings are reported relative to applicable building code baselines or the developer’s conventional (non-certified) project benchmarks, as specified by each respondent.

Reported Operating Cost Savings

Project	Savings (% reduction)	Savings ($/year)	Notes
Project 1	37%	$420k	Condo; savings realized by condo corporation, not developer
Project 2	Unknown	Unknown	Only 4 months of occupancy
Project 3	17%	~$17.2k	Energy intensity reduction; small-scale building, 29% of maintenance cost reduction
Project 4	NA	NA	Under construction; occupancy July 2026

Where measured, reported operating cost savings ranged from 17 to 37 percent. These reductions were driven primarily by lower energy consumption, reflecting the fact that energy is one of the few operating cost categories materially affected by green building measures in residential assets. In reported cases, annual savings ranged from approximately $17,000 to $420,000, depending on building scale and asset type. For condominium purchasers, these savings translate directly into lower monthly condo fees and energy costs — which are increasingly among the highest recurring expenses for unit owners, alongside insurance.

The financial impact of operating savings varies significantly by ownership structure. In condominium developments, operating savings accrue to the condo corporation and unit owners rather than the developer, creating a split incentive dynamic. While certification delivers long-term value through lower operating costs and improved building performance, the developer typically does not capture this value directly at completion or stabilization (i.e., when a building is fully occupied).

In rental and mixed-use residential buildings, operating savings flow directly to ownership. Reduced energy costs, lower ongoing operating expenses, and reduced exposure to future utility rate increases, supporting higher net operating income over time. For purpose-built rental developers, this direct link between certification-driven operating performance and NOI improvement represents one of the strongest and most tangible value propositions of green building certification — comparable in significance to preferential financing access as a driver of the business case.

Regional energy pricing materially influences the payback profile of residential green buildings. In jurisdictions with low electricity rates, such as Quebec, even large percentage reductions in energy intensity may translate into relatively modest absolute savings, extending payback periods beyond 15 years. This highlights the importance of evaluating operating performance in both percentage and dollar terms, and of considering local utility pricing when assessing financial feasibility.

Modelled performance results indicate that deeper savings are achievable but require operational validation. One project was designed to achieve approximately 59 percent total energy savings relative to the applicable building code and received full points for energy performance; however, full verification remains pending until a complete seasonal operating cycle is completed.

In affordable and non market housing contexts (developed by an institution), the operating savings mechanism differs from commercial models. Rather than capturing value through rent premiums, institutions maintain market equivalent rents and realize financial benefit through reduced utility expenses.

Overall, the findings suggest that operating performance improvements are real and material in residential green buildings, but who captures the value — and how quickly — depends on asset structure, geography, and tenure. Certification consistently reduces energy consumption, but its financial impact is strongest where owners retain long-term exposure to operating costs.

Annual Energy Use

Energy use intensity (EUI) evidence across the residential sample is currently constrained by limited operational maturity and inconsistent reporting formats. Available data includes a mix of measured annual energy consumption for occupied assets, modelled estimates for projects still under construction, and percentage-based EUI savings relative to code baselines without corresponding absolute EUI values. Within this context, one reported case achieved a 59 percent reduction in EUI relative to its code-minimum baseline, representing the strongest quantified intensity improvement observed in the sample to date, although the absolute EUI figure was not provided. Overall, the spread in absolute annual energy use reflects variation in building size and program rather than efficiency alone, and direct cross-asset EUI comparisons are not meaningful without normalization for gross floor area, occupancy, climate zone, and use type. As more projects complete at least one full seasonal operating cycle and report standardized EUI metrics, the residential EUI evidence base should become substantially stronger and more comparable.

