



Building
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UNLOCKING VALUE IN COMMERCIAL REAL ESTATE

THE ECONOMIC BENEFITS OF A DECARBONIZED BUILDING

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About the Building Decarbonization Alliance

The Building Decarbonization Alliance is a non-partisan and cross-sector coalition working to change the narrative on building heat, inspire and inform industry and government leadership, and accelerate market transformation. We reach beyond rhetoric to engage with evidence and science, helping put in place the conditions for effective policy, change the narrative, and increase awareness of the benefits of decarbonized all-electric buildings. We've convened over 300 Partner organizations.

We're working hard to expand the reach of our Alliance and proposing an exciting slate of research and initiatives to advance our mission and vision. If you are interested in supporting our work, visit [our website](#) or reach out to us at info@buildingdecarbonization.ca to find out how you can help accelerate building electrification.

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Executive Summary

There is growing consensus and evidence that sustainable buildings lead to higher lease rates and lower vacancy rates, and attract stronger tenant and investor interest. This insight emerged during two events hosted last year by the Building Decarbonization Alliance: a Financing Commercial Retrofits session in March 2024 and our National Building Decarbonization Forum in April 2024. Among other opportunities discussed, green premiums were identified as a means to demonstrate additional economic value and accelerate the financing of commercial real estate retrofits and the construction of new lower-emission buildings.

The question of “green value” in commercial real estate has been extensively explored by industry professionals, companies, and academics. Rather than replicating existing analyses, this brief takes a step back to examine the evolving market context and broaden the conversation. It is from this angle that we initiated this study, to better understand how decarbonization might influence asset value, and to attempt to isolate its specific financial impact.

This report explores the perspectives, interests, and needs of various stakeholders specifically related to decarbonization premiums¹ and conducts a quantitative analysis to identify the decarbonization value of office buildings in major Canadian cities. For clarity and ease of reference, the term green premium will be used throughout this report to refer to the additional value associated with decarbonized buildings, as defined in the [Green Premiums Scope of Work](#) section. This initiative was developed with the involvement of several organizations, including the [Institute for Sustainable Finance \(ISF\)](#).

From our discussions with several key stakeholders from the sector, we found that:

- There is a **growing market demand for decarbonized buildings**, driven by tenant expectations, developer initiatives, and stricter greenhouse gas (GHG) emission regulations.
- The **absence of guidance and standardized data on green premiums are the primary barriers to incorporating sustainability into valuation models**, leading to uncertainty that hinders market change.

These insights coupled with our quantitative analysis have led us to believe that:

- 1. Zero Carbon Building certification can lead to rental premiums and reduced vacancy rates.** And although there is currently no universally accepted methodology for calculating green premiums or brown discounts,² strong market signals, regulatory

1 We refer to decarbonization premiums as the added value of decarbonized buildings, which can result in higher asset valuations, rental premiums, capitalization rate compression, and/or increased occupancy rates.

2 i.e. buildings that are not aligned and would not meet building standards would experience asset value decreases, higher vacancy rates, and/or become stranded assets in building portfolios, due higher operating costs and lower demand.

frameworks, and clearer disclosure standards may help establish a path forward.

2. **Real estate owners** and the **supporting industry** should **consider the value of decarbonization in the business cases** that are used to evaluate decarbonization projects.
3. **Appraisers** should **investigate the impact of decarbonization measures on a building's valuation**, to accurately capture the financial value of new and existing decarbonized buildings. This would support **financial institutions integrating decarbonization as an investment attribute and accelerate the integration of decarbonization parameters into real estate financial models** to reflect the improved risk-return profile of these investments.
4. **The federal government**, in consultation with other key players such as the Appraisal Institute of Canada (AIC), should **develop a National Taxonomy for Carbon Policy Aligned Investment, along with activity-specific performance criteria** to help mobilize investment in decarbonizing the building sector.³
5. **All levels of governments** (federal, provincial, municipal) should support the continued emergence of green premiums by **enacting and enforcing policies promoting decarbonization of new and existing buildings** (e.g., building codes, building or equipment standards, incentives).

We are calling on stakeholders in this space to bring forward additional insights, observations, or data to further support or challenge our understanding of green premiums. Now is the time to realize the green premium's benefits and help practitioners in the building sector capture the full economic potential of a low-carbon future.

3 This development of voluntary made-in-Canada sustainable investment guidelines (otherwise known as a taxonomy) was introduced by the federal government in October 2024, with updates expected in 2025.

Objective

The idea for this brief grew from discussions that took place during two events hosted by the Building Decarbonization Alliance last year: a Financing Commercial Retrofits session in March 2024 and our National Forum in April 2024. Among other opportunities discussed during those events, green premiums—the additional benefits achieved from decarbonizing a building, such as an increase in asset valuation, rental premiums, capitalization rate compression, increased occupancy rates, and/or improved adaptation and resiliency—were identified as a means to demonstrate additional economic value and accelerate the financing of commercial real estate retrofits and new developments.



While some data exists for North America, such as the Cushman & Wakefield research spotlight on the sustainability impact of LEED-certified assets in the U.S.,⁴ data availability remains limited, particularly in Canada, contributing to uncertainty regarding the monetary value, if any, of net-zero buildings. This leads to many business cases that do not adequately consider the financial benefits of decarbonization upgrades. Quantifying the additional monetary value of a decarbonized building can improve the likelihood that decarbonization projects pencil out, helping to derisk these projects in the eyes of building owners and their lenders, and ultimately accelerate market transformation.

