DISCUSSION PAPER

Powering the Digital Economy

A Practical Framework for Data Centre Development in Atlantic Canada

The central question is not whether Atlantic Canada is "for" or "against" data centres. It is determining whether projects make sense based on a set of clear, predictable terms and that they create more values than costs for the energy system, economy and host community.

Prepared by the Atlantica Centre for Energy in partnership with New Brunswick Business Council and TechImpact

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ABOUT THIS PAPER

This paper distills commissioned research by Roxham Advisory and Consulting Services, Inc. on data centre development and large-load management into a practical framework for Atlantic Canadian governments, industry leaders and informed public readers. It is not a technical system study, legal opinion or assessment of any individual project. The evidence base is deepest for New Brunswick, but the decision principles are relevant across all four Atlantic provinces. The five criteria translate the more detailed analytical framework in the commissioned research into a concise tool for public and policy discussion.

Executive Summary

Data centres are becoming part of a much larger economic and energy question for Atlantic Canada. Artificial intelligence and cloud computing are driving rapid investment in digital infrastructure at the same time that electricity has become one of the most important constraints on where that investment can locate. Power availability, reliability and the time required to connect new load increasingly shape site selection.

For Atlantic Canada, this creates a real opportunity. The region has industrial land, fibre connectivity, a cool climate, existing energy infrastructure and access to multiple electricity markets. The opportunity arrives at a time when each Atlantic province is already planning major investments in generation, transmission and system renewal. In a small electricity system, a large data centre is not simply another customer. It can become a system-level decision with consequences for reliability, rates, infrastructure, emissions and the ability to serve future economic growth.

Atlantic Canada should be open to data centre investment and should actively pursue projects that strengthen rather than simply consume the region's economic and energy capacity provided projects meet applicable regulatory requirements and demonstrate acceptable economic, energy-system and community value. The objective should not be to attract every project. It should be to attract the right projects, with clear rules that protect existing customers and reward projects that bring substantial public value (such as rewarding projects that expand capacity).

This paper proposes a five-part framework to evaluate major data centre proposals: *Is it real? Can the energy system support it and can the project support the energy system? Who pays and who carries the risk? What lasting value does the project create? Can the project earn and maintain public confidence?*

The practical implication is straightforward: where a project is credible, can be reliably served, protects ratepayers, creates strong economic value and addresses local and Indigenous interests, governments should be able to move with speed and predictability. Where those criteria are not met, conditions, phasing, redirection or deferral are legitimate policy outcomes.

PRINCIPLES

- Create a clear large-load evaluation framework before projects are assessed.
- Protect existing electricity customers by applying cost-causation principles and long-term financial commitments.
- Give preference to projects that bring new generation, storage, contracted flexibility or enabling infrastructure.
- Evaluate public value, including workforce impact, taxes, local procurement, technology sector commitments, and strategic infrastructure.
- Establish transparent community and Indigenous participation expectations early, while project terms can still change.
- Move quickly on projects that pass the criteria; do not reserve scarce capacity indefinitely for speculative projects.

Evidence note: The commissioned research found that no jurisdiction in its evidence base has produced a complete net-benefit accounting of data centre development. This paper therefore emphasizes measurable and enforceable criteria rather than claiming that data centres are inherently a net benefit or net cost.

1. Why This Matters Now

The physical infrastructure of the digital economy is expanding rapidly with global data centre investment reaching roughly US$500 billion in 2024. In established North American markets, available capacity and interconnection timelines have become binding constraints to further growth. The scarcity in these larger markets is redirecting investment toward smaller jurisdictions like Atlantic Canada where reliable energy, industrial land and permitting pathways may still be available.

This is why Atlantic Canada is part of the conversation. The region is not simply being evaluated for accessible fibre optic cable, available land and a colder climate. Increasingly, it is being evaluated for its energy system.

Being selected for a data centre increasingly means being selected for the energy system, which makes energy policy and economic-development policy inseparable.