Project	Total Energy Use (kWh/year)	Annual EUI Savings (%)	Notes
Project 1	8.2M	Not reported	Large condo
Project 2	Unknown	Unknown	4 months occupancy only
Project 3	96.1k	59%	Small mixed-use building; in-cludes onsite PV
Project 4	Est. 2.6M	Not reported	Project under development

Key Observation

Operating cost savings of 17–37% are observed in the residential sample, with the financial impact varying significantly by building scale, regional energy pricing, and ownership structure. For purpose-built rental developers, these savings flow directly to NOI improvement; for condominiums, the developer bears the cost, but the condo corporation captures the savings — a split incentive challenge.

3.3. Asset Valuation and Market Perception

The valuation impact of green building certification in multi-unit residential is emerging but not yet consistently reflected in underwriting. Across the sample, respondents reported improvements in NOI, driven primarily by operating cost reductions rather than rent growth. Evidence of cap rate compression and valuation uplift exists but remains uneven and is generally treated as qualitative rather than deterministic in financial models.

Project	NOI	Cap Rate Impact	Appraised Value Impact	Rent Premium
Project 1	Increased	Increased	Not reported	Not reported
Project 2	Increased	Decreased	Increased	Not reported
Project 3	Increased	Increased	Not reported	5%
Project 4	NA	Not reported	Not reported	Not reported

Where reported, NOI increased across certified residential projects, reflecting the operating performance improvements discussed in Section 3.2. In select cases, respondents observed improved appraised values and lower implied cap rates, particularly where certification aligned with CMHC financing programs and institutional investor expectations. However, these outcomes were not uniformly observed across the sample and were often described as context-specific.

Rent premiums attributable to certification were limited. Only one reported case cited a rent premium of approximately five percent, and interview evidence consistently emphasized that residential tenants are unwilling to pay materially higher rents solely because of sustainability features. Respondents noted that tenants pay market rents based on affordability constraints, regardless of certification status.

Instead, sustainability appears to influence leasing performance rather than pricing. Interview evidence suggests that a significant share of renters express a preference for sustainable buildings when all else is equal, translating into faster lease-up, higher occupancy, and reduced vacancy rather than higher achievable rents. In a softening rental market — where year-over-year rent growth has moderated or declined — this absorption advantage becomes more commercially relevant. Cap rate compression remains an emerging but not yet underwritten phenomenon. Respondents noted that cap rate improvements of approximately 25 basis points are sometimes discussed by appraisers and investors for certified residential assets, particularly at the portfolio level for larger institutional owners. However, these effects were described as anecdotal and forward-looking, and none of the interviewed developers reported underwriting cap rate compression into project pro formas.

Overall, the findings suggest that the financial value of green certification in multi-unit residential buildings primarily flows through operating cost reductions and NOI stability rather than rent premiums. Certification supports asset competitiveness, absorption, and perceived long-term resilience, but valuation impacts are still emerging and are not yet consistently priced by the market.

Key Observation

In multi-unit residential, green certification enhances asset value primarily through improved operating performance rather than rent growth. Tenants are unlikely to pay materially higher rents for sustainable buildings, but certification can accelerate lease-up, reduce vacancy, and position assets more competitively — particularly in a softening rental market. Evidence of cap rate compression is emerging but not yet consistently reflected in underwriting practices.

3.4. Financing, Incentives and Insurance

Financing emerged as the single most important driver of green building certification in the multi-unit residential sector. Across surveys and interviews, respondents consistently emphasized that certification decisions are primarily motivated by access to preferential financing terms rather than tenant demand, ESG positioning, or rent premiums.

Project	Incentives Accessed	Financing Programs	Type
Project 1	TGS Tier 2 Incentive: $1.5M	CMHC MLI Select	Condo
Project 2	Yes (unspecified)	Unspecified	Student housing
Project 3	Grant for innovative wood structure (Quebec Ministry)	Unspecified	Small-scale
Project 4	Yes (unspecified)	CMHC MLI Select	40% affordable

CMHC financing programs — particularly MLI Select — were identified as the dominant mechanism linking certification to project feasibility. These programs explicitly reward energy performance with reduced interest rates and improved loan terms, producing material financial benefits over the life of a project. Respondents noted that achieving ZCB-Design certification provides a clear and efficient pathway to meeting the energy performance thresholds required to unlock the most favourable CMHC financing conditions, with interest savings described as reaching hundreds of thousands to millions of dollars per project.

