DECARBONIZING CANADA'S COMMERCIAL BUILDINGS:

THE OWNER & INVESTOR PERSPECTIVE

REALPAC

PLACE Centre
Smart Prosperity Institute

CAGBC
Canada Green Building Council

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FOREWORD BY THE AUTHORS

December 2024

Carbon dioxide in the atmosphere continues to rise rapidly across the globe, and as a result, our ability to contain warming to 1.5 or even 2 degrees Celsius is at serious risk. The implications of climate change are now visible everywhere, and the apparent damage is escalating.

The building sector's operational emissions, which comprise about 18% of Canada's total emissions, are down 1.3% since 2005. Intensity reductions from buildings on a per-square-foot basis are more significant, as a considerable number of new buildings have been added to the building stock since 2005. However, for many of Canada's over 550,000 commercial and institutional buildings, decarbonization efforts are at risk of stalling – or have already stalled – for a variety of reasons. Advancing decarbonization efforts in the building sector is critical for Canada's future low carbon economy.

Considering this, we wanted to engage building owners and investors of all asset types and ownership vehicle types to better understand the financial and technical barriers they face to decarbonizing their buildings and portfolios. Creating this baseline of information is important to inform the tools, techniques and incentives required to overcome those barriers. We were essentially working with building owners to co-develop a viable implementation plan.

In the summer and fall of 2024, we brought together a large group of Canadian building owners and investors by way of interviews, surveys, and roundtable discussions to brainstorm barriers and solutions to address the decarbonization challenge.

The result was the most comprehensive list of decarbonization barriers faced by the commercial real estate industry in the country, along with ten actionable recommendations that address those barriers. These recommendations recognize the delicate balance between federal, provincial, and municipal jurisdictions, tight government and industry budgets, and multiple competing priorities.

Leaders will continue navigating the current uncertainties and finding their way around or through the barriers - but bold action is required by all levels of government, utilities, the appraisal community, financial institutions, and the industry itself to accelerate and scale the decarbonization action required across Canada's commercial and institutional buildings.

Together, we can reduce barriers and co-create the conditions to accelerate building decarbonization in Canada.

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SUMMARY

This report provides a comprehensive look at the decarbonization landscape and barriers faced by the commercial real estate industry in Canada, along with ten actionable recommendations to accelerate action.

1. The commercial real estate industry (referred to in this report as "industry") contributes $148 billion in GDP to the Canadian economy annually and provides over one million jobs for Canadians.[1] The industry, as a major economic driver, depends on a reliable supply of affordable, clean energy for its buildings.

2. Canada needs to decarbonize its commercial building sector. Operational emissions from buildings account for 18% of Canada's total greenhouse gas emissions – with over 90% of these emissions coming from space and water heating, primarily powered by natural gas.[2]

3. Six significant barriers stand in the way of building decarbonization by owners and investors: technology; capital; valuation; energy; people; data, standards & disclosure. Industry, government, utilities, the appraisal community and financial institutions each play vital roles in breaking down these barriers.

4. The biggest challenge for buildings to achieve low or net zero carbon performance is the lack of a strong business case. Financially, a business-as-usual approach most often yields the best returns over the short to medium term in the absence of preferential financing and tax treatment, valuation premiums, carbon pricing or penalties. Industry and policymakers that wish to drive further investment in decarbonization need a suite of policies to help "make the math work."

5. Building owners require access to low carbon electricity to decarbonize. However, in most jurisdictions, they have no choice on the electricity they can procure and no incentive, indeed even barriers, to generating clean electricity on-site. Furthermore, the grid in any given location in Canada may lack the electrical capacity required to support the decarbonization of buildings, particularly when there are competing uses for the available electricity, such as EV charging stations, digital media or AI facilities, or heavy industry.

6. Low and net zero carbon buildings should require less future retrofit capital and face less regulatory and market risk over time. The appraisal community is not recognizing this lower risk of obsolescence in valuations, nor are most real estate financial models recognizing it. This lack of recognition makes investment in decarbonization less compelling than it should be.

7. There are economic and policy risks to decarbonization investments. Building owners are tasked with making long-term investments in decarbonization while providing value to their investors in an environment where climate policies and technologies are constantly changing.

8. A plethora of standards, from net zero carbon definitions to international reporting standards to municipal building emission performance standards, creates unnecessary complexity and makes decarbonizing buildings and portfolios more challenging than it should be.

9. For some building types, such as industrial and open-air retail, owners often do not have control over their tenants' HVAC systems or access to their utility data. This lack of control makes it difficult for building owners to calculate whole building emissions and influence tenant energy consumption and emissions.

10. Industry, government, utilities, the appraisal community and financial institutions must work together to achieve decarbonization through policy changes, collaborating on research, information sharing, and pilot projects. This report provides ten recommendations on how they can do so.

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[1] realpac.ca, 2024

[2] Canada Green Buildings Strategy, 2024

TEN RECOMMENDATIONS

This report makes the following ten recommendations for policymakers and the industry to accelerate decarbonizing commercial buildings in Canada.

TECHNOLOGY

01 Increase incentives and knowledge sharing around decarbonization technologies.

Governments should increase incentives for investing in best-in-class decarbonization technologies and, where possible, incentivize the production of those technologies in Canada to enhance ease of access. In commercial buildings, this includes heat recovery chillers, ground source and air source heat pumps, high-performance building envelopes, building controls and automation systems, low carbon concrete, and mass timber. Collaboration within the industry on research and information sharing can help address common challenges.

