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Climate Change: Risks & Opportunities in the Canadian Commercial Real Estate Market

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The Challenge

Climate change has been called the greatest challenge of the 21st century. Its social, environmental, and financial impacts cross all segments of society. Commercial real estate will now be bought and sold within the constraints of a new "low-carbon" economy. The challenge will be to align incentives such that owner/operators, investors, and tenants all benefit from improved environmental performance—especially improved energy efficiency.

Contributing to the Problem

Commercial buildings are a major source of both direct and indirect greenhouse gas (GHG) emissions. Direct GHG emissions come from the on-site combustion of fuels for heating and cooling, as well as the on-site use of refrigerants, which are powerful greenhouse gases. Indirect emissions come primarily from the GHGs released from fuel combustion related to producing construction materials and electricity used in the buildings.

In 2005, the International Energy Agency estimated that buildings account for 20 to 40 percent of the world's energy use, a number that varies greatly depending on a country's climate and economy.[1] In Europe, for example, buildings use about 40 to 45 percent of the total energy consumed. A recent estimate for North America is 46 percent, from which 8 percent can be attributed to the embedded energy of the materials used in construction. The commercial building sector in Canada is estimated to account for 13 percent of Canada's carbon emissions and 14 percent of end-use energy consumption.[2]

Although buildings use a lot of energy, the potential for drastic reductions in energy consumption is significant. With proven and commercially available technologies, the energy consumption in both new and old buildings can be cut by an estimated 30 to 50 percent while producing a favourable return on the initial investments. Instead of contributing to the problem, financial leaders in the commercial real estate sector have found ways to be part of the solution.

Untapped Potential

Canada has more than 440,000 commercial and institutional buildings representing floor space of over 670,000,000 m^2 and consuming over 1,036,000,000 GJ of energy (or 287,800,000,000 kWh)[3] annually. (In comparison, the amount of energy required to supply the Montreal Metro each year is approximately a million GJ).

The Intergovernmental Panel on Climate Change (IPCC) stated in its fourth assessment report that not only does the building sector have the largest potential for significantly reducing GHG emissions, but also that this potential is relatively independent of the cost of GHG emissions reduction. This is due partly to the fact that most measures aimed at reducing GHG emissions from buildings also result in reduced energy costs over a building's life cycle, which eventually offsets any incremental investment cost. Indeed, energy reductions in buildings may evolve as a financial asset—a carbon offset to be traded (an opportunity described later in this paper). As the carbon market goes global and the cost of carbon increases, GHG emissions threaten to become a significant business liability. "Clean" businesses' low exposure to climate risk could represent a valuable asset.

The energy performance of commercial buildings is affected by several factors. For large commercial buildings, geographic location is much less important than building use for determining energy performance. For example, food services facilities use approximately four times more energy per square foot than wholesale and warehouses, and just under double those of office buildings. Another example of energy-intensive commercial real estate is computer data centres. According to a US Department of Energy report, the energy consumption by data centres has gone from practically zero 20 years ago, to over 1.2 percent of total US energy consumption.[4]

Slow Adoption of Energy Efficiencies

Although the potential to improve building energy efficiencies to reduce GHG emissions is significant, the industry has been slow to act. For example, Canadian buildings constructed between 2000 and 2004 use on average only 7 percent less energy than those constructed prior to 1920.

Despite years of government and utility-sponsored grants and incentive programs, as well as energy audits indicating favourable returns on investments, there has been little progress in wide-scale adoption of energy-efficiency improvements, especially retrofits to existing buildings. Historically, energy has been inexpensive and viewed as a minor or uncontrollable cost of business to be simply passed on to customers. In addition, there is confusion regarding the costs, risks, and payback of current energy-efficiency technologies.

Perhaps the main reason for slow adoption is that incentives are not aligned among commercial real estate stakeholders. For example, the short-term financial benefit of lower energy bills resulting from investments by building owners typically accrues to the tenant. Likewise, the long-term benefit of energy-efficiency investments by tenants typically accrues to the building owner as a capital improvement. Keeping energy costs low is not a common motivator for building operations and maintenance (O&M) contractors. Nor is it common for architects to budget more for design improvements that exceed building codes or historic expectations.