Beyond interest rate reductions, CMHC-aligned sustainability performance was also described as facilitating broader development outcomes. In some cases, access to CMHC financing enabled the delivery of below-market units, which in turn supported faster municipal approvals and improved project timelines. Respondents emphasized that certification frameworks aligned with financing requirements are therefore pursued selectively and strategically, rather than as a universal sustainability objective.

Incentive uptake beyond CMHC was uneven and project-specific. Some respondents accessed targeted grants or incentives related to construction typology or innovation (e.g., structural systems), while others reported accessing sustainability incentives as part of broader housing or infrastructure programs. Overall, incentives were described as helpful but secondary to financing, and rarely sufficient on their own to materially shift project economics.

No respondent reported a clear, measurable impact of green certification on insurance premiums. While developers actively engage insurers on resilience features — such as leak detection, fire protection, and building systems — insurance pricing was described as opaque and not yet responsive to certification status. Respondents suggested that certification may contribute qualitatively to risk narratives but does not currently translate into observable premium reductions.

Affordable Housing Financing

For projects with affordable housing components, financing structures are significantly more complex. Developers described assembling layered capital stacks that combine CMHC programs, pension or impact-oriented investors willing to accept lower returns, affordable housing funds, and internal long-term hold capital. In these cases, certification supports access to financing but does not eliminate the underlying feasibility challenge created by below-market rents. External capital and mission-aligned investors were identified as essential to making affordable residential projects viable.

Key Observation

CMHC financing programs (MLI Select) are the primary driver of green certification in multi-unit residential — not tenant demand, not ESG mandates, not rent premiums. Certification provides a recognized, efficient pathway to the energy performance thresholds that unlock preferential financing terms. For affordable housing, multiple financing sources must be layered together, and investors willing to accept lower returns for social and environmental outcomes are essential.

4 Technology and Innovation

Technology choices in the multi-unit residential sector shared by the research participants reflect a pragmatic, cost-conscious approach focused on simplicity, proven performance, and ease of operation. Across the sample, respondents emphasized that successful residential green buildings prioritize systems that are familiar to operators, scalable across portfolios, and compatible with tight construction budgets — rather than pursuing technical novelty for the sake of innovation.

Project	Technology	Context
Project 1	In-suite Variable Refrigerant Flow (VRF) units (air cooled), green roof, high albedo materials	Condo
Project 2	Geothermal (geo-exchange), VRF heat recovery, CO_2 heat pumps	—
Project 3	Solar PV, geothermal, mass-timber con-struction, triple-glazed windows	Small-scale ZCB
Project 4	Geothermal, centralized heat pump plant, prefab modular panels, Air-Source Heat Pumps (ASHP)	40% affordable; precast load-bearing walls

Reductive Design Philosophy

Reductive design emerged as the most impactful and cost-effective technology strategy across the residential sample. Rather than adding green technologies to a conventional baseline, leading projects simplified building systems by eliminating redundant mechanical equipment. By consolidating space heating, cooling, and ventilation into integrated heat pump—based solutions — supported by modest envelope improvements — developers reduced equipment counts, ductwork, and coordination across trades. Respondents indicated that this approach could eliminate approximately 25 percent of conventional mechanical systems, materially lowering capital costs and construction complexity while maintaining or improving performance.