CAPITAL

02 Provide long-term low fixed-rate debt financing options for low carbon construction and retrofits.

Governments and financial institutions should increase access to long-term low fixed-rate financing for low carbon buildings and retrofits with lower threshold loan amounts. Financial institutions should establish new products for building owners with low or net zero carbon assets.

03 Provide tax relief and incentives for low and net zero carbon buildings.

Provincial/territorial and municipal governments should consider introducing special, lower tax classifications, from property taxes to development charges, for low and net zero buildings to spur decarbonization. These incentives can go beyond financial support and can include time-saving measures, such as streamlined approval processes for new buildings that have verified low or net zero carbon performance.

VALUATION

04 Recognize decarbonization investments in property valuations.

The Appraisal Institute of Canada should develop and implement a strategy for incorporating low carbon investments in commercial real estate assets into appraisals, including the adoption of new International Valuations Standard 104 on ESG (effective January 2025) and a robust training program for appraisers to bring them up to speed. Governments should encourage their appraisers to consider green premiums when valuing government portfolios and be prepared to seek out green buildings as tenants, even if at a higher cost of renting.

ENERGY

05 **Grow capacity and conservation across electricity systems and continue to decarbonize existing electricity generation infrastructure.**

Governments and utilities should adopt the recommendations contained in the Canada Electricity Advisory Council's Powering Canada Report to modernize and expand the capacity of the electricity sector. Governments and utilities should also provide stronger incentives to building owners for energy efficiency and conservation and create a more favourable business environment to drive investment in onsite renewable energy generation, energy storage and district energy systems.

06 **Provide electricity users with choice for electricity procurement.**

Provincial/territorial utility regulators should implement changes that foster greater competition across the electricity system to allow users, including building owners, to secure green power through small-scale virtual power purchase agreements up to 10 MW, like in Alberta.

PEOPLE

07 **Increase decarbonization leadership, knowledge and skills across the industry.**

The federal government and industry should continue to build decarbonization capacity across the industry through initiatives like the Low Carbon Training Program. Industry should continue to quantify their GHG emissions, set carbon reduction targets and develop and share decarbonization best practices.

08 **Create stronger incentives for decarbonization.**

The industry should develop low carbon transition plans for their buildings and portfolios, and adopt employee remuneration practices that include achieving low carbon targets alongside financial targets.

DATA, STANDARDS & DISCLOSURE

09 **Ensure building owners and investors have access to whole building data.**

Governments and industry should work towards increasing the amount of information available to the building sector, and utilities must do their part to facilitate decarbonization efforts. Provincial/territorial governments should introduce legislation that cuts red tape and requires utilities to share whole building energy data with building owners.

10 **Harmonize standards across Canada.**

Governments and industry should work towards harmonizing standards across the industry. The industry can take the lead by engaging all levels of government across Canada to ensure a consistent approach to building emission performance standards and labelling.

CURRENT LANDSCAPE

Canada's Commercial Real Estate Industry

The commercial real estate industry contributes $148 billion in GDP to the Canadian economy annually and provides over one million jobs to Canadians.[3]

The industry includes publicly traded real estate companies, real estate investment trusts (REITs), pension funds, private companies, fund managers, asset managers, developers, and government real estate agencies.

The Real Property Association of Canada (REALPAC) members represent $1 trillion in assets under management[4] – including office, retail, industrial, apartment, hotel, and seniors residential – from coast to coast to coast.

Emissions & Buildings

Canada has committed to achieving net zero emissions by 2050. Decarbonizing buildings will play a vital role in achieving net zero goals, as operational emissions from buildings account for 18% of Canada's total greenhouse gas emissions when including electricity related emissions.[5] It is the third largest emitting sector after the oil and gas and transportation sectors.

Canada's commercial real estate industry contributes

$148 billion

in GDP to the Canadian economy annually.