We believe this is a timely discussion. Achieving low and net-zero carbon building performance is gaining momentum, demonstrated by a growing number of tenants with net-zero commitments,⁵ more developers offering net-zero buildings,⁶ and increasingly

4 Cushman & Wakefield (2022). [Insights. Green is Good Series.](#)

5 The Climate Pledge (2024). [Signatories.](#) More than 540 firms globally have already signed on to the Climate Pledge to go carbon neutral by 2040, including CBRE (Coldwell Banker Richard Ellis) and JLL (Jones Lang LaSalle).

6 According to CAGBC public database, as of January 2025, almost 200 buildings in Canada have been certified under the ZCB Standards, more than two-thirds of which are commercial, the remaining being institutional buildings. Over 400 additional new construction and deep retrofit projects are actively pursuing certification.

stringent regulations on GHG emissions.⁷ While there are several drivers building this momentum, the federal government's recent removal of the consumer carbon tax has made it more difficult to financially justify moving away from fossil fuel for building heating needs. As such, **the non-energy financial benefits of decarbonization are even more important today.**

To initiate this project, we conducted targeted interviews to refine our understanding of market needs and data availability associated with green premiums. The topics we covered are detailed in [Appendix A](#). These initial findings helped to refine our scope of work and confirmed there is sufficient interest and data to conduct further analysis. This brief presents the results of a quantitative analysis of the impact of building decarbonization on green premiums and summarizes insights from stakeholder discussions held before and after the analysis.



Disclaimer

This report is based on the data and feedback available at the time of this analysis. While it provides insights and guidance, it does not aim to provide final conclusions, instead offering an additional contribution to ongoing discussions on green premiums in the real estate market.

Additionally, it is important to note that our analysis only applies to commercial office buildings. Challenges and dynamics are different for residential buildings, including split incentives between building owners and tenants, which may not align with the findings in this report and require further consideration.

⁷ We have noted some progress in our [Building Heating Decarbonization Jurisdictional Scan](#). Several jurisdictions have adopted building heating decarbonization requirements, such as in British Columbia, where local governments can adopt the Zero Carbon Step Code to encourage or mandate lower-carbon construction, or Montreal, aiming to establish a GHG emissions performance standard that ensures gradual improvements toward carbon neutrality by 2040.

Green Premiums Scope of Work

Green premiums have historically been associated with building certification programs, like Leadership in Energy and Environmental Design (LEED®).⁸ These programs have explored the associated premiums, and we summarize several findings in [Appendix B](#). While various studies have demonstrated that LEED-certified buildings generate a premium in the market, there is a wide dispersion in results due to shifting criteria for measuring the premium from study to study. And even though some of the references are a bit dated, they demonstrate the emergence of the premium more than 10 years ago.

Definition of Green Premiums for This Project

Before assessing the impact on the asset value, it is essential to state how we define value creation in commercial estate for this memo. Through this analysis, we aim to examine the specific role of decarbonization in driving additional market value, rather than evaluating other non-energy benefits associated with sustainable buildings, such as lower water consumption, better comfort, improved access to amenities, etc.

In this memo, we use the term **“green premiums” to refer to the additional market value attributable to buildings that have decarbonized their operational emissions**, beyond the value created through utility cost savings alone. Strictly speaking, this is more accurately described as a “decarbonization premium.” However, for simplicity and consistency with broader market terminology, we use “green premium” throughout the document.

While the premium for LEED-certified buildings is helpful for demonstrating the concept, for this brief we are interested in a narrower scope focused only on decarbonization. To identify buildings that have decarbonized their operational emissions, we relied on the [Canada Green Building Council’s \(CAGBC®\) Zero Carbon Building – Performance Standard™](#) (ZCB-Performance™).

This standard, developed in Canada and launched in 2017, provides a leading framework for defining net-zero carbon performance, emphasizing operational, embodied, and avoided carbon emissions. There are two approaches to certification:

1. **ZCB-Design Standard™**: guides the design of new buildings and major renovations of existing ones based on modeled performance so they can achieve zero carbon-operations.
2. **ZCB-Performance Standard™**: can be used for any building to evaluate operational and embodied carbon emissions and demonstrate the actual performance.

⁸ LEED certification helps building owners and developers demonstrate their commitment to sustainable practices by addressing key areas, including GHG emissions, energy, water usage, waste management, transportation, materials, and health. As a result, their impact extends beyond decarbonization, covering a broader range of environmental considerations.

Also, there is an important distinction to be made between buildings that are registered and those that are certified, as only certified buildings can demonstrate verified decarbonization performance.

At the time of writing there are over 400 ZCB-Design registrations, 100 ZCB-Design certified buildings, and 70 ZCB-Performance certified buildings, reflecting a growing market uptake. Although ZCB Standards are still relatively new, have evolved significantly through multiple versions, and do not require a building to have zero operational emissions (i.e., offsets are often needed to achieve a zero-carbon balance), the standards send a strong market signal that a certified building is minimizing its climate impact by pursuing decarbonization. As such, we use ZCB-Performance certification as a practical proxy for identifying decarbonized buildings within the context of this memo.