With that there comes both an opportunity and a responsibility. Atlantic Canada is entering a period of major electricity investment and electrification. New Brunswick is planning significant system renewal and new resources; Nova Scotia is restructuring its generation mix; Newfoundland and Labrador is managing distinct Island and Labrador systems with long-distance transmission constraints; and Prince Edward Island remains highly dependent on interconnection with New Brunswick. The same evaluation framework can apply across the region, but the answer for any specific project must come from each province's own system conditions.

The most useful starting point, therefore, is not about whether data centres are good or bad. The policy task is to determine if and when limited energy and infrastructure should be committed to a particular project and what the province should require in return.

Evidence at a glance

What the research establishes	What the research does not establish
Data centre demand and investment are large and growing.	How much data centre load any Atlantic province can currently accommodate.
Power availability and connection certainty are now leading site-selection factors.	That every announced project will be built.
Announcements can substantially exceed projects that become binding commitments.	That a large investment figure automatically produces a net public benefit.
Data centres can generate major capital investment, construction jobs, high-paying permanent jobs and tax revenue.	That data centres are the best use for the energy available.
Large loads can shift infrastructure and forecasting risk to existing ratepayers if terms are poorly designed.	That data centres are inherently flexible grid assets without enforceable operational commitments.

What the research establishes	What the research does not establish
Dedicated generation, storage and contracted flexibility are emerging tools in other jurisdictions.	A single “best” regulatory model that can simply be copied into Atlantic Canada.

2. The Position: Attract the Right Projects

Atlantic Canada should be open to data centre investment and should actively pursue projects that strengthen rather than simply consume the region’s energy and economic capacity.

Electricity is increasingly a strategic economic asset. A province that commits hundreds of megawatts to one customer is making an allocation decision: that capacity is no longer available for another industrial project, electrification need or export opportunity.

Scarcity does not necessarily mean choosing one economic opportunity at the expense of another. A large load can also become a catalyst for new supply, transmission, storage or other system investment. Where proponents can credibly add capacity, reduce system constraints or underwrite infrastructure that creates benefits beyond the project itself, those contributions should form part of the allocation decision.

Conversely, opportunity cost should be assessed against credible alternatives, not hypothetical future projects. A province should understand the competing demands reasonably expected on its system, but reserving scarce capacity indefinitely for an unidentified future use also carries an economic cost.

The objective is not to maximize the number of data centres developed in Atlantic Canada. It is to attract projects whose overall contribution strengthens the region's economy, energy system and future competitiveness.

Beyond Megawatts: What Value Does the Project Create?

Data centres should be evaluated as more than large electricity customers. They are major capital investments and important components of the digital economy. The issue for Atlantic Canada is therefore not simply whether sufficient electricity is available to serve them, but what economic, energy and strategic value a proposed project creates in return for the infrastructure and resources it requires.

For large projects requiring a meaningful share of available electricity capacity, the relevant question should be:

What economic, energy and strategic value does the project create for the energy and infrastructure capacity it requires?

That assessment should consider the project as a whole, its investment, energy sources and efficiency, infrastructure contribution, economic benefits, digital-sector opportunities, community impacts, environmental compatibility and long-term commitments.

Economic and Competitiveness Value

The economic opportunity associated with data centre development is real. Experience in established markets demonstrates substantial capital investment, significant construction activity, well-paid permanent positions, municipal tax revenues and broader effects on employment, wages and supply chain.

The nature of those benefits matters. Data centres are highly capital-intensive. Their largest employment impact generally occurs during construction, while permanent operations typically support substantially fewer workers. A large investment announcement therefore cannot, on its own, establish the overall public value of a project.

The evidence also suggests that local economic benefits are stronger when they are deliberately structured rather than assumed. Local procurement, workforce development, research partnerships and community investments can turn projected benefits into measurable commitments.