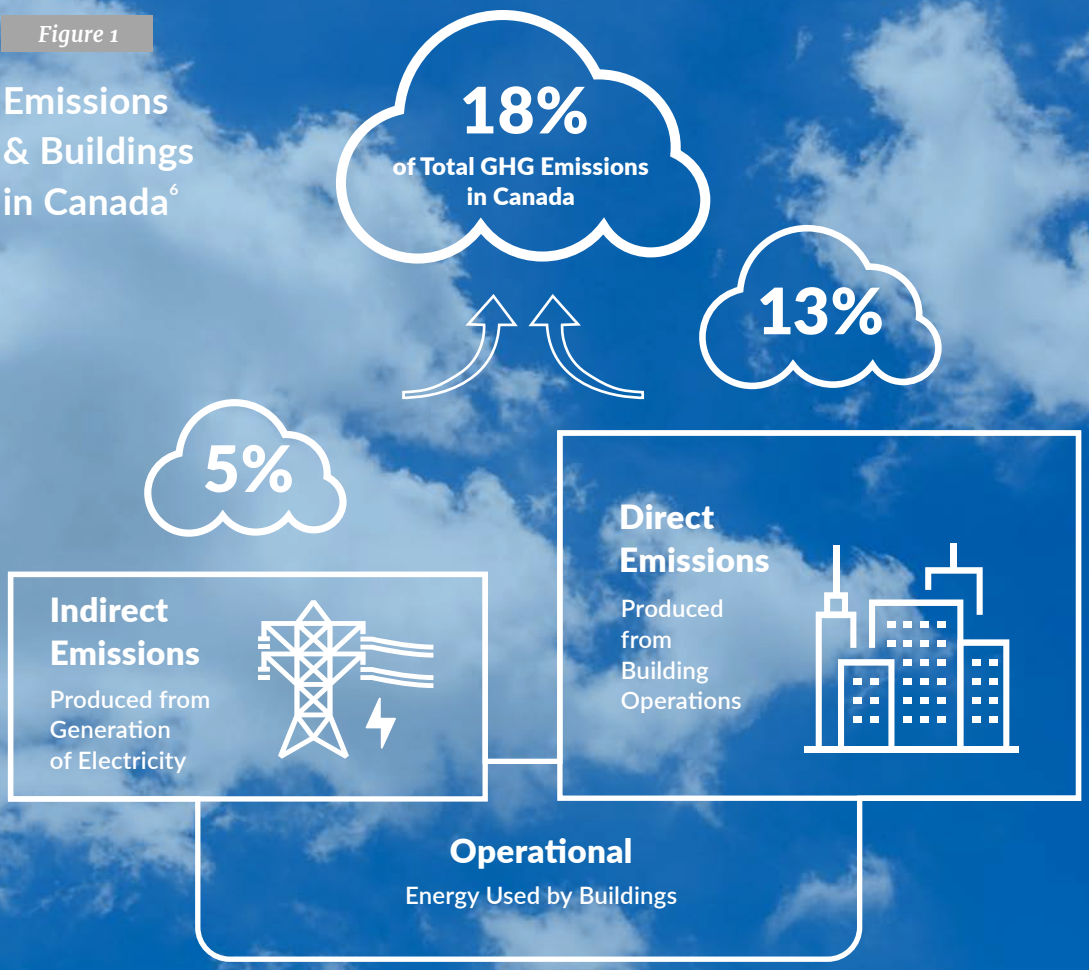
[3] realpac.ca, 2024

[4] realpac.ca, 2024

[5] Canada Green Buildings Strategy, 2024

Figure 1

Emissions & Buildings in Canada[6]



Most emissions (>90%) from the average building in Canada are associated with space and water heating.[7]

Not surprisingly, natural gas consumption is the primary source of emissions for most commercial buildings across Canada – the specific amount depends on the location and the local electricity grid's carbon intensity. The percentage of emissions from natural gas consumption is approximately 65% for buildings in Calgary, 80% in Toronto, 90% in Vancouver and 95% in Montréal.[8] These numbers are broadly indicative across commercial building asset classes and assume equal amounts of electricity and natural gas over a full year.*

"Whole building" emissions include direct (Scope 1), energy indirect (Scope 2) and tenant emissions that may be outside of a building owner's operational control (one category of Scope 3 emissions).

Whole building emissions are emerging as the leading approach for accounting and reporting on operational emissions across the industry.†

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[6] Canada Green Buildings Strategy, 2024

[7] Canada Green Buildings Strategy, 2024

[8] REALPAC Sustainability Industry Report, 2024

* The numbers above highlight the carbon intensity of the local grid. Calgary's proportion of emissions from natural gas is lower because its electricity grid has a higher carbon intensity. Montréal's is higher because its electricity grid has a lower carbon intensity, so natural gas consumption results in almost all of a building's emissions.

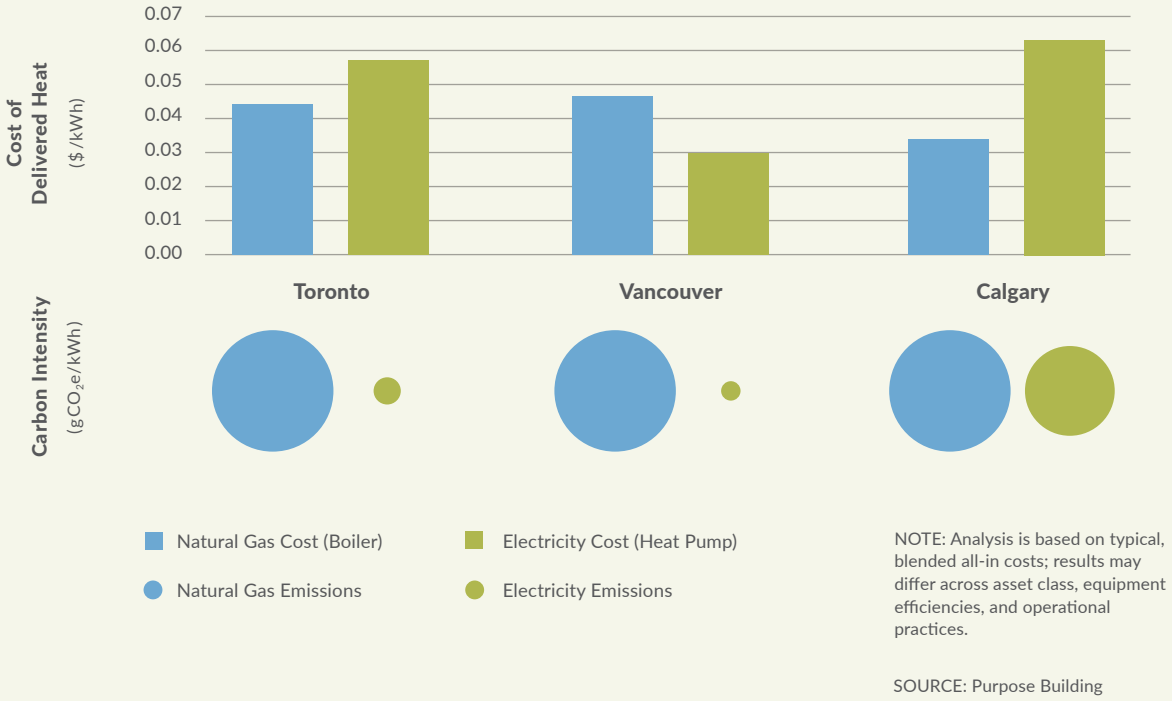
† Embodied carbon emissions (another category of Scope 3 emissions) are important and an increasing area of focus for many building owners (particularly related to new development). We have not included embodied emissions in the scope of this report for simplicity and because of a lack of data.

