

Data Centres – Real Estate Fundamentals

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Introduction

What Is a Data Centre and Why It Matters

A data centre is a facility (often purpose-built) designed to house computing infrastructure such as servers, storage systems, networking equipment, and associated cooling, power, and security systems. Data centres range from small enterprise facilities supporting a single organization, hyperscale campuses operated by global technology companies, to colocation facilities that host infrastructure for multiple tenants. At their core, data centres enable the cloud computing, artificial intelligence, digital communications, financial systems, healthcare platforms, and government services that we all use today.

Data centres have evolved from back-office technical infrastructure to critical national assets underpinning economic resilience, digital sovereignty, and technological innovation. Their development involves a multifaceted interplay of legal, regulatory, and operational considerations, requiring expertise in real estate acquisition, commercial leasing, municipal planning, energy regulation, environmental law, privacy, foreign investment review, corporate structuring, and construction.

The objective of this article is to provide a Canadian-focused legal overview of data centre development and operation, with particular emphasis on real estate, energy, environmental, privacy, and investment considerations that shape site selection, ownership, and long-term viability.

In Canada, the attractiveness of data centre investment is driven by low electricity prices in some regions, abundant renewable energy, a cool climate, and political stability. These factors reduce operating costs and support environmental, social, and governance (ESG) commitments, making Canada a preferred location for both hyperscale and colocation providers.

Energy and Electricity Interconnection Requirements in Canada

National Context

Data centres are among the most energy-intensive facilities, with power demand forecasted to be the single largest driver of new electricity consumption in Canada over the next five years. Canadian grid operators have identified data centre expansion as a key factor in electricity demand forecasts, prompting provinces to refine interconnection processes and grid planning. The regulatory structure and cost framework for energy delivery vary significantly across provinces, affecting the speed, price, and feasibility of data centre projects.

Ontario: Bill 40 Implications

Ontario leads Canada in data centre development, with over 80 facilities and significant related growth anticipated. The connection process involves both the Independent Electricity System Operator (**IESO**) and local transmitters or distributors. For new facilities, interconnection approval and implementation can take up to three years, while modifications to existing sites may be completed in a few months. The process requires registration as a market participant, a system impact assessment (SIA) for projects over 10 MW, leave to construct approvals from the Ontario Energy Board (**OEB**), and rate approvals for grid expansion funding.

Bill 40, the *Protect Ontario by Securing Affordable Energy for Generations Act, 2025*, introduces a new mandate for the IESO and OEB to prioritize economic growth in planning and regulatory processes. The legislation empowers the Minister of Energy and Mines to approve connection requests for data centres that serve provincial economic interests, with a focus on job creation, data sovereignty, and local benefits. The proposed regulations will define which data centres are subject to the new rules (likely those over 50 MW) and outline connection requirements, including economic, strategic, security, and community criteria.

Ontario's regulatory framework also addresses risk protection for ratepayers, requiring upfront capital contributions for high-risk connections and expansion deposits for distribution-level projects. Non-wires solutions (**NWS**), such as demand response and energy storage, are encouraged to defer grid upgrades and reduce costs. Data centres may also pursue direct or self-supplied power, subject to licensing and compliance requirements, with flexible hosting arrangements available for constrained grid areas.

Real Estate, Acquisition, and Site Control

From a legal perspective, data centres are fundamentally real estate assets with highly specialized operational requirements. The success of a data centre project depends less on construction mechanics and more on early-stage decisions regarding land acquisition, zoning certainty, long-term site control, and infrastructure access.

Ownership structures vary widely and include fee simple ownership, long-term ground leases, sale-leaseback arrangements, and joint ventures between developers, institutional investors, and technology operators. Each structure raises distinct legal considerations relating to financing, risk allocation, security interests, and exit strategies.

Site Selection and Zoning Considerations

Site selection is a critical determinant of data centre success, influenced by power availability, climate, connectivity, land costs, location and local zoning regulations. In Canada, data centres are often located in industrial or employment zones near major transmission corridors, where large-scale power consumption and backup generation can be accommodated without rezoning.

Municipal zoning bylaws often classify data centres as industrial or special-use facilities, requiring confirmation of zoning compliance and, in some cases, site-specific approvals for heavy power use, backup generators, and cooling infrastructure. Securing zoning certainty at the acquisition stage is critical, as retroactive zoning risk can materially affect viability, financing and valuation.

Example: Mississauga Data Centres in Practice

The Greater Toronto Area (**GTA**) has emerged as one of Canada's most significant data centre clusters, reflecting the convergence of zoning certainty, power availability, fiber connectivity, and proximity to Toronto's financial and technology markets. A comprehensive industry map identifies 94 data centre locations in Mississauga and the broader GTA, demonstrating the region's role as one of Canada's densest clusters.

Digital Realty operates three centers in the GTA, strategically located near key transmission infrastructure and Toronto's fiber backbone. These facilities exemplify the importance of early land acquisition in industrially zoned areas capable of supporting high-capacity power connections, backup generation, and phased expansion. Long-term site control has enabled incremental development

without repeated zoning approvals, reducing entitlement risk and improving financing certainty.

Equinix operates 6 data centre facilities in the GTA (including its TR2 and TR5 campuses), serving cloud providers, financial institutions, and enterprise customers. These facilities benefit from proximity to major network interconnection points and demonstrate how data centres can function as core real estate infrastructure rather than conventional industrial buildings. Leasing structures typically include complex service-level commitments, power usage allocations, and redundancy requirements that materially affect asset valuation and lender due diligence.