Understanding Market Perspectives, Interests, and Needs

Growing Interest in Green Premiums and Market Shifts

An interviewee highlighted that the real estate sector is increasingly prioritizing decarbonization due to the incorporation of sustainability into their corporate strategies, especially through environmental, social, and governance (ESG) metrics. This is supported by 49% of REALPAC’s building owners and investors having set net-zero targets, demonstrating that decarbonization is gaining momentum across the sector.⁹ This shift is influenced not only by increasing occupant expectations,¹⁰ but also by external pressures from government policies, and the growing recognition of the long-term economic benefits of decarbonized buildings.¹¹

As another key stakeholder observed, “real estate valuation has gone from a marathon to a triathlon”, and sustainability must now be factored in. The market may not yet have enough

9 REALPAC (2024). [Decarbonizing Canada’s Commercial Buildings: The Owner and Investor Perspective](#).

10 Real Estate Magazine (2024). [Find competitive advantages with ESG integration: A path to decarbonization & community impact](#).

11 JLL (2023). [Soaring demand for low carbon offices will outstrip supply](#).

transactional data to quantify premiums easily, but the risks associated with buildings relying on high-carbon fuels are only growing. And in the absence of certainty, the message from real estate industry leaders is clear: “Don’t wait, just get started.”

Another interviewee emphasized the role of climate adaptation and resilience in enhancing the value of green premiums, raising attention from lenders, investors, and the insurance sector in decarbonized buildings as a way to enhance long-term value, remain competitive in a climate-constrained economy, and mitigate risks associated with extreme weather events.¹² A study noted that commercial real estate (CRE) owners and operators who proactively invest in adaptation can better protect their operations and observe higher property values and lower capitalization rates compared to no action.¹³

Several industry organizations also noted a shift in the overall market perspective: **The focus is evolving from establishing the existence of green premiums to understanding and addressing the growing risk of brown discounts.** This emerging narrative reflects a change in priorities, suggesting that the financial risks of inaction may soon outweigh the benefits of waiting for clearer evidence of green premiums.

Challenges and Barriers to Demonstrating the Existence of Green Premiums

Lack of Market Clarity and Data

One industry organization stated that the absence of clear valuation frameworks and robust supporting data is slowing the potential growth in green premiums for asset owners. According to a review from CoStar, a U.S. provider of information, analysis, and marketing services for commercial real estate in North America and Europe, only a few downtown Vancouver office property transactions have been recorded since the pandemic's start. This may be explained by several factors, particularly the structural shift in office usage, the strong preference of tenants for spaces that have never been occupied (also known as first-generation spaces), and relatively high interest rates in the past few years.¹⁴ Overall, the lack of recent transactions make it difficult to establish reliable valuation metrics and to isolate the decarbonization premium.

Making the business case for decarbonizing buildings remains challenging. While in some countries (e.g., Australia and South Africa) the Green Building Councils have studied the value of the Green Star rating system they developed on GHG emissions and

12 While resilience and adaptation measures are valuable and can play a role in the evaluation of green premiums, they are not included in this paper.

13 Bakos, K. & Feltmate, B. (2023). [Transitioning From Rhetoric to Action: Integrating Physical Climate Change and Extreme Weather Risk Into Institutional Investing](#). Prepared by the Intact Centre on Climate Adaptation, University of Waterloo.

14 CoStar (2024). [Recent Downtown Vancouver Office Sale Suggests a Significant Decline in Market Value](#). Office Valuations Return to 2018 Levels, but Limited Number of Recent Sales Leaves Murky Picture of Market Values

operational energy usage,^{15, 16} there is still a lack of guidance on assigning a monetary value to decarbonized buildings.¹⁷ Canada lacks comparable studies and a standardized methodology for integrating ESG factors into appraisals. According to stakeholders, insufficient training for appraisers and a lack of consistent data are primary barriers to advancing ESG-integrated valuation. **Appraisers are reluctant to reflect sustainability benefits in valuations without hard transactional data.** This creates barriers for investors and developers seeking to understand the economic benefits of decarbonized buildings.

Additionally, buildings undergoing decarbonization are often already premium assets, which makes it difficult to isolate the direct financial benefits from sustainability alone. Furthermore, the current appraisal practices do not always acknowledge decarbonization features, even when a large portion of a portfolio is undergoing retrofits, and many operating costs (e.g., property taxes, insurance and maintenance) are often not disclosed, which also hinders value attribution.



Moreover, it is difficult to say how long the value premium will last. As more buildings reduce their energy consumption and carbon emissions, decarbonized buildings will increasingly become the market norm. As mentioned previously, **the green premium is anticipated to transition to a brown discount** (i.e., buildings that are not aligned and would not meet building standards would experience asset value decreases, higher vacancy rates, and/or become stranded assets in building portfolios, due to higher operating costs and lower demand), which would continue to support building decarbonization.

Wait-and-See Attitude Still Predominates

Key stakeholders, including developers and financial institutions, are perceived to be "waiting for everyone else," leading to a lack of momentum. Organizations are often reluctant to share

15 Green Building Council of Australia (2013). [The Value of Green Star - A Decade of Environmental Benefits.](#)

16 World Green Building Council. [South Africa – leading the green building charge into Africa.](#)

17 LOTUF (2024). [Seeing is Believing: Unlocking the Low-Carbon Real Estate Market.](#)

and disclose internal data (e.g., financial metrics, energy use and performance data, occupant feedback) due to competitive and reputational risks, limiting the ability for the market to analyze and reverse this perception and hindering progress.