The Economics Around Heating: A Critical Factor In The Decarbonization Challenge

Fuel switching from natural gas to electricity is conceptually the most straightforward way to drive down building-related emissions. However, Canada has a heating-dominant climate (with cold winters), and natural gas has traditionally been a more cost-effective way to heat buildings than electricity. Natural gas systems also provide a measure of redundancy in the event of disruption of electricity supply, which is highly valued by building owners.

To outline the challenges, the figure below identifies heating system operating costs and carbon intensity across three major cities.

Figure 2 **Commercial Building Heating System Cost & Carbon Intensity**[9]



NOTE: Analysis is based on typical, blended all-in costs; results may differ across asset class, equipment efficiencies, and operational practices.

SOURCE: Purpose Building

Over the last few years, heat pumps have become an increasingly popular technology that supports decarbonization efforts of new and existing buildings. While heat pumps continue to become more affordable, natural gas boilers still have a material operating cost advantage, except in Vancouver. Heat pumps are already much more carbon efficient, even when considering the indirect emissions from electricity production.

[9] Purpose Building / REALPAC Sustainability Industry Report, 2024

Canada's Commercial Real Estate Industry Is Making Progress

Despite the challenges in reducing emissions, commercial building owners recognize their contribution to, and responsibility around, reducing Canada's emissions.

The industry has done a lot of work over the last fifteen years to improve the sustainability of its buildings.

GRESB

OVER
$280B
of Canadian-owned
real estate assets across 70+ owners/funds are benchmarked using GRESB.[10]

ENERGY STAR

OVER
42,000
buildings in Canada
use the Energy Star Portfolio Manager Program.[11]

LEED

OVER
2,000
commercial buildings
in Canada are LEED Certified.[12]

In terms of decarbonization, a total of 68% of responding REALPAC member building owners and investors in Canada reported on their operational Scope 1 and 2 GHG emissions in 2024, up from 48% in 2023. This data reporting is the critical starting point for any organization. Further to this, a total of 49% of REALPAC member building owners and investors have set a net zero carbon target, up from 37% in 2023.[13]

Achieving low and net zero carbon building performance is gaining momentum. CAGBC's Zero Carbon Building standards are a made-in-Canada framework that provides the country's leading net zero carbon definition. The standards focus on whole building emissions as well as embodied carbon.

As of the fall of 2024, over 150 buildings in Canada have been certified under the ZCB Standards, two-thirds of which are commercial.[14] Over 300 additional new construction and deep retrofit projects are actively pursuing certification.[15] Success stories across Canada include KingSett Capital's Scotia Plaza (office), Carttera's 240 Markland Drive (multi-residential), and Eastport's Wilkinson Warehouses (industrial).

[10] GRESB Portfolio Analysis Report - Canada, 2023

[11] Closing the Gap Report, 2024

[12] CAGBC, 2024

[13] All stats in this paragraph - REALPAC, Member Indicator Scan, Feb 2023/2024

[14] CAGBC, 2024

[15] CAGBC, 2024

Canada's challenge and opportunity is to scale these successes while also harnessing the industry's depth, capacity, experience, and investment ability to find ways to extend decarbonization to all building types, creating a host of benefits for Canada.

To build on these successes, and to decarbonize the sector, we must recognize that the decarbonization problem for owners and investors is complex and multi-dimensional. It cuts across the following challenges:

1. **Having the ability to make decarbonization investments:** This requires access to technology and capital, an adequate supply of clean energy, grid capacity, and regulatory support to get that energy to the building.
2. **Having a business case for decarbonization:** This is a function of the cost of capital, technology, and clean electricity, as well as revenues associated with low or net zero carbon buildings.
3. **Having decarbonized buildings and investments properly valued on balance sheets**: Premiums for low and net zero buildings are not effectively reflected in real estate decision-making financial models and on balance sheets, making decarbonization investments less attractive than they should be.

Report participants identified numerous barriers and solutions to support the necessary scaling of decarbonization, which we organized into six thematic areas.

Each thematic area includes a set of recommendations for action that industry, government, utilities, the appraisal community, and financial institutions can take to break down those barriers.

KEY BARRIERS

All orders of government must begin by understanding the key barriers facing the commercial real estate industry. We have identified six core barriers that must be addressed to decarbonize Canada's commercial buildings.

TECHNOLOGY

The technology needed to decarbonize the building sector may be delayed by existing equipment life cycles, which may make it wasteful to replace perfectly good equipment and may deliver insufficient payback/returns either through lower costs or higher rents.

Existing, unamortized natural gas boilers in buildings are almost never replaced before the end of their useful life (~15-20 years) due to the negative impact on financial returns.