Geo-Exchange Systems

Geo-exchange (geothermal) systems were deployed but consistently described as geography- and design-dependent. Where conditions allow, geo-exchange eliminates the need for boilers, cooling towers, and other mechanically intensive systems, shifting investment toward a largely passive ground loop with lower long-term operating requirements. However, respondents emphasized that system economics vary significantly by location due to subsurface conditions, with drilling costs differing materially across regions. More advanced designs that actively balance space heating and domestic hot water loads were identified as a way to maintain ground temperature stability while avoiding costly oversizing of the geo-field. All projects deploying geo-exchange in this sample are in Ontario and Quebec; applicability in other regions will depend on local conditions.

Heat Pumps

Conventional heat pump technologies — including air-source heat pumps (ASHPs) and variable refrigerant flow (VRF) systems — were most commonly deployed across the sample and represent proven, commercially mature solutions for residential applications. VRF systems in particular are an active topic of industry discussion, with developers weighing VRF against other electrified approaches based on project scale, cost, and operational complexity. CO_2 refrigerant heat pumps were identified as a specialized technology with regional variation in maturity. One project deployed CO_2 refrigerant heat pumps for domestic hot water — citing their ability to deliver higher water temperatures efficiently — at a cost of approximately $300,000 versus roughly $80,000 for conventional domestic hot water systems. While CO_2 heat pumps have been used more extensively in some regions, particularly for domestic hot water applications, familiarity and supply chain depth vary significantly across other regions. The developer viewed this as a flagship investment, with subsequent projects transitioning to more cost-effective heat pump alternatives.

Building Envelope

Building envelope investment was consistently identified as important, but subject to diminishing returns. Across the sample, developers emphasized intelligent envelope design — improved continuity, detailing, and window selection — rather than maximal insulation levels. In affordable housing contexts in particular, respondents highlighted that aggressive envelope upgrades driven by intensity-based targets (such as TEDI) can deliver limited incremental carbon benefit at disproportionate cost, reinforcing the need for balanced performance pathways.

Mass Timber, Embodied Carbon and Prefabrication

Embodied carbon strategies varied by construction method and project scale. Respondents reported using mass timber, prefabricated modular panels, and precast load-bearing wall systems to reduce material intensity, shorten construction schedules, and lower embodied carbon. These approaches were described as particularly effective where they aligned with construction efficiency and labour availability, rather than as standalone sustainability measures.

Key Observation

In multi-unit residential, the most effective technology strategy is simplification rather than sophistication. A reductive design approach — eliminating conventional mechanical equipment, pairing modest envelope improvements with proven heat pump systems, and selecting technologies that are easy to operate — can deliver high-performance outcomes with minimal or no capital premium. Geo-exchange can be effective where conditions allow, while CO_2 heat pumps remain an emerging, higher-cost option best suited to targeted applications.

5 Co-Benefits and Occupant Experience

In multi-unit residential buildings, the co-benefits of green certification extend beyond energy savings into occupant comfort, health, and overall building quality and resilience. The research highlights a clear tension: certified buildings deliver objective improvements in thermal comfort, indoor air quality, and environmental performance, yet tenants are generally unwilling to pay a direct rent premium for these features. As a result, the value of certification in the residential context is realized indirectly — through lived experience, leasing performance, and risk reduction — rather than through higher rents. Importantly, the co-benefits of certification also accrue directly to owners and operators. For rental building owners, improved building performance translates into fewer tenant complaints, lower maintenance-related turnover, and reduced operational friction — outcomes that support long-term hold strategies and reduce total cost of ownership.

Comfort and Indoor Environment

Certified residential buildings consistently deliver measurable improvements in thermal comfort and indoor environmental quality. Respondents emphasized that high-performance envelopes maintain comfortable surface temperatures at walls and windows, eliminating the perimeter discomfort common in code-minimum buildings. This effectively expands the usable living area within units and improves occupant comfort throughout the space.