Limited Financial Incentives

For many real estate owners, their core business is to buy, maintain, and sell building stock rather than invest in improvements. They either have internal teams or rely on external firms to assess properties and identify ways to increase their value by boosting income, reducing taxes, and lowering the cost of capital. Then, the real estate owners will make recommended upgrades. Currently, when GHG emissions are reduced, it is usually a side effect rather than the primary goal. According to one interviewee, this situation is common, as most of the groups they work with prioritize energy efficiency projects with high return on investment and measurable financial impacts over emissions reductions and pursuing uncertain green premiums.

Unified Taxonomy Needed to Define Green Building Practices and Standards

Without a standardized taxonomy or guidelines to define and quantify green premiums effectively, stakeholders remain hesitant to take risks. One respondent noted that sustainable investment guidelines (otherwise known as a green or transition taxonomy) are critical to advance the adoption of green premiums. Clear definitions and frameworks are needed to standardize what constitutes a green building,¹⁸ and creating a common language around green investments is important to attract investors and support market transformation.

Quantitative Analysis

Research Methodology Outline

We began by extracting the list of decarbonized buildings certified under CAGBC's Zero Carbon Building – Performance Standard™ from their public database and refined it to remove duplicates, focusing only on office buildings located in municipalities with more than 10 certified buildings. This process resulted in a sample of 22 buildings selected for further analysis, all located in the City of Vancouver, as no other major Canadian city had a sample large enough. Additional data on these properties was pulled from the CoStar database to create a detailed inventory of the decarbonized buildings.

For comparison purposes, each decarbonized building was compared with a set of non-decarbonized buildings identified in CoStar. More details on this exercise are available in [Appendix A](#).

Finally, trends in rents and vacancy rates were analyzed for decarbonized properties and compared with those of their non-decarbonized counterparts. Sales prices were excluded

18 CBRE (2024). [Why Green Is Good and Brown Is Down](#).

from the analysis due to limited transactions, which restricted the ability to assess property value trends accurately.

Contextualizing the Results

As shared by several organizations we discussed with, one of the biggest obstacles in building valuation is the lack of market transactions to confirm trends in green premiums. The shift toward remote work has significantly impacted office demand and the lasting effects of the pandemic continue to challenge commercial real estate. On top of this, while our dataset revealed rental advantages for ZCB-Performance certified buildings, the limited number of certified properties and the early stage of market maturity make it difficult to draw definitive conclusions.

Consequently, the sample sizes in other major Canadian cities such as Toronto, Montreal, and Calgary were very small, greatly affecting statistical confidence. As a result, Vancouver, which had the largest sample size, was the only city included in our analysis.

Findings

Certified Buildings Show Higher Rents and Lower Vacancy Rates

In Vancouver, we've found that ZCB-Performance certified buildings **tend to have higher market asking rents and lower vacancy rates**, for both current median and historical rates. For additional details on our findings, refer to [Appendix C](#). While these findings suggest a potential correlation between certified buildings and rental premiums, they should not be interpreted as proving a direct impact (i.e., causation). Further research could explore whether decarbonization itself influenced renters' willingness to pay a premium as the sample size of certified Zero Carbon Building grows.

Several Limitations Require Cautious Interpretation of Results

While the findings provide several insights, further exploration is required (that is outside of the scope of this paper). Lease rate differences may be driven by certification alone or by other variables. More specifically, some ZCB-Performance certified buildings may have inherent advantages, such as being newly constructed, already high-performing assets, centrally located, or offering premium amenities, which can influence lease rates independently of their decarbonization status and can complicate the attribution of a decarbonization value.

Additionally, the lack of standardized definitions of decarbonized buildings limits comparability and makes it more difficult to isolate the specific effects of decarbonization. For example, it is unclear how factors such as the availability of amenities or overlapping certifications may influence the outcomes for ZCB-Performance certified buildings. While these factors increase the uncertainty surrounding our findings, it remains promising that green premium factors are being found in Vancouver.

Valuation Complexity and Importance of the Rent Composition

Several dimensions of property valuation have to be considered to appreciate the financial

impact of decarbonization. While decarbonized buildings may lead to higher gross rents, this does not always lead to an increased property valuation. The valuation benefit lies in both how the rent is composed and its total amount. For example, lower utility costs can reduce operating expenses, allowing a larger share of gross rent to be allocated to base rent, a component more favorably weighted in valuation models. So, understanding how rent is structured, particularly the distinction between base rent and additional operating costs, is critical to assess the decarbonization value of a building.

Moreover, valuation is not solely driven by current performance or cash flow. Investment metrics such as capitalization rates and discount rates play a significant role in determining whether a building is considered a sound long-term investment.¹⁹ Even if a certified building does not achieve a rent premium, it may still offer a more attractive risk-adjusted return by mitigating exposure to future carbon penalties, complying with evolving



regulations, or maintaining tenant appeal. These benefits, though not always visible in market rents, can shape the value of decarbonized buildings.

Interpreting the Presence of a Premium in Vancouver

Vancouver benefits from a particular market positioning, which may be playing a role. The city is one of the most attractive North American metro markets, benefiting from relatively low vacancy rates and strong investor interest, which could be amplifying the visibility or viability of green premiums in this context. A strong regulatory framework could be another contributing factor. Vancouver has already implemented several policies for buildings, including the introduction of a Building Emissions Performance Standard (BEPS) and the implementation of the Zero Carbon Step Code, aimed at accelerating building decarbonization in the City of Vancouver.