High-demand, low carbon equipment, often built overseas, can have long lead times to acquire for new installations or replacements, with potential supply chain disruptions increasing uncertainty. Owners, designers, contractors, and other key stakeholders may be unaware of the equipment choices, availability, and cost-effectiveness of these decarbonization technologies, as well as the advance planning required.

Even when technologies are available and cost-effective, building owners may not be aware of their options or have doubts about the effectiveness and financial paybacks of key decarbonization technologies.

CAPITAL

Debt and equity capital may be unavailable, or debt capital may only be available at prohibitively high interest rates, which does not "make the math work" on new investments.

Accessing reasonable interest rates for debt or market-demanded risk-adjusted equity investment returns can be difficult for owners and developers. With the current costs for consultants, equipment, and construction, it can be prohibitive to get "the math to work," whether for retrofits or new investments in decarbonization. Owners may also have pending or recently passed mortgage renewals with a much higher interest carry on their property, short investment hold periods that discourage long-term investments, or be lowering their allocations to real estate, limiting their willingness to allocate capital to decarbonization.

These financial challenges, and other similar ones, are further exacerbated by political uncertainty, including delays and unclear or frequently changing government policy direction, creating risks for investors and leading them to avoid or delay capital investments.

VALUATION

Decarbonization investments are not clearly defined or understood and are not effectively incorporated into asset appraisals.

The global transition to a low carbon economy leads to carbon-related risks, from carbon taxes to more stringent energy/carbon standards, and opportunities from lower operating costs to revenue generation through on-site renewables and slower obsolescence. Although market research is beginning to demonstrate the existence of brown discounts and green premiums, these elements are not yet fully priced into traditional real estate valuation models, leading to asset mispricing risk.

ENERGY

Low or no carbon sources of energy may be currently unavailable or prohibitively expensive.

Natural gas is a stable and well-established fuel source, and electricity grids in most provinces are highly regulated, favouring large, centralized generation. Electricity grids also have significant last-mile barriers associated with distribution, such as connection costs and competing demands for a finite amount of electricity. These challenges create a market environment that stifles choice, behind the meter innovation, and on-site renewable energy options for building owners and developers. The electrical infrastructure and capacity of buildings may also prevent electrification, particularly when there are competing demands for additional capacity, such as from electric vehicle charging stations.

PEOPLE

Achieving decarbonization goals requires commitment and action from leaders and groups across the organization, but significant capacity gaps exist.

Building owners are often unclear on decarbonization strategies and technologies, and their performance incentives (e.g., bonus payments) may not include decarbonization targets. A lack of highly qualified decarbonization consultants may also lead to high costs or low confidence in the business cases they provide in support of decarbonization investments. There can also be a lack of skilled labour available. Architects, engineers, contractors, and trades tailor their services to project requirements, so if low carbon technologies or skills are not highlighted, there is less pressure for professional development in this area.

DATA, STANDARDS & DISCLOSURE

Accurate utility data is often incomplete or inaccessible for building owners, which limits their ability to estimate their buildings' carbon footprint.

Tenants that pay for their utilities directly, for example, in industrial, some retail or multi-residential buildings, may not be required to share that data with the building owner. Utilities cite privacy concerns or are not motivated to share tenant utility data with owners, and when they do, it is highly variable in its consistency and completeness. Building owners are also under pressure to disclose their (and often their tenants') energy and emissions to investors and regulators and be subject to several new, divergent building emission performance standards across the country.

It is important to note not everyone across the industry experiences the same barriers. Indeed, some industry leaders are navigating the current uncertainties and finding their way around or through the barriers. The ability to overcome these barriers is typically driven by a few key factors, such as entity type and size, investment horizon (e.g., longer-term), and senior leadership (e.g., driving action based on a conviction along with internal real estate models that low carbon assets reduce risk today and will be more valuable in the future).

Several complexities exist across the sector, making it difficult to prescribe one-size-fits-all solutions. These complexities include building type, the size and access to capital of the building portfolio owner, and the structure of the building portfolio owner (e.g., public vs. private). Despite these nuances, there are substantial commonalities regarding barriers and solutions to decarbonizing commercial buildings.

To drive building decarbonization, these barriers must be addressed through a combination of government policy changes and industry actions, ideally in collaboration. The six barriers above provide the framework for the ten recommendations that follow.

[1] REALPAC Website, 2024

[2] REALPAC Website, 2024

[3] Canada Green Buildings Strategy, 2024

TEN RECOMMENDATIONS TO OVERCOMING BARRIERS

TECHNOLOGY

ADVANCING DECARBONIZATION TECHNOLOGY

01 Increase incentives and knowledge sharing around decarbonization technologies:

01

The federal government should:

a. Extend the Clean Technology Investment Tax Credits to heat recovery chillers, high-performance building envelope solutions, water source heat pumps, and electrical infrastructure upgrades required to support building electrification and allow them to be freely transferable from non-taxable to taxable entities.

b. Reduce the recapture period of Clean Technology Investment Tax Credits to five years.

c. Create a grant or tax incentive program to support fuel switching of natural gas-based HVAC equipment – to a heat pump or hybrid heating solution – before the end of its useful life.

d. Include decarbonization of buildings as a priority investment of the Innovation, Science and Economic Development Canada's Strategic Innovation Fund.

e. Expand the list of technologies eligible for the Accelerated Capital Cost Allowance tax benefit to include more low carbon and energy-efficiency technologies, including smart grid technology.

Federal and provincial/territorial governments should:

f. Create investment funds to help companies advance innovative technologies capable of achieving scale, cost efficiencies, lower carbon footprints and climate resilience for the building sector[16] (e.g., heat pumps, low carbon concrete, mass timber).

The Canadian commercial real estate industry should:

g. Collaborate on initiatives that support information sharing on technology best practices across building types and regions.

[16] This recommendation is found in The Blueprint for More and Better Housing.

CAPITAL

ENHANCING ACCESS TO CAPITAL & FINANCIAL INCENTIVES

02 Provide long-term low fixed-rate debt financing options for low-carbon construction and retrofits:

The federal government should:

a. Invest in long-term low fixed-rate financing for low carbon buildings and retrofits. The reforms could include expanding and lowering the floor threshold for loans from the Canada Infrastructure Bank for new developments and retrofits that meet net zero and climate-resilient codes and standards.[17]

b. Conduct a thorough examination of all fees on government financing programs, such as those offered by the CMHC, for low carbon buildings and retrofits to ensure they are not set at prohibitive levels.

c. Increase the Capital Cost Allowance rate to 12% for affordable, accessible, and climate-friendly purpose-built rental projects that have an MLI Select score at or above 100 points or Apartment Construction Loan Program score above 19.[18]

Provincial/territorial and municipal governments should:

d. Work with the industry to explore the feasibility of implementing a Commercial Property Assessed Clean Energy model, which is used throughout the U.S. as a specialized mechanism for financing energy efficiency (C-PACE) and renewable energy improvements on private sector building owners.

Financial institutions should:

e. Establish new products for building owners, such as lower interest rate mortgages for lower-risk assets with verified low or net zero carbon performance.

03 Provide tax relief and incentives for low and net zero carbon buildings.

Federal, provincial/territorial, and municipal governments should:

a. Introduce more favourable tax treatment for low and net zero carbon buildings, from property taxes to development charges, to provide stronger incentives to building owners. These incentives can go beyond financial support and can include time-saving measures, such as streamlined approvals for new buildings that have verified low or net zero carbon performance.

[17] This recommendation is found in The Blueprint for More and Better Housing.

[18] This recommendation is found in The Blueprint for More and Better Housing.

VALUATION

INCORPORATING LOW CARBON INVESTMENTS INTO PROPERTY VALUATIONS

04 Recognize decarbonization investments in property valuations.

Federal, provincial/territorial, and municipal governments should:

a. Encourage their appraisers to consider a green premium for green assets when valuing government building portfolios.

Appraisal Institute of Canada should:

b. Develop and implement a strategy for incorporating low carbon investments in commercial real estate assets into appraisals, including adopting new International Valuations Standard 104 on ESG (effective January 2025) and a robust training program for appraisers to bring them up to speed.

The Canadian commercial real estate industry should:

c. Advance research with the support of other stakeholders on decarbonization technologies and financial costs vs. benefits across different asset classes, building types and regions to support the work of appraisers and building valuations.

ENERGY

STRENGTHENING ENERGY INFRASTRUCTURE FOR LOW CARBON TRANSITIONS

05 Grow capacity and conservation across electricity systems and continue to decarbonize existing electricity generation infrastructure.

The federal government should:

a. Adopt 28 key recommendations of the Canada Electricity Advisory Council's Powering Canada Report, to drive policies that help modernize and expand the capacity of the electricity sector.

b. Study where Canada is not competitive with the energy and decarbonization provisions of the U.S. Inflation Reduction Act of 2022 and establish a level playing field to ensure the attraction and retention of capital and companies working in fields such as geothermal and district energy.

Provinces/ territories should:

c. Increase funding, directly or through regulated utilities, for demand-side solutions from building owners (e.g., efficiency, conservation, and flexibility) to help reduce the need for expensive new infrastructure. These solutions should include:

   i. incentives for energy efficiency capital and operating expenditures; and

   ii. incentives or preferential rate structures for demand response measures such as load shifting.

d. Create a more predictable and favourable business environment that drives investment in onsite renewable energy generation (e.g., rooftop solar), energy storage and district energy to reduce system-wide costs and increase capacity and resiliency at the edge of the grid. These reforms should include:

   i. Making virtual/remote net metering programs available, such as those offered in New York State, with an emphasis on flexibility and the ability for a variety of customers to subscribe;

   ii. Implementing preferred rate structures paid to building owners for small-scale generation projects up to 10 MW;

   iii. Implementing standard procedures and timelines for connection impact assessments and streamlined licensing approvals (cutting red tape);

   iv. Establishing equitable cost-sharing mechanisms where first connectors take on a disproportionate financial burden, like in BC Hydro's proposed Distribution Extension Policy; and

   v. Making distribution-level line and substation capacity available to the public via a web portal/GIS viewer, like in Alberta.

The Canadian commercial real estate industry should:

e. Engage utilities on fuel-switching pilot projects, projected energy needs, and available grid capacity to inform utility and building owner forecasts and planning.

06 Provide electricity users with choice for electricity procurement.

Federal and provincial/territorial governments should:

a. Implement changes that foster greater competition across the electricity system to allow users, including building owners, to secure green power through small-scale virtual power purchase agreements up to 10MW, like in Alberta.

PEOPLE

DEVELOPING PEOPLE, LEADERSHIP & EXPERTISE IN DECARBONIZATION

07 Increase decarbonization leadership, knowledge, and skills across the industry.

Federal government and industry should:

a. Continue to build decarbonization capacity across the industry, including advanced courses on financials and technologies, through initiatives like the Low Carbon Training Program.

The Canadian commercial real estate industry should:

b. Continue to quantify GHG emissions and set net zero or carbon reduction targets in accordance with leading standards.

c. Develop decarbonization risk, technology, and financial best practices across building types and regions to support the decision-making of investment, asset management, and development professionals.

08 Create stronger incentives for decarbonization.

The Canadian commercial real estate industry should:

a. Develop low carbon transition plans for their assets and portfolios and integrate them into capital plans to accelerate action and mitigate future risks.

b. Incorporate clear requirements for low carbon technologies and materials (e.g., heat pumps, low carbon concrete, mass timber) in procurement documents to incentivize architects, engineers, contractors, and skilled trade employers.

c. Adopt employee remuneration practices that include achieving low carbon targets alongside financial targets in calculating and paying annual bonuses for asset managers, investment/development professionals, and other supporting functions.

DATA, STANDARDS & DISCLOSURE

IMPROVING ACCESS TO DATA, TRANSPARENCY AND REPORTING

09 Ensure building owners and investors have access to whole building data.

Federal government and industry should:

a. Support utility data sharing through Energy Star Portfolio Manager web services API so that utilities can use it to deliver consistent data to building owners efficiently.[19]

Provincial/territorial governments should:

b. Introduce legislation that cuts red tape and requires utilities to share whole building energy data (including tenant data) with building owners in a timely, standardized manner.

The Canadian commercial real estate industry should:

c. Engage federal and provincial/territorial governments and utilities in sharing utility data, particularly regarding the timing and standardized approach required to meet their needs.

10 Harmonize standards across Canada.

The federal government should:

a. Develop a Canadian Green Taxonomy to provide clearer definitions for the industry and investors around what qualifies as a "green investment," including for commercial buildings to support investment in decarbonization across the industry.

The Canadian commercial real estate industry should:

b. Identify and proactively engage in the development of credible international and national decarbonization standards and tools that support best practice decarbonization and reporting efforts across the industry.

c. Engage all levels of government across Canada to ensure a consistent approach to building emission performance standards and labelling systems, such as those under development by the City of Toronto and the Government of Québec.

[19] Adapted from https://natural-resources.canada.ca/energy-efficiency/energy-star-canada/energy-star-for-buildings/guidance-for-utilities-on-providing-whole-building-energy-data-enable-benchmarking-en/guidance-for-utilities-on-providing-whole-building#a3c1, 2024

MOVING FORWARD

PRIORITY RECOMMENDATIONS FOR URGENT ACTION

Governments, utilities, and the industry must collaborate to decarbonize Canada's commercial buildings. This report provides ten recommendations on how to do so.

Considering current fiscal and political constraints, it is important to prioritize and identify the most impactful recommendations (and sub-actions) from the report required in the short term.

While all recommendations in the report will support the pathway to decarbonization, the following are prioritized as immediate initial steps due to their critical impact.

The Canadian commercial real estate industry should advance:

VALUATION

04 Recognize decarbonization investments in property valuations.

PEOPLE

07 Increase decarbonization leadership, knowledge, and skills across the commercial real estate industry.

DATA

09 Ensure building owners and investors have access to whole building data.

The Federal Government should advance:

TECHNOLOGY

01 Increase incentives and knowledge sharing around decarbonization. technologies.

PEOPLE

07 Increase decarbonization leadership, knowledge, and skills across the commercial real estate industry.

DATA

09 Ensure building owners and investors have access to whole building data.

Provincial/ Territorial Governments should advance:

CAPITAL[‡]

03 Provide tax relief and incentives for low and net zero carbon buildings.

ENERGY

05 Grow capacity and conservation across electricity systems and continue to decarbonize existing electricity generation infrastructure.

DATA

09 Ensure building owners and investors have access to whole building data.

REALPAC, CAGBC, and the PLACE Centre at the Smart Prosperity Institute look forward to working with federal and provincial/territorial governments, utilities, and all industry stakeholders to drive decarbonization for the commercial real estate industry.

[‡] We also recommend that financial institutions prioritize establishing new products for owners to support building decarbonization.

APPENDIX A

BARRIERS IDENTIFIED BY OWNERS & INVESTORS

A list of decarbonization barriers (outlined in the table below) was developed based on informal conversations with REALPAC members over the past few years.

Participants in this study were provided with this list and asked, "What are the top 3 to 5 barriers that confront you in decarbonizing your assets?" Participants were also invited to identify options not on this list.

The Top 5 Barriers identified by participants were as follows:

1. **No Bump in Appraised Value**
2. **No Rent Premium**
3. **No NOI/Return on Investment**
4. **No/Limited Incentive Capital Availability**
5. **No/Limited Equity Capital Availability**

BARRIER	DESCRIPTION
No/Limited Equity Capital Availability	Limited equity capital available for decarbonization programs in our buildings.
No/Limited Debt Capital Availability	Limited debt capital available specifically for decarbonization upgrades.
No/Limited Incentive Capital Availability	Limited government or utility incentive capital available to offset the cost of decarbonization upgrades.
Unamortized Equipment	Doesn't make economic sense to early replace fossil fuel-based HVAC systems (e.g., natural gas boilers).
No NOI/Return on Investment	Short-term costs are too high, not enough payback either in lower costs or higher rents.
No Rent Premium	Tenants are generally not willing to pay a premium for low or zero carbon assets.