Fresh air and indoor air quality emerged as particularly important co benefits. Electrification and the elimination of onsite gas combustion — including gas stoves and gas fired heating equipment — were identified as significant health improvements. Energy recovery ventilators (ERVs), now standard in new construction, provide occupants with continuous, controlled fresh air and allow tenants to manage ventilation directly within their units. Respondents noted that air quality is increasingly central to the lived experience of residential buildings. Airtightness and advanced ventilation and filtration systems also contribute to resilience during deteriorating ambient air quality events — such as wildfire smoke, heat domes, and atmospheric inversions — providing meaningful occupant protection when outdoor conditions are hazardous.

Acoustic performance also contributes meaningfully to occupant satisfaction. Improved sound attenuation between units (e.g., higher Sound Transmission Class (STC) ratings) was repeatedly cited as a quality-of-life benefit, even though it is not directly related to energy performance. Together, thermal comfort, fresh air, and sound control shape occupant perception of building quality.

Tenant Demand and Rent Sensitivity

While tenants value sustainability and building quality, they are generally unwilling to pay a direct rent premium for green features. Across the sample, respondents consistently reported that affordability remains the dominant driver of residential decision-making. Sustainability is appreciated but secondary to rent levels. That said, tenant preference data suggests that a substantial share of renters would choose a sustainable building when all else is equal. In a 2026 Abacus Data survey commissioned by CAGBC, nearly two thirds of Canadians said living in an energy efficient building would improve their quality of life.

This preference manifests not through higher rents, but through faster lease up, lower vacancy, and stronger competitive positioning — particularly in softening rental markets.

Student Housing

In student housing, willingness to pay is driven by building quality and health outcomes rather than sustainability certification itself. Respondents noted that students are prepared to pay materially higher rents for newer buildings with cleaner finishes, better air quality, and the absence of issues such as mold. These premiums are associated with perceived quality and well-being rather than explicit sustainability credentials.

Operationally, respondents also noted that sub-metering and utility cost recovery are more complex in multi-bed student units, limiting the ability to directly pass energy costs to occupants.

Certification as Communication Tool

Certification was consistently identified as a powerful communication and signaling tool. Respondents emphasized that third-party certification simplifies conversations with investors, lenders, partners, and municipalities by providing a clear, credible shorthand for sustainability performance. Rather than requiring detailed technical explanations, certification functions as a recognized benchmark that validates claims and accelerates decision-making across stakeholder groups.

Key Observation

Green certification improves objective comfort, indoor air quality, and perceived building quality in multiunit residential buildings but does not generate direct rent premiums. The value is realized indirectly — through faster absorption, lower vacancy, competitive differentiation, and simplified communication with capital providers. For purpose-built rental developers, financial returns are captured primarily through operating cost savings and risk reduction rather than revenue uplift.

6 Futureproofing and Resilience

In the multi-unit residential sector, green building certification is increasingly viewed through the lens of long-term asset resilience rather than short-term energy savings alone. Respondents consistently framed certification as a strategy to manage regulatory and policy risk, physical climate risk, and energy supply uncertainty over extended holding periods — particularly for developers and owners with long-term exposure to operating and compliance costs.

Regulatory and Policy Risk

Regulatory and policy risk emerged as a primary driver of future-proofing decisions. Respondents highlighted the growing likelihood of retroactive building performance standards in major cities, noting that jurisdictions such as Toronto have explored similar measures and international precedents already exist. Building to high-performance standards today was described as a way to avoid costly, disruptive retrofits in the future. In this context, certification serves as insurance against regulatory and policy obsolescence, addressing the core question of whether assets built today will remain compliant and competitive over the next five to 10 years and beyond.

Physical Climate Risk

Designing for future climate conditions — rather than historical weather data — was identified as a defining resilience strategy. Respondents described using projected 2050 climate scenarios to size heating and cooling systems, with particular emphasis on increasing cooling loads and extreme heat events. This forward-looking approach reduces the likelihood that buildings will require mechanical retrofits as climate conditions evolve and ensures continued performance under more severe temperature extremes.

Resilience considerations increasingly begin at the site-selection stage. Respondents emphasized disciplined avoidance of floodplains and areas vulnerable to sea-level rise or other climate hazards. This upstream decision-making was described as foundational to long-term risk mitigation and additive to insurance and financing narratives, ensuring that resilience is embedded before design and construction even begin.

Energy security and supply resilience were also central considerations. Electrification paired with onsite or campus-scale systems (such as geothermal) was described as addressing both transition risk and physical climate risk simultaneously, reducing exposure to fossil fuel volatility while improving system reliability under changing climate conditions.

Envelope design emerged as a recurring consideration across the sample, with respondents noting that high-performance envelopes — including continuous insulation, thermally broken assemblies, and high-performance glazing — contribute to long-term durability, occupant comfort, and reduced mechanical system sizing. However, the optimal balance between envelope performance and mechanical system investment is highly context-dependent, varying with climate zone, building form, construction method, and affordability constraints.

Future-Proofing Specific Strategies

Across the sample, future-proofing strategies combined technology, infrastructure, and operational flexibility. Respondents cited approaches such as electrified heating and cooling systems, onsite renewable generation to reduce peak grid dependence, advanced building automation systems for operational control, and alignment with long-term carbon risk frameworks such as CRREM (Carbon Risk Real Estate Monitor). Equally important was planning for future transitions — including electrical room capacity for additional transformers, provisions for EV charging expansion, and flexibility to move from partial to full electrification as technology and policy evolve.

Key Observation

In multi-unit residential, future-proofing is a primary driver of green certification — particularly for long-term hold developers. Designing to future climate conditions, eliminating fossil fuel dependence, selecting resilient sites, and embedding flexibility into infrastructure create assets that avoid regulatory and policy obsolescence and mitigate physical climate risk. This represents a fundamentally different calculus from short-term payback analysis and reflects the sector's growing focus on durability, compliance, and long-term asset value.

7 Challenges and Lessons Learned

Financing Drives Everything

Financial feasibility emerged as the dominant determinant of whether residential projects pursue green certification. Respondents consistently emphasized that access to favourable financing — and the speed at which projects can advance — outweighs all other considerations. Changes to financing program requirements, particularly CMHC's evolving energy performance thresholds, create a moving target that developers must continually adapt to. These dynamics place disproportionate strain on smaller developers without in-house sustainability expertise and reinforce the need to design projects flexibly around changing underwriting criteria. Progressive financing options that link performance to preferential terms were identified as more effective than fragmented incentive programs, which respondents described as often difficult and time-consuming to navigate and rarely substantial enough to materially shift project economics.

Contractor Premiums and Market Perception

A recurring challenge is the perception-driven 'sustainability premium' applied by contractors. Respondents reported that projects described as sustainable frequently attract inflated pricing, even where specified products and systems are functionally comparable to conventional alternatives. Developers that avoided sustainability-specific language and instead issued performance-based specifications reported better cost outcomes, suggesting that a portion of the perceived green premium reflects market behaviour rather than underlying construction cost.

Operational Handoffs

Respondents highlighted the importance of proper commissioning and clear handoffs to property management teams, noting that unfamiliarity with electrified or geo-exchange systems can lead to misdiagnosis, mismanagement, and unnecessary concern. Buildings that are overly complex or 'over-engineered' were described as more vulnerable to operational issues. Simplicity, clear documentation, and alignment with property management capabilities were identified as critical to long-term performance.

Choosing Technologies Carefully

Technology selection emerged as a critical risk area. Respondents cautioned against experimental or unproven systems and emphasized the importance of selecting practical design teams focused on constructability and operability rather than technical novelty. Many residential projects represent first-time experiences with low-carbon systems for design teams, leading to conservative oversizing or requests for unnecessary backup systems. Developers stressed the need to challenge these instincts and avoid technologies that promise performance gains but lack real-world track records.

Certification Pathways and Affordable Housing

Respondents highlighted conflicts between intensity-based performance metrics — particularly TEDI — and the goal of delivering more, smaller affordable units. In these cases, meeting prescriptive thresholds would have required disproportionate envelope investment for a limited additional carbon benefit. Developers emphasized the importance of engaging with standard setting bodies to identify flexibility within existing programs, such as leveraging the ZCB Standard all electric pathway or LEED performance tiers. Ultimately, rather than altering the certifications themselves, incentive programs are best positioned to adapt and set appropriate requirements to address the unique financial needs of affordable housing providers.

Carbon Tax Uncertainty

Policy volatility introduces additional financial risk. Respondents noted that changes to carbon pricing regimes disrupted financial models that had incorporated carbon taxes as part of the justification for green investments. The removal of expected carbon costs eliminated a line item that had supported lifecycle business cases, underscoring the sensitivity of residential feasibility to policy stability.

Design It from the Start

The most consistent lesson across the sample was the importance of early integration. Sustainability objectives must be embedded at the core of the design process rather than layered on later. Respondents emphasized that early integration reduces cost, complexity, and rework — but also cautioned against over-optimization. Knowing where to stop is as important as knowing where to invest, as excessive performance ambition can erode financial feasibility without commensurate benefit.

Key Observation

The most critical lessons in residential green building are practical rather than theoretical. Successful projects design energy efficiency and innovation from the outset, manage financing requirements proactively, keep systems simple enough for property management to operate, and select proven technologies over experimental ones. Financing for performance is critical to uptake and scale.

8 Actionable Insights for Residential Owners, Developers, and Policymakers

Insight 1 **Follow the Financing**	CMHC programs such as MLI Select and ACLP materially improve project feasibility through preferential interest rates and loan terms tied to energy performance. Certification choices should therefore be aligned with the financing programs that offer the greatest benefit. Beyond existing programs, future progressive financing mechanisms — including those positioned through organizations such as Build Canada Homes (BCH) — should continue to link certification performance to preferential terms, encouraging broader adoption and new deal-making opportunities. ZCB-Design and LEED v5 provide a recognized and efficient pathway to achieving the energy performance points required. Early engagement is critical to understand applicable financing, incentives, and grants. Beyond direct financial benefits, these programs also foster shared knowledge building across the sector — as more projects move through certification-aligned financing, the collective experience base grows, reducing perceived risk for subsequent adopters and accelerating broader market adoption of high-performance residential development.
Insight 2 **Design It In — Don't Add It On**	The most effective way to control green building premiums is to integrate sustainability from the outset rather than layering green features onto a conventional design. A reductive design approach — eliminating multiple conventional mechanical systems and replacing them with simplified, integrated electrified solutions — can offset the cost of better envelopes and windows while reducing construction costs complexity.
Insight 3 **Keep It Simple**	Residential projects perform best when they rely on proven, operable technologies rather than experimental systems. Practical design teams and familiar systems reduce both capital and operational risk. Technologies such as geo-exchange (where feasible), in-suite heat pumps, and energy recovery ventilators (ERVs) were consistently identified by respondents as practical and well-understood solutions. CO_2 heat pumps and other frontier technologies should be deployed selectively and only where the financial and operational case is clear.
Insight 4 **Future-Proof for Regulatory, Policy, and Climate Risk**	The design and performance standards required for green certification encourage measures that also serve as risk-management strategies — including designing for projected climate conditions, planning electrical capacity for full electrification, and avoiding flood-exposed sites — reducing the likelihood of costly retrofits and regulatory obsolescence.
Insight 5 **In the Current Market Environment, Capture Value Through Operations, Not Rent Premiums**	Tenants are generally unwilling to pay materially higher rents for green buildings. The residential business case should therefore focus on operating cost reductions, NOI stability, faster lease-up, and lower vacancy, rather than rent premiums. In a softening rental market, sustainability and building quality function as competitive differentiators for occupancy, not pricing power.

Insight 6

Align Provincial and Municipal Green Building Incentive Programs with Existing National Certification Standards

Provinces and Municipalities developing green building incentive programs should anchor them to established national certification benchmarks (e.g., ZCB-Design, ZCB-Performance, TGS tiers) rather than creating bespoke local metrics. Respondents reported that when municipalities develop their own green standards with custom criteria, the result is confusion, duplication of effort, and programs that are "almost impossible to achieve." Clear, tiered incentives tied to recognized certifications — such as property tax rebates, expedited permitting, or development charge reductions — would reduce administrative friction for both municipalities and developers and create a nationally consistent signal that the market can plan around.

Insight 7

Adapt Incentive Programs for Affordable Housing

Affordable housing projects have financial constraints that need be addressed within incentive programs for sustainability. Projects with meaningful affordable components cannot rely on market-rate rents to absorb capital premiums, which impacts project feasibility or housing supply. Intensity-based performance metrics, particularly Thermal Energy Demand Intensity (TEDI), can inadvertently penalize projects where unit sizes are intentionally reduced to deliver more homes within a fixed building envelope. The ZCB Standards have developed an all-electric pathway that allows fossil fuel-free compliance without requiring the most stringent prescriptive envelope thresholds. While this change was to recognize broader market realities, it also is relevant for affordable housing where there may be smaller units. LEED similarly offers multiple tiers of performance, providing existing points of entry for projects at varying levels of ambition. Incentive programs can set appropriate requirements for energy efficiency and emissions reductions, while leveraging the standardization, industry familiarity, third party verification and other benefits of rating systems and standards.

Insight 8

Policymakers may wish to leverage Mandatory Building Performance Standard bylaws or similar models

Performance-based standards which verify actual operational outcomes rather than modelled projections generate comparable, real-world performance data over time. This data can serve a dual purpose: informing future updates to national building and energy codes and enabling more robust benchmarking across Canada's growing stock of certified residential buildings. Complementary measures such as providing requirements or guidance on operational best practices (e.g., aligned with frameworks like ISO 50001) would further support the transition from design intent to sustained performance, helping ensure that certified buildings continue to deliver the energy and carbon outcomes they were designed to achieve.

Appendix: Limitations

Limitation	Description
Sample size	The study is based on four surveys and three interviews. Findings are meaningful but not statistically representative.
Geographic concentration	All projects are in Ontario or Quebec, with no representation from Western Canada, Atlantic Canada, or the Prairies.
Building type diversity	The sample includes a condominium, student housing, small scale mixed use residential, and a large-scale purpose-built rental with an affordable housing component. These asset types operate under different financial, regulatory, and tenant dynamics.
Self reported data	All quantitative data is self-reported and has not been independently verified.
Data gaps	Two projects lack operational performance data — one has fewer than four months of occupancy, and another is still under construction. One reported capital premium (~20%) is confounded by COVID era construction cost inflation. Excluding this outlier, reported premiums ranged from sub-one percent to approximately 11%.
Comparability	Energy data is reported in different units and is not normalized for building size, occupancy, or climate zone.
Rent premium evidence	A reported 5% rent premium is based on a single small-scale project and should not be generalized. Interview evidence consistently suggests rent premiums are not achievable at scale.
Affordable housing evidence	Only one project includes a significant affordable housing component and has not yet reached operational maturity. Insights related to affordable housing are there-fore primarily interview based.
Operational maturity	Most projects are recently completed or under construction, limiting the availability of long-term performance data.

Despite these limitations, this research provides rare primary evidence on the multi unit residential business case for green building certification in Canada. The findings highlight how financing feasibility, tenant affordability, and long term asset strategy shape a residential context that differs fundamentally from commercial and institutional real estate. CAGBC intends to build on this baseline by targeting these unique sector dynamics. In 2027, the research phase will explicitly focus on ZCB-Design certified multi unit residential buildings and operational performance data, advancing toward a more comprehensive national dataset.

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