However, it is important to avoid drawing direct causal conclusions between strong regulatory frameworks and green premiums at this stage. The relationship between policy

19 Smith, Faciu, Purdy (2025). [Impact of Climate Risks and Sustainability Factors on Commercial Real Estate Values](#).

and market valuation likely depends on a more complex interplay of regulation, market maturity, and tenant or investor priorities. It may take longer to materialize, and future data may offer stronger signals of alignment between regulation and investor or tenant demand.

Examples of Regulatory Frameworks Currently in Place in Vancouver

- **BEPS:** Since January 2025, building owners of properties larger than 50,000 square feet are required to report carbon emissions and energy consumption. By 2026, large office buildings will be subject to GHG emission limits.²⁰
- **Zero Carbon Step Code:** Adopted by several municipalities to support zero-carbon new construction.
- **Low-carbon air conditioning systems:** Systems able to provide both low carbon heating and cooling in detached homes have been mandated since 2023.

While Certified Buildings Can Command Higher Rents and Lower Vacancies, Market Focus is Shifting

These findings indicate that zero carbon certification can lead to rental premiums and reduced vacancy rates. A recent acquisition of a ZCB-Performance certified project in Vancouver highlights this trend, with the buyer stating that “this acquisition offers strong growth potential and aligns with our commitment to a more sustainable [organization] with the building's thoughtful design and environmental features.”²¹ Nevertheless, other market conditions and local economic factors also play a role in determining rental premiums.

However, as market pressures and climate policies evolve, **the more urgent question becomes: What is the risk of not being green?** Properties that don’t decarbonize face increasing value risk, especially with rising carbon-related costs and regulations. So, while this brief provides several indications of the current financial advantages of decarbonization and highlights emerging patterns, further research is needed to expand the dataset and track performance for more decarbonized buildings.

Future work should focus not only on expanding the dataset and tracking market performance over time, but also on better understanding the mechanisms behind brown discounts. This includes deeper analysis into the factors influencing rental premiums, such as tenant preferences, government incentives, and how evolving building regulations can shape value in different market contexts.

20 City of Vancouver. [Report your building’s energy and greenhouse gas emissions data.](#)

21 Canada Newswire (2024). [Morguard Acquires Partial Interest in Premier Class AAA Office Complex in Downtown Vancouver, British Columbia.](#)

Recommendations

Unlocking the value of decarbonized commercial buildings will require actions from a diverse set of key stakeholders. Based on the findings of this brief and our discussions with the sector, this section offers a set of specific actions for stakeholders to address the challenges associated with valuing the economic benefits of decarbonized buildings. The following table illustrates the need for a collaborative and multi-faceted approach to unlock value in commercial real estate.

Table 1: The actions required to improve valuation of decarbonized buildings, along with the responsible actors and the actors who will ultimately benefit from better valuation.

	Real Estate Owners	Real Estate Services Firms	Appraisers	Federal Government	Provincial and Municipal Government
Market Framing	✓	✓	✓		
Appraisal Practices			✓		
Data and Transparency	✓	✓			
National Taxonomy			✓	✓	
Incentives & Regulation				✓	✓

✓ = Responsible for the action ■ = Benefits from the action

- 1. Market Framing:** As market expectations shift, buildings that fail to decarbonize may face declining asset values, making inaction potentially more costly than proactively pursuing carbon upgrades in alignment with equipment renewal cycles. Real estate owners and the supporting industry should focus on the growing financial risk of brown discounts and on how green premiums can support a business case to mitigate this downside risk in the nearer term, as they evaluate the economic benefits of a decarbonized building.
- 2. Appraisal Practices:** Appraisers should investigate the value of decarbonization measures on a building's risk profiles and long-term asset valuation. While subjectivity will always exist across appraisers, there is a need for baseline consistency in acknowledging and considering sustainability factors. As a first step, including decarbonization features as an attribute to assess the overall risk profile of commercial real estate would help appraisers better capture the financial value of decarbonization measures. This would support financial institutions integrating decarbonization as an investment attribute, helping integrate decarbonization parameters into real estate appraisals. Better reflecting the financial potential of decarbonized buildings will help real estate owners build their business case for decarbonization focused on construction or retrofits. However, to support this approach at scale, the sector must move beyond building-by-building analyses, and shift toward a system-level thinking, enabling market-scale approaches that can identify green premiums and avoid brown discounts before they get fully embedded in asset values.

- 3. Data and Transparency:** Real estate owners and services firms should collaborate to provide data and observations to refine the understanding of green premiums. They should also work on establishing a common approach to building decarbonization assessment. Even with the existing sustainability reporting requirements in several jurisdictions, the information captured varies significantly in terms of scope, consistency, and format. A standardized approach is essential to enabling meaningful comparisons and conclusions across the Canadian built environment.
- 4. National Taxonomy:** The federal government, in consultation with other key players such as the Appraisal Institute of Canada (AIC), should develop a National Taxonomy for Carbon Policy Aligned Investment, along with activity-specific performance criteria to help mobilize investment in decarbonizing the building sector.
- 5. Incentives and Regulation:** All levels of governments (federal, provincial, municipal) should continue to support and implement regulations to remove fossil fuels and accelerate the decarbonization of the built environment. This should include a combination of incentives for green building practices and time-based requirements targeting poor-performing assets, to significantly scale up the action needed. For example, building codes, Green Development Standards, and Building Emission Performance Standards can play key roles in achieving this.