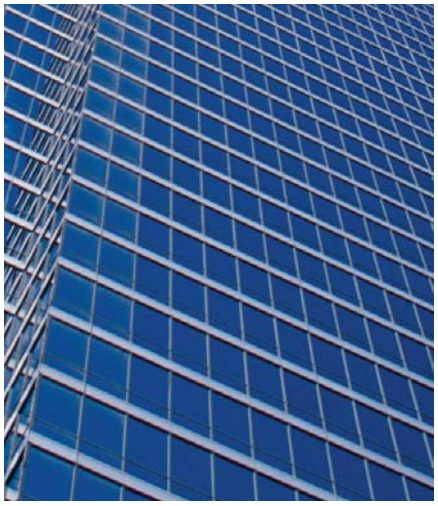
Because of the potentially catastrophic impacts of keeping the status quo, governments, industry organizations, and investors are stepping up to create change.

North American Regulations

While the Canadian commercial buildings sector is currently not covered directly by any GHG emissions regulations, there are developments both in Canada and the US that could change that. Alberta was the first jurisdiction in North America to regulate GHG emissions, and it is working toward a protocol for both new and existing commercial buildings that the federal government could adopt. British Columbia has taken Alberta's lead as the first province to make a commitment to a carbon-neutral public sector by 2010. By 2011, through the Pacific Carbon Trust provincial Crown Corporation, BC expects to purchase between 700,000 and 1,000,000 tonnes of CO_2-equivalent offsets each year. KPMG Performance Registrar Inc. has been active in the verification of these high-quality carbon offsets.

In the US, both the Environmental Protection Agency (EPA) and the Western Climate Initiative (WCI) (a partnership between seven US states, British Columbia, Manitoba, Ontario, and Quebec) each include commercial buildings in the scope of proposed regulated entities. Under the EPA's mandatory reporting rule, only facilities (related grouping of buildings) with more than 25,000 tonnes of CO2-equivalent emissions annually are required to report emissions. From a practical standpoint, only the largest warehouses, office and/or entertainment complexes, shopping malls, hospitals, and universities will be reporting. Currently the US doesn't have federal climate regulations, but most believe that will change as early as 2010. Proposed legislation may make up to 1.5 billion tonnes of international offsets available to US federal cap and trade markets. With the price of these regulatory carbon credits to trade from USD$5 to USD$15 per tonne, the total market value becomes compelling. The price for carbon offsets in Canada may be even higher. The current structured purchase price of BC carbon offsets by the BC government is CAD$25 per tonne.[5]

Another GHG emission regulator program that may affect Canadian commercial real estate is the Regional Greenhouse Gas Initiative (RGGI). This regional effort involves 10 Northeastern and Mid-Atlantic states and has Quebec, New Brunswick, and Ontario as official observers. Although the RGGI currently caps only GHG emissions from electric utilities, it allows for the sale of both emission allocations (permits) as well as carbon offsets. These offsets can come from a variety of emission reduction projects, including commercial buildings that have implemented one or more of the following energy conservation methods:



- Improvements in the energy efficiency of combustion equipment that provides space heating and hot water, including a reduction in fossil fuel consumption through the use of solar and geothermal energy
- Improvements in the efficiency of heating distribution systems, including proper sizing and commissioning of heating systems
- Installation or improvement of energy management systems
- Improvement in the efficiency of hot water distribution systems and reduction in demand for hot water
- Measures that improve the thermal performance of the building envelope and/or reduce building envelope air leakage
- Measures that improve the passive solar performance of buildings and application of active heating systems using renewable energy
- Switching to a less carbon-intensive fuel for combustion systems, including the use of liquid or gaseous eligible biomass, provided that conversions to electricity are not eligible under the RGGI regulation

It is anticipated that EPA will accept all of RGGI's offset protocols, including those for energy-efficient buildings. In addition, proposed US and Canadian federal legislation gives "early action" credits to those carbon offset owners (foreign or domestic) that have already implemented international standards, such as ISO 14064-3, and been verified as doing so.

EPA, WCI, and RGGI are considered bellwether regulatory regimes strongly influencing federally legislated language in Canada. It seems inconceivable that Canadian commercial buildings will not be affected either directly or indirectly (e.g., through potential offsets) by North American climate change regulations within the next two years.