Other operators with a presence in the GTA include Cogeco Peer 1, Microsoft, and Bell Data Centres, reflecting a broader ecosystem of Canadian and international providers. Industry mapping identifies Mississauga as part of a dense corridor of over 280 data centre sites across Canada, with clustering driven by access to redundant power, low-latency connectivity, and supportive municipal planning frameworks.

Collectively, these GTA developments illustrate that successful data centre projects are anchored in real estate fundamentals: secure zoning, long-term land control, scalable servicing, and alignment with municipal infrastructure planning.

Financing, Leasing, and Development Lifecycle

Data centres are capital-intensive assets that require sophisticated financing structures. Development is often funded through a combination of equity investment, construction financing, and long-term take-out financing tied to stabilized tenancy. Legal counsel plays a central role in structuring these arrangements, including ownership entity formation, negotiating leases, construction and energy contracts, as well as with lender security, including step-in rights and intercreditor agreements.

Leasing arrangements can be particularly specialized. Colocation leases frequently include detailed service-level agreements (**SLAs**), power usage caps, redundancy commitments, and pass-throughs for electricity and infrastructure upgrades. Hyperscale leases may resemble bespoke infrastructure agreements, with tenant-specific buildouts and long-term occupancy commitments that materially influence asset valuation.

Construction contracts are also a critical pillar of the development process. They shape project risk allocation, govern delivery timelines, and ensure that highly technical infrastructure power, cooling, fibre, and redundancy systems are built to the performance standards demanded by data centre tenants and lenders. Rather than standing apart from the broader development strategy, construction agreements operate in concert with land use approvals, financing milestones, and leasing commitments, forming an integrated framework that drives project viability and long-term asset performance.

Environmental, Emissions, and Water Use Regulations

Data centres face increasing regulatory scrutiny around noise, emissions, energy efficiency, and water use, driven by federal, provincial, and municipal standards. Backup diesel generators, cooling systems, and water-intensive operations present unique environmental challenges, requiring compliance with air quality, emissions, and resource management laws.

Environmental permitting often focuses on backup power systems, triggering regulations for air quality, fuel storage, and emissions. Compliance with provincial laws governing emissions, water use, and waste management is essential, even in regions with clean electricity grids. Operators must manage emissions from backup systems and cooling infrastructure to align with ESG commitments and federal targets for carbon neutrality by 2050.

Best practices for energy efficiency and sustainability include metering and metrics, comprehensive management plans, hardware optimization, data management policies, and advanced cooling strategies. Metrics such as Power Usage Effectiveness (**PUE**), Carbon

Usage Effectiveness (**CUE**), Water Usage Effectiveness (**WUE**), and Energy Reuse Effectiveness (**ERE**) are used to monitor and improve environmental performance.

Privacy, Data Sovereignty, and Foreign Investment

Canadian Context

Data sovereignty has become a central concern for Canadian data centre operators, government agencies, and private sector clients. The goal is to ensure that sensitive data remains under Canadian law, protected from foreign access and weaker privacy regimes. Canadian-controlled data centres offer three distinctive legal advantages: exclusion from the *US CLOUD Act*, compliance with data residency requirements, and authorized flow of personal data from the EU, EEA, UK, and other countries with adequacy status.

The *US CLOUD Act* applies to entities under US jurisdiction, allowing US authorities to request data regardless of physical location. However, Canadian data centres exclusively under Canadian control are out of scope, requiring the US to use the *Mutual Legal Assistance Treaty* process in efforts to gain access.

Foreign Ownership, *Investment Canada Act* and *Competition Act*

Foreign investment in Canadian data centres may trigger review under the *Investment Canada Act (ICA)*, particularly where facilities support sensitive sectors such as telecommunications, government services, or critical digital infrastructure. Recent amendments and policy statements emphasize national security, data sovereignty, and supply chain resilience as key review factors.

Transactions involving foreign hyperscale operators, private equity funds, or sovereign-linked investors may therefore require careful structuring, early notification, and risk assessment under the ICA, especially where personal data, AI infrastructure, or government workloads are involved. These considerations increasingly intersect with privacy compliance and procurement requirements, reinforcing the need for coordinated legal analysis.

Given the growing size and value of data centre assets, acquisitions involving data centre assets may also fall within the auspice of the *Competition Act*, triggering notification and potentially a review by the Competition Bureau where transaction-size thresholds are met.

Conclusion

The legal landscape for data centre development is rapidly evolving, shaped by technological advances, regulatory innovation, and shifting market dynamics. Viewed through a real estate and infrastructure lens, data centres represent long-term, capital-intensive assets that demand early legal planning across acquisition, zoning, energy access, financing, privacy, competition and foreign investment considerations.

Canada's position as a global hotspot is reinforced by its climate, renewable energy, and policy support, but success depends on navigating intricate legal and regulatory pathways. As the sector enters a new phase, certainty of site control, regulatory alignment, and strategic risk management will define the next generation of Canadian data centre infrastructure.

The information and comments herein are for the general information of the reader and are not intended as advice or opinion to be relied upon in relation to any particular circumstances. For particular application of the law to specific situations, the reader should seek professional advice.

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