It is important to note that these recommendations align with or are complementary to those recently expressed by the real estate community.^{22, 23}

Join Us!

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We've convened over 300 Partner organizations, and we're continuously working to expand the reach of our Alliance and proposing an exciting slate of research and initiatives to advance our mission and vision.

If you are interested in supporting our work, visit www.buildingdecarbonization.ca or reach out to us at info@buildingdecarbonization.ca to find out how you can help accelerate building electrification.

22 REALPAC (2024). [Decarbonizing Canada's Commercial Buildings: The Owner and Investor Perspective](#).

23 CBRE (2024). [Why Green Is Good and Brown Is Down](#).

APPENDIX A

Methodology

Interviews

As a first step, we conducted 30-minute interviews with diverse stakeholders. We asked about:

- The work done to evaluate the green premium benefits in Canada;
- The interest of identifying a green premium for decarbonized buildings;
- Data availability; and
- The data needed to determine a green premium (e.g., asset value, rental rates, cap rate, occupancy rates).

Quantitative Analysis

This analysis is based on data obtained from the list of certified Zero Carbon Building projects, available in the CAGBC Project public database, as well as from the CoStar database. The objective was to provide a quantifiable assessment of the green premiums, leveraging available data to offer insights into the economic benefits of decarbonized buildings for the real estate market.

To assess the impact of certification on building value, ZCB-Performance certified buildings were compared to a sample of non-certified buildings and selected from the same submarket areas. Recognizing that multiple variables, such as property type, location, and class (A, B, C) also affect financial performance, we compared buildings with similar characteristics, considering the following assumptions.

Assumptions

1. Certification status:

- Certified: Properties with the CAGBC's Zero Carbon Building - Performance Standard
- Standard buildings: Properties that do not have Zero Carbon certifications nor LEED certifications from CAGBC

2. Property type: Office buildings only

3. Construction status: Existing buildings

4. Location:

- Geographic proximity: Same city or

within a 10km radius

- Urban characteristics: Distinction made between downtown + suburban areas.

5. Building characteristics:

- Year of construction/renovation: Within the same range as non-certified buildings
- Building size: $\pm 25\%$ in square footage
- Building class: Class A and B buildings

6. Economic metrics:

- Median rental rate per square foot (\$/SF)
- Median vacancy rate (%)

APPENDIX B

Literature Review

Organization	Supplied Information
CoStar	<ul style="list-style-type: none"> Based on an analysis of 3 to 5-star office properties in 54 markets in U.S: LEED rent premiums declined a bit over 2020 in some cities including Chicago, Illinois; Dallas, Texas; and Nashville, Tennessee, although the urban business districts in these metropolitan areas still garner substantial LEED premiums of over 20% compared to non-LEED certified properties (considering the impact of the pandemic). Over the last 10 years, the sales price per square foot premium commanded by those green buildings has averaged nearly 31%. In the same period, annual price growth for LEED-certified buildings has averaged 6.2% versus 4.7% for nonrated office properties of similar quality since 2010, demonstrating investor demand for the green building amenity.
Cushman & Wakefield	<ul style="list-style-type: none"> LEED-certified Class A urban office sales generate a 25.3% per square foot premium over non-certified buildings, rising to 40.9% for suburban buildings. LEED-certified Class B office achieved 77.5% premium over non-certified competitors. LEED-certified buildings averaged \$4.13 per square foot in rent, 11.1% higher than non-LEED certified buildings. Over the last three years LEED-certified assets held a 21.4% higher average market sales price per square foot.
Devine A. (2015)	<ul style="list-style-type: none"> Green buildings demonstrate higher tenant satisfaction (4% above average), with 3-4% higher achievable rents, 4-10% higher occupancy rates, and lower rent concessions (7% vs. 11% for conventional buildings). In Canada, LEED certification provides a 10.2% rent premium and an 8.5% occupancy rate increase, while buildings with both LEED and BOMA BEST certifications show occupancy rates 18.7% higher than non-certified properties.
Green Building Council Australia	<ul style="list-style-type: none"> The guide is designed to help understand the relevant finance mechanisms, the real estate sector, and the multiple frameworks that drive and support sustainable finance. It also details the opportunities green buildings can provide to the market.
Home Innovation Research Labs	<ul style="list-style-type: none"> The survey found that 68% of respondents are concerned about the environmental impact of their home, and 52% are willing to pay more for a home that is sustainable.
JLL	<ul style="list-style-type: none"> JLL research shows an average rental green premium of 7.1% across eight major cities in North America, 11.6% in London and 9.9% across nine cities in Asia. A meta-analysis of 42 studies on the value of green was conducted by Dalton and Fuerst in the Routledge Handbook of Sustainable Real Estate. The meta-analysis concluded that, overall, green certifications result in a rent premium of 6% and a sales premium of 7.6%.
Knight Frank	<ul style="list-style-type: none"> Green-rated buildings in the London, Melbourne, and Sydney markets achieve an 8-18% sales price premium compared to non-rated buildings, depending on the green certification level. Higher green ratings have a significant positive impact on sales prices for prime office spaces. In London, green ratings also influence rental rates, with higher certifications yielding to a 3%-13% rental premium.
Kok, N. (2012)	<ul style="list-style-type: none"> A green label adds an average 9% price premium to sale price versus other comparable homes.
Newinhomes.com	<ul style="list-style-type: none"> TD did a study in 2010: "This is the third consecutive year that Canadians have told us that they will pay more for a home with environmentally friendly features".
Panasonic	<ul style="list-style-type: none"> Green homebuyer trends: 73% of prospective homebuyers want an ENERGY STAR certified house, according to the National Association of Home Builders. 63% of realtors say eco-friendly features help homes sell faster, according to the National Association of Realtors. Millennials are leading the charge, with nearly 60% willing to pay more for sustainable housing, according to Freddie Mac research. Green homes sell faster: Homes marketed as "eco-friendly" sell nine days faster on average, according to Zillow. Homes with an ENERGY STAR rating sell 89 days faster, according to North Carolina Energy Efficiency Alliance. Green homes sell for more: Homes rated ENERGY STAR or LEED certified sell for 2-8% more, according to EnergyStar.gov. For the average U.S. home sold in 2022, that is a premium of \$17,000.
SystemIQ	<ul style="list-style-type: none"> This website provides a few publications associated with low-carbon real estate markets and sustainable financing.
The Real Estate Innovation Lab	<ul style="list-style-type: none"> Healthy building effective rents transact between 4.4 and 7.7% more per square foot than their nearby non-certified and non-registered peers.
World Economic Forum	<ul style="list-style-type: none"> An analysis of 42 studies on the value of green conducted by Dalton and Fuerst in 2018 showed green certifications yielded a rent premium of 6.0% and a sales premium of 7.6%.
Royal LePage and the National Association of Green Agents and Brokers (NAGAB)	<ul style="list-style-type: none"> Almost three quarters of Canadians (72%) say they will look for a green-improved property in their next home purchase. 62% of homeowners said they were willing to pay between \$5,000 and \$20,000 for green features in their home, while 8% were willing to pay \$20,000 or more for a home that is deemed green.