BARRIER	DESCRIPTION
No Bump in Appraised Value	Appraisers are not incorporating decarbonization investments in asset appraisals.
Limited/No Tax Incentives	Limited or no tax benefits for decarbonization investments.
Short Remaining Hold Period	Hold period is too short to justify proactive decarbonization investments (e.g., closed-end funds).
Higher Electricity Costs	Cost of electricity (today) is too high relative to natural gas to justify electrification investments.
Political Uncertainty	Unclear or constantly changing government policy direction delays action.
Cost of or Uncertain Performance Estimates of Consultants	Cost of Consultants/Low confidence in the business cases consultants provide in support of decarbonization investments.
Technical Solutions Available	Not clear on the equipment choices, availability, and cost effectiveness of decarbonization technologies.
Interest Rates	Interest rates are too high, crowding out my capital expense budget.
Mortgage Renewals	I have pending mortgage renewals and so I'm not spending any discretionary money at this time.
Lowering Allocations	I'm an investor and I'm lowering my allocation to real estate so not making any fresh investments including in decarbonization.
No Demand from Tenants	My tenants aren't asking for decarbonization plans or progress.
No Demand from Lenders	My lenders aren't asking for decarbonization plans or progress.
No Demand from Investors	My investors aren't demanding decarbonization plans or progress.
It's not my job	It is the tenants' job to decarbonize.

APPENDIX B

BEST PRACTICES FROM INDUSTRY LEADERS

Not everyone is experiencing the barriers outlined in Appendix A equally.

Indeed, some leaders are navigating the current uncertainties and finding their way around or through the barriers. This is typically driven by a few key factors, such as:

1. Entity Type: Larger entities with larger teams and more substantial internal/external decarbonization reporting pressures.
2. Investment Horizon: Institutionally owned (e.g., pension fund) entities with longer-term hold periods.
3. Senior Leadership: Entities with C-Suite executives that are driving action based on the conviction (and internal modelling) that low carbon assets will be more valuable in the future.

Examples of building owner and investor decarbonization best practices include:

Ivanhoé Cambridge

Ivanhoé Cambridge:
Implementing a Green IRR

KingSett Capital

KingSett Capital:
Building Decarbonization Modelling Tool

PSP Investments

Public Sector Pension Investment Board:
Green Asset Taxonomy

There are also numerous academic studies that highlight the positive impact of green investments on the financial performance of commercial real estate assets and portfolios. Studies span a wide range of asset classes and regions around the world.

LaSalle

LaSalle Investment Management:
Value of Green Report

GLOSSARY OF TERMS

Brown Discount
A reduction in property value attributed to outdated or less sustainable features, leading to higher operational costs or regulatory risks.

Building Decarbonization
The process of reducing carbon emissions associated with building operations and construction, aiming for net zero carbon status.

Carbon Intensity
The amount of carbon (CO_2) emissions produced per unit of output or activity, such as per square foot of building space.

Carbon Pricing
A method to encourage the reduction of greenhouse gas emissions by assigning a cost to emitting carbon, typically through carbon taxes or cap-and-trade systems.

Commercial Property Assessed Clean Energy (C-PACE)
A financing mechanism that enables property owners to fund energy efficiency and renewable energy projects through property assessments.

District Energy
A system for heating or cooling buildings in an area through a network that distributes thermal energy, typically using centralized production sources.

Embodied Carbon
Emissions associated with materials and construction processes throughout the whole life cycle of a building.

Green Internal Rate of Return (IRR)
A calculation of the internal rate of return for green or sustainable investments, which takes into account the financial benefits from energy efficiency and other green features.

Green Premium
The additional value or rent that green buildings can command due to their sustainable features and operational efficiencies.

Greenhouse Gas (GHG)
Six gases listed in the Kyoto Protocol responsible for global warming & climate change.

GRESB
An internationally recognised benchmark assessing the Environmental, Social and Governance (ESG) performance of property.

Leadership in Energy and Environmental Design (LEED)
A globally recognized green building certification system, providing third-party verification of sustainable building practices.

Load Shifting
The practice of adjusting energy use to times when demand is lower or renewable energy production is higher, often to reduce costs and carbon footprint.

Low Carbon Transition Plans
Plans that outline strategies for reducing carbon emissions, including steps to transition to low-carbon energy sources and improve energy efficiency.

Net Metering
A billing mechanism that allows consumers who generate their own electricity (e.g., with rooftop solar) to sell excess power back to the grid.

Operational Carbon
Emissions associated with the energy and equipment used to operate the building.

Net Zero Carbon
When the GHGs resulting from the development and operation of an asset or portfolio is no more than the avoided emissions.

Scope 1 Emissions
Emissions from sources that are owned or controlled by the reporting entity, such as on-site fuel combustion.

Scope 2 Emissions
Indirect emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the reporting entity.

Scope 3 Emissions
Indirect emissions (not included in Scope 2) that occur in the value chain of the reporting entity, including both upstream and downstream emissions.

Virtual Power Purchase Agreements (VPPA)
Contracts that allow companies to purchase renewable energy remotely, offsetting their carbon footprint without physical connection to the source.

Whole Building Data
Comprehensive data on a building's energy use, which is often shared by utilities to assist in managing and reporting on consumption.

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