Leadership in Energy and Environmental Design (LEED)

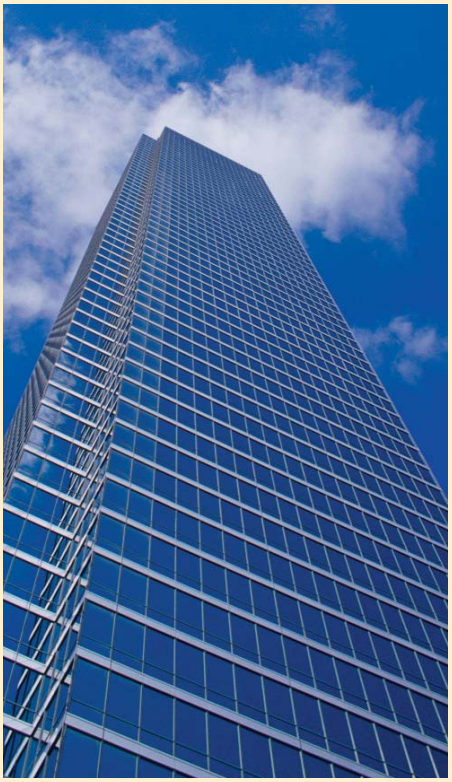
In 2000, the US Green Building Council launched the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System as a tool to help build energy-efficient, resource-friendly, and healthier structures. In Canada, the program is administered by the Canadian Green Building Council (CaGBC). The LEED Green Building Rating System is a point-based system in which building projects earn points or credits for satisfying specific "green" building criteria. Projects earn credits in categories, including:

- Sustainable Sites
- Water Efficiency
- Materials & Resources
- Energy & Atmosphere
- Indoor Environmental Quality.

The average LEED-certified building is designed to use 32 percent less electricity and results in 350 tonnes less of carbon dioxide emissions annually.[6] However, additional analysis shows very little correlation between the awarding of LEED energy-efficiency points and actual energy savings. In some studies, 28 to 35 percent of the LEED-certified buildings performed worse from an energy-savings standpoint than their conventional counterparts.[7] This has prompted the organizations of the Green Building Council to develop several new versions of the LEED rating system, which have been released over the past few months. These new versions are based more on performance verification, similar to the US EPA Energy Star program, than on design modelling. However, verification and disclosure of site-specific performance information can raise a number of unexpected business risks.

Managing Risks

Given that regulations and industry standards are quickly evolving, ignoring the resulting regulatory, reputational, and financial risks or missing the potential opportunities could be a serious strategic mistake.

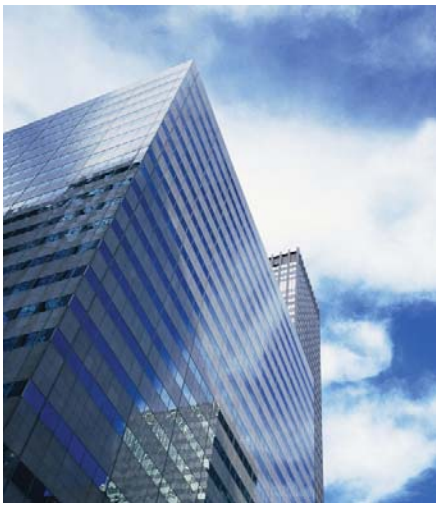


Regulatory

Non-compliance with emerging regulations is of the most concern. As previously mentioned, the Canadian commercial buildings sector is currently not covered directly by any GHG emissions regulations. However, assuming the Canadian federal government follows the US and regional initiatives, this could change. Initial regulations will most likely focus on only the largest facilities, including office, shopping, and entertainment complexes (e.g., those with over 25,000 tonnes of CO2-equivalent emissions).

This doesn't mean that real estate investors and managers won't be affected. On the contrary, anchor tenants from regulated industries or those who have committed to voluntary emission reductions will be (if they are not already) demanding energy and refrigerant-use information. Expect this demand to be formalized in amendments to standard lease agreements. Be proactive and understand this request while protecting the confidential and competitive use of energy performance data.

Because of the uncertainty associated with evolving GHG emissions regulations, regulators are often unable to provide specific guidance. When it comes to zoning variances and permit requests, municipal officials are under public pressure to include climate considerations. Commercial real estate developers and investors who are unprepared to address climate considerations risk unfavourable treatment, delays, and additional fees.



One of the questions the CDP asks each year is: How are financial risks related to GHG liabilities and assets being managed? Being able to confidently answer this question reflects on the reputation of a commercial real estate entity.

Reputational

An important component of conducting commercial real estate transactions is each party's reputation. Being "out of touch" with social, economic, and environmental issues such as climate change can lead to delays and mistrust. Who wants to do a deal with, or invest in, someone who doesn't understand the full risks as well as the full potential of any given project? This can lead to a decrease in seeing the best deals, restricted access to favourable capital, and even more delays. Managing this risk involves strategic disclosure of key reputational indicators starting with the investment community.

The Carbon Disclosure Project (CDP) was started in 2000 by a handful of institutional investors to collect and distribute high-quality information to motivate corporations and governments to take action to prevent climate change. Today, over 475 institutional investors are CDP signatories, with assets under management of over USD$55 trillion. In addition, some 60 purchasing organizations, such as Walmart, PepsiCo, and Cadbury, have joined in 2009 as part of CDP's new supply chain disclosure initiative. With this kind of global coverage, it is likely almost every major commercial real estate project is or will be affected. In Canada, 40 major investment groups participated in 2008. Many of these investors have vast commercial real estate holdings.

Financial

Commercial real estate entities need to understand and account for current and future carbon liabilities and assets as an important part of comprehensive Merger and Acquisition (M&A) due diligence. New checklists are being developed to assess potential financial exposures. For example, are future liabilities related to poor energy efficiencies, negative tenant reactions, or unfavourable zoning and permitting being properly valued? Have ownership rights related to accrued energy efficiencies, Green Power (or renewable energy) Certificates, and/or GHG emission reduction offsets been addressed in commercial leases or other legal agreements? How do environmental factors affect purchase/selling price, taxes, insurance, and other potential financial responsibilities?

Having a clear carbon management strategy should be part of any large commercial real estate holding. This strategy starts with assessing the GHG emissions related to the entire portfolio (know your carbon footprint). Because you can't manage what you don't measure, gathering GHG information should follow

Canadian Signatories 2009

Acuity Funds

Addenda Capital Inc.

AGF Management Limited

Alberta Investment Management Corporation (AIMCo)

Alberta Teachers Retirement Fund

Beutel Goodman and Co. Ltd.

Blue Marble Capital Management Limited

BMO Financial Group

British Columbia Investment Management Corporation

CAAT Pension Plan

Caisse de dépôt et placement du Québec

Canada Pension Plan Investment Board

Canadian Friends Service Committee (Quakers)

Catherine Donnelly Foundation

CI Mutual Funds' Signature Advisors

CIBC

Comité syndical national de retraite Bâtirente

Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers

Fondaction CSN

Front Street Capital

Genus Capital Management

Groupe Investissement Responsable Inc.

GrowthWorks Capital Ltd.

Guardian Ethical Management Inc.

Hospitals of Ontario Pension Plan (HOOPP)

Inhance Investment Management Inc.

Jarislowsky Fraser Limited

McLean Budden

Meritas Mutual Funds

Natcan Investment Management

National Bank of Canada

Northwest and Ethical Investments LP

OMERS Administration Corporation

Ontario Teachers Pension Plan

Phillips, Hager & North Investment Management Ltd.

PSP Investments

Royal Bank of Canada

Scotiabank

Sprucegrove Investment Management Ltd.

Sun Life Financial Inc.

TD Asset Management Inc.

The Co-operators Group Ltd.

The Daly Foundation

The Presbyterian Church in Canada

The United Church of Canada – General Council

Toronto Atmospheric Fund

Vancity Group of Companies

York University Pension Fund

Youville Provident Fund Inc.

a well-constructed GHG information management plan. Elements of such a plan include:

- Organizational and Operational Boundary Conditions
- GHG Quantification Process, Procedures, and Methods
- Data Quality Control and Management
- Ongoing Roles and Responsibilities
- Auditing and Verification

The resulting baseline of GHG emissions allows for tracking improvements, certifying reductions for carbon offsets, and creditable reporting to key influencers within the commercial real estate market. These influencers include investors, regulators, and anchor tenants. Increased pressure from these influencers on commercial real estate entities will result in more "green" buildings.

Although the regulatory, reputational, and financial risks are quite real, perhaps the greatest risk involves missing the opportunities related to drastic changes in regulations and public perceptions.

Enhancing Opportunities

In their newly updated book, *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage*, Yale University authors Daniel Esty and Andrew Winston make the case that sustainability should be a core strategic business element of any business. They focus on addressing social and environmental concerns as a way of turbo-charging economic returns. Commercial real estate is no exception. The benefits can be significant if the right strategies are implemented.

Turning "Green" Real Estate into Gold

As presented, energy savings from LEED buildings can be quite variable, especially under earlier versions of LEED scoring. Nonetheless, the public perception of "green" value is quite real. The CoStar Group, an information company that tracks 44 billion square feet of US commercial space, reports that LEED buildings generate rent premiums of USD$12.25 per square foot over other buildings, enjoy a 4.1 percent higher occupancy rate, and sell for USD$184 more per square foot. Nevertheless, LEED buildings incur no more than a 2.5 percent cost premium upfront to design and build.

Commercial real estate groups should realize that the economics are becoming even more compelling, particularly since a Canadian national market for carbon offsets related to building efficiency is on the horizon. It is important to track developments in regulatory carbon markets internationally, especially those involving energy efficiency and related carbon credits (offsets). Before this happens, forward-thinking companies will have long-term real estate agreements in place addressing development, ownership, and sale of all environmental attributes accrued from their commercial property. Don't assume the environmental benefits accrue to you because you own the property.

Unlike energy-efficiency projects, the production and purchase of Green Power Certificates are a very hot topic. Commercial building owners with large rooftops or those found in windy areas are finding opportunities to generate and sell renewable or "green" power. Not only does the electricity have value—more than the market rate—but also, more importantly, the resulting Green Power Certificates have a value that is growing by the day.

In Canada, the market for Green Power Certificates is voluntary. However, 29 US states and the District of Columbia have Renewable Energy Portfolio Standards, meaning that, by a given date, a certain percentage of the state's energy production must be from renewable energy. Pending US federal climate and energy legislation has a mandatory federal target, thus a national Renewable Energy Portfolio Standard. Assuming integration between US and Canadian environmental markets, the opportunity could be quite large for Canadian commercial building owners. Even if commercial real estate groups don't want to get into the power generation business, there is a fast-growing number of alternative-energy project owner/operators that could handle project development. These kinds of subleasing arrangements are yet another mechanism to enhance total real estate development value.

Leadership Can Pay Off

In a widely run television ad for Ford, Mike Rowe makes the point: "If you haven't heard—this fuel [energy]-efficiency thing is a pretty big thing." "Green branding," particularly if it is perceived to save money and the environment, sells. It speaks to your stakeholders who matter the most: investors, regulators, and anchor tenants. Who wants to do a deal, lend money, expedite a permit, or sign a lease with someone who is perceived as being as "out of touch" with current trends?

Energy savings, carbon offsets, Green Power Certificates, or premium rentals for "green" space are all examples of very real opportunities. Leaders in commercial real estate will address these considerations in their buying strategies, operations, and sales. It will be an integral part of the way they do business.

Yes, there are risks, but risks can be managed. Leaders are proactive in designing their lease agreements to address potential financial exposures. They work with regulators, tax advisers, and insurance companies that are focused on "green" issues to achieve facility zoning/permitting, reduce tax burdens, and potentially lower insurance premiums. This results in a competitive advantage to those who have stepped forward.

It has been said that clean technology and alternative energy driven by climate issues will be the "next big thing"—similar to the Internet in the 1990s. Today, who would buy commercial real estate that wasn't plugged into the current information super highway? Those who take a leadership position can help reduce their risks while enhancing their opportunities.

Summary

The "greening" of commercial real estate is not a fad, but rather a fundamental change. Real estate groups that want to attract the best deals, strategic investors, and marquee anchor tenants should realize this change. Leaders in commercial real estate need their advisers to help them reduce these strategic risks while enhancing business opportunities in this new low-carbon economy.

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