APPENDIX C

Results

The table below compares ZCB-Performance certified buildings with non-decarbonized properties:

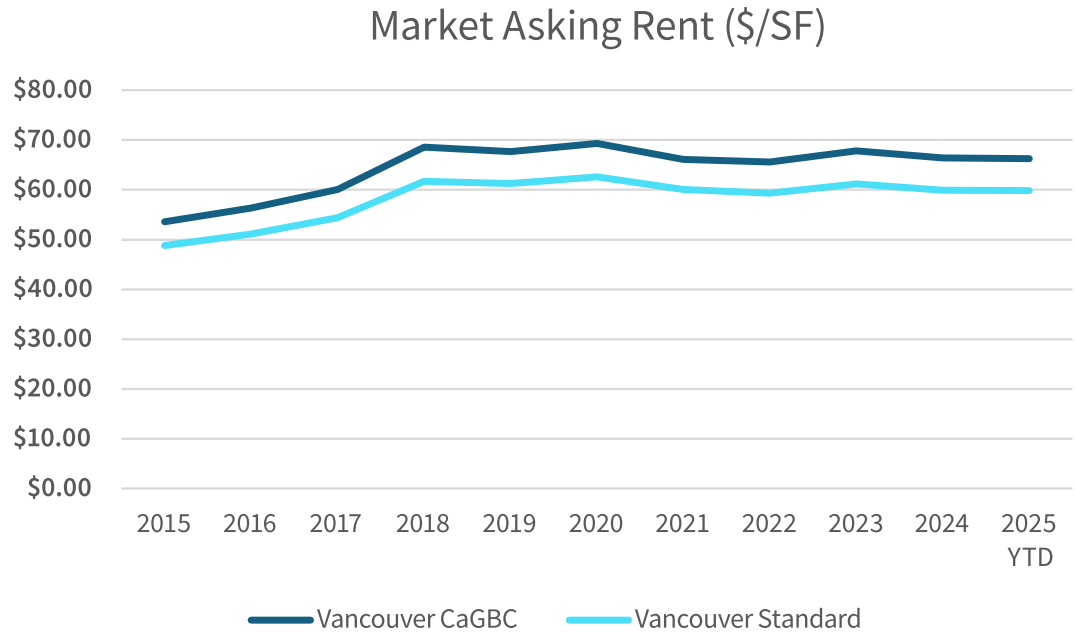
	Unit	Zero Carbon certified buildings (A)	Non-decarbonized buildings(B)	Difference between A and B
Vancouver				
Number of Analyzed Buildings	None	22	22	
Median Floor Area	SF	271,000	222,100	
Median Lease Rate	\$/SF	66.2	61.3	8%
Median Vacancy Rate	%	4	8	-50%
Average Difference of the Market Asking Rent²⁴ in the Past 3 years (2022-2024)²⁵	%	11		
Average Difference of the Vacancy Rate in the Past 3 years (2022-2024)	%	-16		

24 Extracted from CoStar. The market asking rent is derived from CoStar's algorithm. It represents the rent property owners/ brokers are asking for, based on market conditions.