Competitiveness must also be part of the evaluation. Atlantic Canada is competing with jurisdictions across North America for mobile investment. Developers value not only energy and infrastructure, but certainty around whether power is available, how long approvals will take and what conditions will apply.

A strong policy framework should therefore be both rigorous and predictable: establish the rules early, require credible proponents to demonstrate commitment, and provide timely decisions when those requirements are satisfied.

Digital and Strategic Value

Data centres are also part of the physical infrastructure underpinning artificial intelligence, cloud computing and an increasingly digital economy. That creates potential benefits beyond the facility itself, but those benefits should not simply be assumed.

A project may contribute additional strategic value where it creates tangible opportunities such as:

- access to computing capacity for regional businesses, researchers or institutions;
- partnerships with universities, colleges and research organizations;
- workforce and technical-skills development;
- participation by Atlantic Canadian technology companies and suppliers;
- cybersecurity or data-sovereignty benefits; and
- infrastructure that enables additional digital-sector investment.

The evidence does not yet establish that hosting a data centre automatically produces a broader technology ecosystem. Claims related to innovation, startup creation, productivity or research spillovers should therefore be treated as opportunities to be demonstrated by the proponent rather than guaranteed outcomes.

Where these benefits form part of a project's economic case, governments should seek specific commitments. A funded research partnership, workforce program, procurement target or commitment to provide regional access to computing capacity has greater public value than an aspirational promise that a technology ecosystem may follow.

Environmental Performance

The environmental impact of a data centre depends on the specific project: where it is located, how it is powered, how it is cooled and what infrastructure is required to serve it. Governments should assess actual rather than assumed impacts, including energy use and emissions, water requirements, land and habitat impacts, noise and other local considerations. Where environmental commitments form part of a project’s approval or public-value case, they should be measurable, transparent and enforceable over the life of the facility. The objective should be to understand and manage the project’s environmental footprint without assuming that data centres are inherently either environmentally beneficial or harmful.

3. Who Makes The Decision?

A clear framework also requires clear accountability. Different institutions may answer different questions: utilities assess system feasibility; regulators oversee tariffs, costs and utility obligations; environmental and other authorities apply legislated requirements; governments determine broader economic and strategic policy.

For major loads requiring a meaningful share of scarce electricity capacity, government should identify in advance who is responsible for the final allocation decision, how advice from these bodies is integrated and what timelines apply.

Clear accountability protects the public interest and gives proponents confidence that satisfying established requirements can lead to a timely decision.

4. The Five-Criteria Framework

For major data centre proposals, the three sponsoring organizations agree on the following five-criteria framework followed by a series of questions intended to help governments and utilities make consistent decisions without turning each proposal into a bespoke policy debate.

CRITERIA 1 — IS IT REAL?

Separate serious investment from speculative demand.

- Has the proponent demonstrated financing, customers and a credible development schedule?
- Are there executed agreements, binding milestones, deposits or other evidence of a serious proposal?
- Is the requested load phased in a way that matches actual construction and commissioning?
- How long can capacity be reserved before it must be released for other uses?

WHY IT MATTERS

Data centre proposals often appear in multiple jurisdictions at once. Alberta's 2025 commitment process converted more than 16,000 MW of requests into roughly 1,200 MW of executed agreements. The lesson is not that announced projects are inherently speculative; it is that a jurisdiction needs a clear way of distinguishing interest from commitment before making long-lived infrastructure decisions.

CRITERIA 2 — CAN THE ENERGY SYSTEM SUPPORT IT AND CAN THE PROJECT SUPPORT THE ENERGY SYSTEM?

Assess net system impact, not nameplate demand alone.

- What is the facility's maximum and expected grid draw?
- What new generation or storage is the proponent bringing?
- Can the facility contractually reduce grid demand during winter peaks or other constrained periods?
- Can generation, storage or controllable load provide metered and verifiable grid services?
- What transmission, distribution, substation, fuel or interconnection infrastructure is required?
- Does project infrastructure create additional capacity for future industrial growth?

WHY IT MATTERS

Other jurisdictions are increasingly considering "bring your own power" approaches. Ireland requires large data centres to provide dispatchable onsite or nearby generation and/or storage; Alberta prioritizes projects connected to dedicated new generation or storage; Ontario's proposed framework considers onsite generation as part of feasibility and cost recovery. These models show the direction of policy, but the research also cautions that flexibility should only be credited when it is contracted, metered and verifiable.

CRITERIA 3 — WHO PAYS, AND WHO CARRIES THE RISK?

Protect existing customers from costs caused by a single large load.

- Who pays for substations, transmission upgrades, generation and reserve requirements?
- Who carries the cost if the project is delayed, downsized or cancelled?
- What minimum-purchase, take-or-pay, deposit or exit provisions protect against stranded assets?
- Are the lifecycles of new energy infrastructure required aligned with purchase commitments from the data centres?
- Are electricity rates and contracts transparent enough to demonstrate that other customers are not subsidizing the project?

WHY IT MATTERS

The research documents cases where costs created for large-load customers migrated to the broader rate base through standard tariffs, insufficiently protective contracts or confidential special arrangements. The clearest principle is cost causation: costs incurred to serve the load should generally be borne by the load unless government explicitly decides there is a broader benefit worth sharing. The four Atlantic provinces each have established energy regulatory bodies responsible for approving many of these considerations, however provincial regulations should continue to evolve to meet new, mutually beneficial developments.

CRITERIA 4 — WHAT VALUE IS CREATED IN RETURN?

Measure public value in several forms.

- How much capital is invested locally?
- How many jobs are construction jobs and how many are permanent operating positions?
- What taxes and other public revenues are expected?
- What local procurement, training or research commitments are contractual?
- Does the project strengthen the digital economy or provide access to computing capacity?
- What energy or industrial infrastructure remains available for broader use?
- What is the opportunity cost of committing the required power and land to this project against other credible competing demand within a reasonable planning horizon?

WHY IT MATTERS

The economic case is real but must be described accurately. Data centres are highly capital-intensive and can generate substantial construction activity, well-paid permanent jobs and tax revenues, but permanent employment is modest compared with the scale of investment. No jurisdiction in the research base has produced a complete net-benefit accounting, so the size of an investment does not by itself establish a net public benefit. A strong proposal should therefore make its economic case auditable and distinguish contractual benefits from modeled or aspirational claims.

Public Value Scorecard

Area	Questions for decision-makers	What stronger projects demonstrate
Investment	How much capital is committed and on what timeline?	Binding milestones and verified capital commitments
Employment	Construction vs. permanent jobs; wages; local skills?	Clear job categories, training and local hiring plans
Tax base	What municipal and provincial revenues result?	Transparent revenue estimates with limited reliance on exemptions
Energy	What is the project's net demand on the system?	New supply, storage, peak reduction or other contracted flexibility
Infrastructure	What must be built and who owns it?	Proponent-funded infrastructure with broader development value where possible
Supply chain	How much spending can stay in-region?	Procurement commitments and supplier-development programs

Area	Questions for decision-makers	What stronger projects demonstrate
Digital economy	Does the facility create broader value to the technology sector and business ecosystem?	Research, workforce or compute-access partnerships that are funded and enforceable
Community	What lasting value does the project create?	Durable local benefits tied to measurable impacts and commitments
Indigenous participation	Are rights, interests and economic participation addressed?	Early nation-to-nation processes and meaningful long-term participation where appropriate
Opportunity cost	What credible competing demand for the same constrained capacity exists within the relevant planning horizon?	A compelling value proposition relative to identified alternatives, while minimizing their claim on existing capacity.
Environmental compatibility	Does the project meet applicable environmental requirements and appropriately manage material site-specific impacts?	Measurable environmental performance and credible mitigation of material impacts.

CRITERIA 5 — CAN IT EARN AND MAINTAIN PUBLIC CONFIDENCE?

Address local impacts and participation before terms are fixed.

- Has the project met applicable environmental assessment and regulatory requirements?
- What are the expected water, noise, land-use, traffic and air-emission impacts at the specific site?
- How will environmental performance be measured and disclosed over time?
- What direct benefits accrue to the host community?
- Were affected communities engaged early enough to influence project terms?
- Are affected Indigenous nations participating through processes appropriate to their rights, interests and governance structures?
- Do participation processes extend to generation or transmission infrastructure triggered by the project?

WHY IT MATTERS

Environmental and community impacts are site-specific. The evidence does not support blanket claims that data centres are either low- or high-impact on communities or the environment. It supports measurement, disclosure and enforceable conditions. Indigenous participation should be treated distinctly from general community engagement; the commissioned research found it largely absent from the data-centre-specific governance frameworks examined elsewhere.

5. Policy Tools Governments Should Have Ready

A framework is only useful if governments have tools to act on the findings. The comparative research shows that jurisdictions are moving away from ad hoc, first-come-first-served treatment of large data centre loads. Jurisdictions that are open for business are looking for serious commitment, ratepayer protection, managing scarcity and making project promises enforceable.

Clear rules can improve competitiveness. Early engagement can foster creative solutions. Developers should know early what information, financial commitments, energy arrangements and community requirements they must satisfy and credible projects should receive timely decisions once those requirements are met.

A rigorous framework and an investment-friendly framework are not opposites. Predictable rules, transparent criteria and timely decisions can protect the public interest while improving investment certainty.

Potential Policy Tools

1. **Commitment tests:** Require deposits, executed agreements, binding milestones and expiry dates for reserved capacity. Serious projects should be able to demonstrate commitment without lengthy delay.
2. **Large-load tariffs or contracts:** Use minimum-purchase requirements, exit charges and cost-causation principles where appropriate so that infrastructure built for one project is not left to other customers if demand fails to materialize.
3. **Incremental capacity and system contribution:** Give greater consideration to projects that add generation, storage, transmission or other infrastructure, or materially reduce their net demand on constrained system capacity.
4. **Contracted flexibility:** Credit demand response, backup generation or storage only where the capability is metered, dispatchable under defined conditions and enforceable.
5. **Public-value screening:** Where qualified demand exceeds available capacity, use transparent criteria rather than allowing first-come-first-served to become the default allocation rule.
6. **Environmental measurement and disclosure:** Require project-specific information on energy, water, emissions, cooling design, noise and other material impacts, with ongoing monitoring and reporting where appropriate.
7. **Community and Indigenous participation:** Build participation expectations into the process early enough that engagement can influence terms rather than simply explain a decision already made.
8. **Review mechanisms:** As projects phase in, technology changes or system conditions evolve ensure the project continues to meet established commitments through long-term administration.

6. The Outcome Should Not Always Be "Yes" or "No"

A credible framework should create more than two outcomes. Projects evolve, grid conditions change and large developments are often phased. Governments should be able to distinguish between a project that is fundamentally unsuitable and one that is credible but not yet ready to receive its full requested load.

PROCEED	The project demonstrates credible demand, system feasibility, fair cost allocation, public value and acceptable terms.
PROCEED WITH CONDITIONS	The project is supportable if defined technical, financial, environmental, community or performance conditions are met.
PHASE OR DEFER	The project may be viable, but capacity, demand certainty, infrastructure or other material issues are not yet resolved.
REDIRECT	The investment may be desirable in a different location, at a different scale or with a different energy configuration.
DO NOT ACCOMMODATE	The system cannot reliably serve the load, acceptable terms cannot be established, or the public-value case is insufficient relative to the resources required.

Deferral is not rejection, and conditions are not opposition. Equally, conditions should not be used to disguise an unwillingness to approve a project that cannot realistically be served. Clear rules are valuable precisely because they allow governments to say yes quickly when the case is strong and no clearly when it is not.

7. What This Means for Atlantic Canada

The four Atlantic provinces do not share a single electricity system, utility structure or capacity position. They should not be expected to reach identical conclusions about individual data centre proposals. But they can share common principles.

A regional approach would be useful in three areas. First, common evaluation language would help developers understand what will be required across the region. Second, provinces can share evidence on large-load forecasting, tariffs, flexibility and project performance rather than learning the same lessons independently. Third, data centre development should be considered alongside regional electricity planning, interconnection and industrial development, not as a separate technology-sector issue.

Treat large-load growth projects as part of regional energy planning. New generation, fuel supply, transmission or interconnection infrastructure can create impacts and opportunities across communities and provincial borders. The energy system serving the project may be regional even when the approval is provincial.

Atlantic Canada should compete for investment with clarity and confidence. The objective is not more process. It is better decisions: clear requirements upfront, appropriate protections for the public and existing customers, and timely decisions for credible projects.

Conclusion: Energy as a Platform for Regional Growth

Data centres are an early test of a larger challenge Atlantic Canada will increasingly face in the short to medium term: how to make thoughtful choices about limited energy and infrastructure while enabling economic growth, maintaining reliability and protecting public confidence.

The region's ambition should be bigger than managing scarcity. Atlantic Canada has significant energy resources, existing infrastructure and complementary strengths across provinces. With coordinated planning and investment, the region has an opportunity to expand supply, strengthen interconnections and build the infrastructure needed to support new industries and economic growth.

New industrial load can help justify and finance system expansion, broaden the customer base and create the conditions for new generation and infrastructure, but those benefits are not automatic. They depend on how projects are structured, what they bring with them, who pays for the required infrastructure and whether commitments are durable.

The goal is not simply to host data centres. It is to use energy strategically to attract investment that helps build the economy, grow the technology sector and support the energy system Atlantic Canada will need next.

Atlantic Canada should actively seek high-value data centre investment under clear, transparent rules that protect existing customers and give greater consideration to projects that expand capacity or reduce net system impact.

Selected Evidence and Research Basis

This discussion paper is based on the preliminary research paper commissioned by the Atlantica Centre for Energy, New Brunswick Business Council and TechImpact, "Data Centres in Constrained Systems: Opportunity, Terms, and Decision-Making in Atlantic Canada." The underlying research reviewed regulatory, statistical, audit, grid, academic and market evidence, including experience from Ireland, Alberta, Québec, Ohio, Virginia and emerging Ontario policy.

Selected sources in the commissioned evidence base include:

- International Energy Agency (2025), Energy and AI.
- Lawrence Berkeley National Laboratory (2024), 2024 United States Data Center Energy Usage Report.
- Electric Power Research Institute (2026), Powering Intelligence 2026.
- North American Electric Reliability Corporation (2025), Long-Term Reliability Assessment.
- Joint Legislative Audit and Review Commission of Virginia (2024), Data Centers in Virginia.
- Public Utilities Commission of Ohio (2025), AEP Ohio data centre tariff decision.
- Central Statistics Office of Ireland (2024), Data Centres Metered Electricity Consumption 2023.
- Peer-reviewed research on data centre water consumption and environmental footprint.
- Ontario's proposed Data Centre Playbook and associated 2026 large-load policy work.

Important limitations

- The commissioned research does not provide a province-specific capacity assessment for any Atlantic province.
- It does not assess or reach a verdict on the proposed Lorneville/Saint John project or any other individual project.
- No complete net-benefit accounting of data centre development was identified in the evidence base.
- The evidence does not establish Atlantic Canadian acceptability thresholds for water, noise, emissions or other site impacts.
- The research found no published Atlantic Canadian Indigenous positions specific to data centre development and does not prescribe legal consultation requirements.