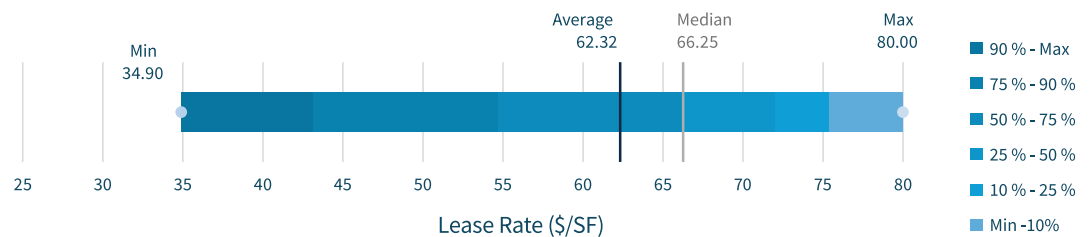
25 A positive percentage indicates higher value for CAGBC certified buildings than the comparable non-decarbonized buildings, and viceversa. This also applies to the average difference of the vacancy rate in the past 3 years.

Market Performance of Certified Buildings in Vancouver

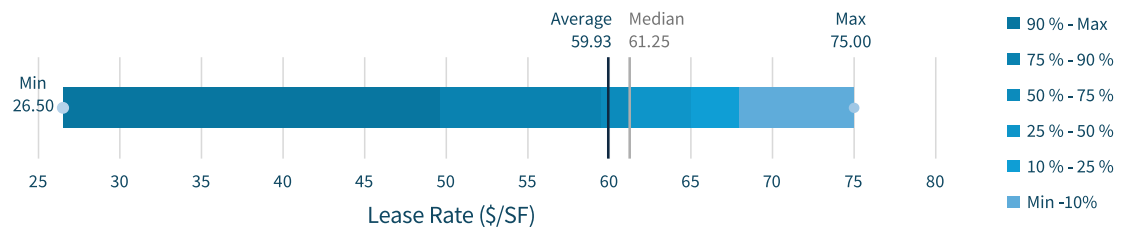
The following figures further support the existence of a premium for ZCB-Performance buildings, by illustrating the evolution of the rent and vacancy rates for the buildings sampled in Vancouver extracted from CoStar:



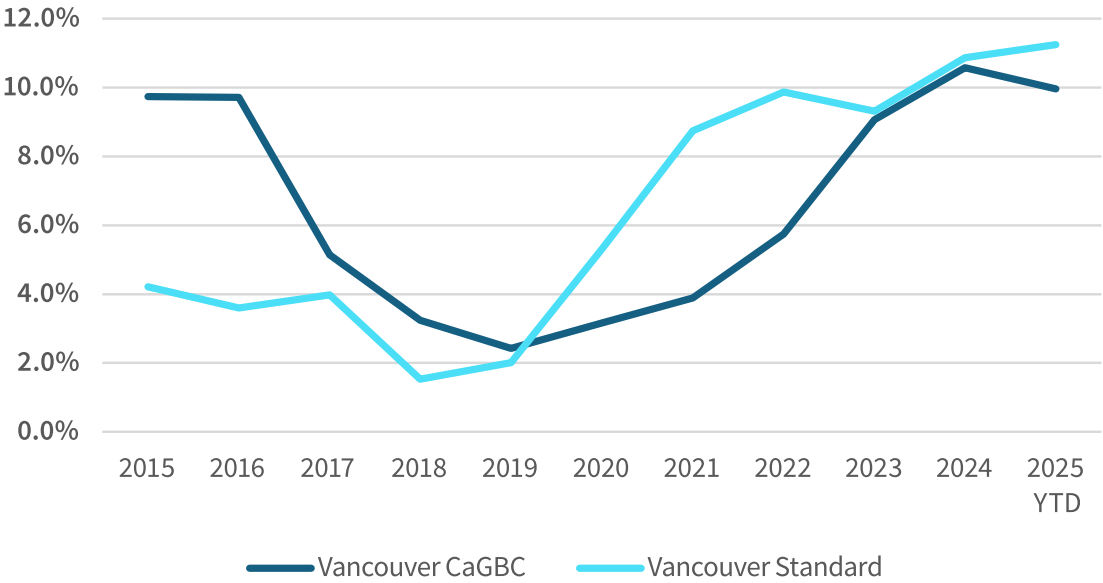
Distribution of Vancouver's ZCB-Performance certified buildings' lease rate:



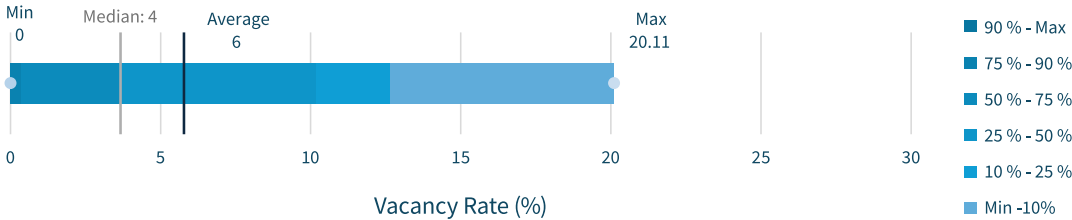
Distribution of Vancouver's non-certified buildings' lease rate:



Vacancy Rate (%)



Distribution of Vancouver's ZCB-Performance certified buildings' vacancy rate:



Distribution of Vancouver's non-certified buildings' vacancy rate:

