Working Toward a Churchill River Action Plan 2041

Executive Summary

The December 12, 2024 Memorandum of Understanding between the Governments of Newfoundland and Labrador and Québec proposes significant changes to the future development of the Churchill River. The MOU outlines broad objectives and identifies potential infrastructure projects, including the possible extension of the existing Churchill Falls power contract beyond 2041. However, it is not a binding agreement and does not provide sufficient detail regarding total production costs, net value, pricing mechanisms, risk allocation, or long-term fiscal implications.

The current government has indicated that any final agreement will be subject to a public referendum. That commitment increases the importance of clarity. Citizens must understand not only what is being proposed, but also the alternatives and the long-term financial, contractual, and strategic commitments that may follow.

This commentary broadens how Newfoundlanders and Labradorians consider the future of the Churchill River and encourages the development of a clear provincial strategy before binding commitments are made. Its central premise is that decisions of this magnitude should be guided by explicit objectives, defined risk tolerance, and credible alternatives rather than by reactive negotiation alone.

A core issue addressed in this paper is the valuation of water. Historically, production-based royalties have not fully reflected the economic value of the Churchill River resource. The document therefore presents a hybrid, market-referenced pricing framework that links water value to observable wholesale electricity prices in competitive markets, adjusts for transmission and generation costs, and recognizes existing ownership shares within Churchill Falls (Labrador) Corporation Limited. The framework does not prescribe a specific contract; rather, it provides a transparent economic benchmark against which negotiated terms can be assessed.

In addition to the hybrid framework, alternative regional reference approaches are examined, including Atlantic and New England market orientations. These illustrate that multiple pricing and development paths exist. The existence of credible alternatives strengthens Newfoundland and Labrador's capacity to evaluate proposed agreements on their merits.

The paper also evaluates proposed infrastructure projects, including the Churchill Falls enlargement and the Gull Island development. While these projects may provide additional renewable generation capacity, they are capital intensive and would materially affect public debt levels. Newfoundland and Labrador already carries the highest per capita provincial government debt in Canada. Increased borrowing combined with long-duration contractual commitments reduces fiscal flexibility and heightens exposure to uncertainty—including climate variability, evolving electricity demand, and changing global economic conditions. These risks must be weighed alongside projected revenues.

At the centre of this analysis is the concept of a Best Alternative to a Negotiated Agreement (BATNA). A credible BATNA establishes the benchmark against which any negotiated arrangement can be measured. Without such a benchmark, the province risks committing to long-term terms without determining whether they represent a genuine improvement over available alternatives. The December MOU is a precursor to a potential final agreement, as key elements—including detailed pricing structures and water-royalty arrangements—remain undefined.

More fundamentally, Newfoundland and Labrador must determine where the Churchill River fits within its long-term economic and fiscal vision. The province would benefit from clearly defining how water value is to be recognized, what level of debt and risk is acceptable, and how hydroelectric development aligns with broader public well-being objectives. Hydro-Québec operates within formal long-term planning frameworks. Newfoundland and Labrador would benefit from adopting a similarly disciplined approach for the Churchill River.

This document does not advocate a predetermined outcome. It seeks to clarify choices. By articulating alternative pricing frameworks, examining fiscal implications, and emphasizing strategic planning, it aims to contribute to informed public discussion and disciplined provincial decision-making as 2041 approaches.

Overview

The resignation of Premier Legault and the interruption of negotiations between Hydro-Québec and Newfoundland and Labrador Hydro following the election of Premier Wakeham have introduced uncertainty into the proposals contained in the December 12, 2024 Memorandum of Understanding (MOU). Specific terms may change in future discussions, but the underlying objectives are unlikely to disappear.

For Newfoundland and Labrador, the central objective has been to increase and realize fair value for electricity generated by the facilities referenced in the MOU. For Québec, the proposed infrastructure projects and the extension of the existing power contract beyond 2041 are aimed at strengthening security of supply. These objectives frame the ongoing discussions and shape the policy choices that follow.

Negotiations between Newfoundland and Labrador and Québec concerning the Churchill River are not new. They have persisted for more than five decades. The fixed-price structure established in the 1969 contract between Churchill Falls (Labrador) Corporation Limited (CF(L)Co) and Hydro-Québec did not adjust to general inflation or to substantial increases in competing energy prices over time. As market conditions evolved, the contractual price remained largely unchanged.

The Government of Québec has indicated a willingness to consider adjustments to the price paid for electricity generated at Churchill Falls in the context of broader development proposals for the Lower Churchill River. The history of these negotiations has been documented in detail, including in Jason Churchill's study of efforts to develop the hydroelectric resources of the Churchill River between 1949 and 2007. That history underscores a recurring pattern: pricing,

infrastructure development, and access to markets have been interdependent elements in every major negotiation concerning the river.

The December 2024 MOU outlines proposed projects, projected capital costs, anticipated generating capacity, and illustrative price paths for existing power through 2075. However, many of the operational, financial, and contractual details necessary to evaluate these proposals are absent. Critical elements—including full cost structures, net revenue projections, pricing adjustment mechanisms, and allocation of risk—would need to be defined before a binding contract could be constructed.

At the memorandum stage, such omissions are not unusual. Nevertheless, the absence of detail limits the ability of policymakers and the public to assess whether the proposed arrangements would materially improve the province's long-term position. Had negotiations following the MOU progressed directly to a binding agreement, the province would have needed to identify a clear Best Alternative to a Negotiated Agreement (BATNA) before committing to final terms. A Churchill River Action Plan would serve as the necessary precursor to defining that BATNA. By articulating the Government's longer-term objectives for water usage, electricity generation, domestic distribution, and trade—within the broader context of public well-being—the Action Plan would establish the benchmark against which any negotiated arrangement should be assessed. Without such a benchmark, it becomes difficult to determine whether proposed changes represent a genuine improvement or merely a reconfiguration of existing constraints.

The current government has indicated that any final agreement will be subject to a public referendum. That commitment provides time to clarify alternatives and define the principles that should guide long-term decisions. The alternative would be inaction while awaiting a renewed proposal from Québec. Given evolving demand and supply conditions, further proposals are likely. The central question is therefore not whether discussions will resume, but whether Newfoundland and Labrador will enter future negotiations with a clearly articulated strategic framework.

Hydro-Québec operates as a large, experienced, and strategically managed public enterprise. Its development trajectory is guided by formal planning documents, including Action Plan 2035, which articulates objectives, investment priorities, and long-term supply planning parameters.

Using that approach as a structural reference point, this commentary proposes the development of a Churchill River Action Plan 2041 for Newfoundland and Labrador. The purpose is not to replicate Québec's model, but to establish a similarly disciplined framework for provincial decision-making concerning hydroelectric development on the Churchill River.

The proposed Action Plan should precede and guide negotiations rather than follow them. It would define objectives, pricing principles, fiscal constraints, ownership considerations, and acceptable levels of risk before binding commitments are undertaken. In this respect, it would serve a function analogous to Hydro-Québec's strategic planning framework.

The scope of such a plan would be narrower than Québec's province-wide framework. It would focus specifically on hydroelectric generation on the Churchill River, including Churchill Falls and Muskrat Falls. By clarifying strategic direction in advance, the province would shift from reactive negotiation toward deliberate policy formation grounded in defined objectives.

The central objective of a Churchill River Action Plan is to determine how the province's hydroelectric resources can contribute to the long-term well-being of Newfoundlanders and Labradorians, including Indigenous communities. Well-being extends beyond revenue generation to encompass economic stability, environmental stewardship, cultural considerations, and community impacts evaluated over an extended time horizon.

An initial Action Plan would necessarily evolve if negotiations lead to a binding agreement with external parties. Amendments would emerge through bargaining and institutional adjustment. However, entering negotiations without an articulated framework reduces the province's capacity to align negotiated outcomes with broader public objectives and to manage the structural constraints that shape those outcomes.

An Action Plan must recognize existing structural realities. Hydroelectric generation on the Churchill River occurs in remote locations far from major consumption centres. Transmission to external markets often requires passage through jurisdictions governed by distinct regulatory and political frameworks. These conditions affect pricing power, market access, and bargaining leverage.

Ownership and operational control are not uniform across facilities. In the case of CF(L)Co, the joint ownership structure shapes the allocation of revenues, risks, and decision-making authority. Any strategic framework must account for these institutional constraints rather than assume frictionless or idealized conditions.

Purpose and Intent

The purpose of this discussion paper is not to promote a single development plan or recommend immediate action. Rather, it seeks to broaden how Newfoundlanders and Labradorians consider the options for development of the Churchill River, particularly in the period leading up to and following 2041.

By examining alternative approaches to valuing water, structuring agreements, and sequencing infrastructure decisions, the paper clarifies available choices and the trade-offs they entail. Long-term energy and fiscal commitments should not be undertaken without a clear understanding of how value is defined, how risk is allocated, and how future flexibility may be constrained.

Before entering into any binding agreement concerning future development of the Churchill River—whether under the current MOU or a revised proposal—the province should articulate a clear and proactive Action Plan. A Churchill River Action Plan 2041 would define objectives, pricing principles, fiscal constraints, ownership considerations, and acceptable levels of risk in advance of negotiation.

This framework places water value at the centre of analysis rather than treating infrastructure construction as the starting point. It enables the province to identify credible alternatives, including post-2041 pathways, and to evaluate any negotiated arrangement against a transparent benchmark. A defined framework strengthens strategic positioning and reduces the likelihood of reactive decision-making.

The Churchill River's Electricity Production Potential

Albert Low of the Dominion Geological Survey identified the hydroelectric potential of Churchill Falls in 1894. Subsequent technical assessments confirmed its scale. The principal constraints were logistical rather than geological: the site was remote, and transmission technology capable of delivering electricity to major markets had not yet matured.

These constraints began to ease in the 1950s with industrial development in Labrador. Iron mining operations and associated infrastructure, including the Quebec North Shore and Labrador Railway, reduced the cost of transporting materials and equipment. Improved access made large-scale hydroelectric development technically and economically feasible.

As industrialization accelerated in Canada, political support grew for development of the Churchill Falls generating station. In Newfoundland and Labrador, Premier Joey Smallwood promoted foreign investment through the British Newfoundland Corporation (BRINCO) as part of a broader strategy to modernize the provincial economy and expand employment beyond declining subsistence industries.

At the same time, Hydro-Québec expanded generation, transmission, and distribution as part of Québec's industrial strategy. Low-cost electricity supported household consumption and attracted manufacturing investment. These parallel development strategies formed the institutional context in which the Churchill Falls project proceeded.

In earlier discussions, including Video 2A: Electricity Pricing – Québec's Costs and Video 2B: Water, Royalties, and Rents, electricity pricing in Québec was examined using economic production theory. Electricity generation can be represented as a production function in which output depends on multiple inputs: physical infrastructure, labour, purchased materials and services, and water.

For analytical clarity, the generation process can be separated into two components. The first is the physical infrastructure—dam, turbines, and associated capital and labour inputs. The second is the water itself, including the volume entering the system and the hydraulic head created by elevation. At Churchill Falls, the vertical drop is approximately 300 metres. That elevation difference generates the kinetic energy that produces electricity.

This distinction matters because water, unlike turbines or labour, is a natural resource. Its value is not determined solely by production cost, but by how the resource is priced, how markets operate, and how ownership rights are structured.

For the Government of Newfoundland and Labrador, value arises from two related but distinct sources: operating returns from generation and the pricing of water used in that process. The treatment of water pricing determines whether resource rents are captured at the point of generation or realized elsewhere in the electricity supply system.

Assessing water value is complex. CF(L)Co is jointly owned, with 65.8 per cent held by Newfoundland and Labrador Hydro and 34.2 per cent by Hydro-Québec. Historically, most electricity generated at Churchill Falls has been sold to Hydro-Québec under long-term contractual arrangements. Because access to larger markets required transmission through Québec, Hydro-Québec became the principal purchaser. As a result, potential water-related rents have often been realized downstream through domestic distribution within Québec or through exports to other jurisdictions.

Water pricing therefore affects not only revenue levels, but also where economic value is ultimately captured within the system.

Adding Value Through Water

The earlier discussion illustrated the implicit rental value of water from the Churchill River by subtracting transmission and downstream generation costs from wholesale electricity prices observed in competitive markets. Although this method appears straightforward, valuation at Churchill Falls is complicated by ownership structure, contractual arrangements, and market access constraints.

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Hydro-Québec distributes electricity domestically at regulated rates and exports surplus power when market conditions permit. Profits from export sales and downstream distribution are realized within its broader system rather than at the generating site. Consequently, water-related rents associated with Churchill Falls have tended to be captured downstream rather than at the point of production.

Valuing water also requires attention to opportunity cost and timing. Electricity demand varies by season and time of day. Reservoir-based hydroelectric systems provide low-cost energy storage, enabling operators to shift generation from low-demand periods to times when demand and prices are higher.

Because water allocated to one period cannot be used in another, the relevant benchmark is the highest-value alternative use available under prevailing market conditions.

In Québec and neighbouring markets, demand peaks during winter months and increasingly during hot summer periods. Prices rise accordingly. Hydroelectric generation is therefore particularly valuable for meeting peak load. Other sources—such as wind, nuclear, or thermal generation—may supply base-load power but lack comparable dispatch flexibility. Using stored water during low-price periods entails the opportunity cost of foregone peak-period revenue.

The economic value of water depends not only on volume but also on timing. Pricing mechanisms that fail to account for this temporal dimension may not fully capture its value.

Production-Based Water Rents

Québec employs a production-based water royalty system in which charges are tied directly to the volume of electricity generated. The system has two components: a statutory royalty applied to all hydroelectric producers and an additional contractual royalty paid by Hydro-Québec to the Government of Québec. Both are calculated on a per–megawatt-hour basis and indexed to inflation. Revenues contribute to Québec's Generations Fund, which supports long-term debt reduction and fiscal sustainability.

For 2025, the statutory royalty is approximately $4 per megawatt-hour, and the contractual royalty paid by Hydro-Québec is approximately $0.94 per megawatt-hour. The combined royalty burden therefore exceeds the base price of approximately $2 per megawatt-hour that Hydro-Québec pays for electricity imported from Churchill Falls under the existing contract.

This comparison is illustrative rather than critical. It highlights how water value is recognized within Québec's institutional framework and underscores the difference between production-based royalty structures and long-term fixed-price contractual arrangements.

Production-based systems offer administrative simplicity and revenue stability because charges are linked to output rather than market price. However, they do not automatically adjust to changes in wholesale electricity conditions unless additional mechanisms are introduced.

Newfoundland and Labrador also employs a production-based royalty structure, often cited at approximately $0.80 per megawatt-hour. The rate reflects an earlier period when water was frequently treated as a costless input to hydraulic generation. Unlike Québec's layered structure, Newfoundland and Labrador's framework does not incorporate a comparable additional royalty within a vertically integrated system.

The difference in scale and layering results in materially higher effective recognition and capture of water-related revenue within Québec's framework than under the current Newfoundland and Labrador structure.

The structural limitation of production-based royalties is that they measure volume but not timing, scarcity, or market opportunity. Where wholesale prices rise substantially above generation cost, such systems may capture only a portion of the available economic rent. Because water is a provincially owned natural resource, authority to establish the rental or royalty rate rests with the Government of Newfoundland and Labrador in its sovereign capacity

as resource owner. This responsibility is conceptually distinct from utility operations. Maintaining that separation clarifies accountability and ensures that resource pricing decisions reflect public policy objectives rather than commercial considerations alone. This distinction provides the context for examining alternative approaches to water valuation.

Ownership Dividends

In addition to production-based royalties, governments may capture water-related value through ownership dividends. Where a government holds an equity interest in a generating entity or vertically integrated utility, profits realized within the enterprise can be returned to the public treasury through dividends rather than through royalties.

Hydro-Québec, as a Crown corporation, distributes electricity domestically and sells surplus power into external markets. When exports occur at prices above cost, the resulting profits remain within Hydro-Québec's financial structure and may be transferred to the Government of Québec through dividends or used to offset domestic rates. In this way, water-related rents may be realized downstream rather than at the point of generation.

A related mechanism operates through ownership of CF(L)Co. As a shareholder, Hydro-Québec participates in declared profits. Assessing the value of electricity generated at Churchill Falls therefore requires distinguishing between the contractual price paid at the generating site and the broader financial returns realized through ownership and downstream market participation.

These mechanisms illustrate that reliance solely on production-based royalties may not fully capture water value. Ownership structures, market access, timing, and downstream pricing all influence where economic rents are ultimately realized.

Institutional design therefore materially affects how water value is recognized and retained. Where royalty structures are modest and disconnected from market conditions, and ownership participation is limited, a significant portion of potential rent may remain uncaptured at the point of generation.

These considerations provide the foundation for examining alternative approaches to water valuation. The next section introduces a hybrid, market-referenced framework that links water value to observable wholesale prices while accounting for transmission costs and ownership shares.

A Proposed Hybrid System

The proposed hybrid system can be summarized by a valuation identity:

$V=(P–T–G)\times OV = (P – T – G) \times O V=(P–T–G)×O$

where **V** is the implicit rental value attributable to water, **P** is the observed wholesale market price per megawatt hour, **T** represents transmission costs, **G** denotes value-added generating costs, and **O** is Newfoundland and Labrador Hydro's ownership share in CF(L)Co. Because **O** is

less than 1, a portion of potential water rents would continue to be shared with Hydro-Québec. Such sharing may, in some circumstances, form part of a broader negotiated strategy.

In this formulation, **P** reflects an observable wholesale export price rather than an administratively set transfer price. **T** represents the expected incremental cost of firm delivery, including transmission access and associated charges. These parameters can be specified conservatively and stress-tested without altering the structure of the identity.

The identity is not a contractual pricing rule. It provides a transparent framework for estimating water value and evaluating how that value may be allocated under differing market conditions.

Using illustrative wholesale prices from the New England market:

Shoulder periods (March–June; September–November):
• P = $60/MWh
• T + G = $5/MWh
• Netback (P – T – G) ≈ $55/MWh
• O = 0.658

V ≈ $55 × 0.658 ≈ $36/MWh
(≈ 3.6¢ per kilowatt-hour)

Winter peak periods (December–February):
• P = $120/MWh
• T + G = $5/MWh
• Netback ≈ $115/MWh
• O = 0.658

V ≈ $115 × 0.658 ≈ $76/MWh
(≈ 7.6¢ per kilowatt-hour)

(For reference, 1 $/MWh equals 0.1¢ per kilowatt-hour.)

If the netback value (P – T – G) were negative, export would be uneconomic at the margin. In that case, the implied value of water from that outlet is effectively zero and allocation would shift to alternative uses. This boundary condition reinforces the internal consistency of the identity.

The illustrative calculations are conservative. More precise estimates could be developed using detailed operational and cost data.

The hybrid approach has three defining features.
First, water value varies with market conditions and timing, reflecting seasonal demand and scarcity directly through wholesale prices.

Second, transmission and generating costs are explicitly incorporated, producing a realistic netback benchmark at the point of generation.
Third, responsibility for setting water royalties rests clearly with the Government of Newfoundland and Labrador in its capacity as resource owner, rather than with the operating utility. In this structure, CF(L)Co would treat water royalties as an external cost. This institutional separation clarifies accountability and aligns royalty policy with public objectives.

Taken together, the hybrid system links water value to observable market outcomes while remaining grounded in physical, institutional, and ownership realities. It provides a disciplined economic foundation for discussion and negotiation while allowing refinement as assumptions and policy objectives evolve.

Transmission Constraints and Market Access

Historically, the principal constraint on the value of electricity generated at Churchill Falls was access to transmission through Québec. Power produced in Labrador could reach major external markets only through infrastructure owned and controlled by Hydro-Québec. This control limited upstream producers' ability to rely on external wholesale prices as credible valuation benchmarks.

Even where higher-priced markets existed, access depended on transmission arrangements that were not governed by competitive open-access rules. The opportunity to realize external market value was therefore constrained by institutional structure rather than by generation capability alone.

This environment changed materially in the United States following reforms implemented by the Federal Energy Regulatory Commission. These reforms required open and non-discriminatory access to interstate transmission networks and supported the development of competitive wholesale electricity markets. As a result, wholesale prices in U.S. markets became transparent and formed through competitive mechanisms rather than vertically integrated control.

For Newfoundland and Labrador, these reforms do not compel Hydro-Québec to provide transmission access through its internal system, nor do they guarantee delivery into U.S. markets. They do, however, provide a credible external benchmark. Wholesale prices in markets such as New England reflect competitive supply and demand conditions and can serve as defensible reference points when assessing water value or designing market-referenced pricing mechanisms. By contrast, wholesale pricing within Hydro-Québec's vertically integrated structure functions primarily as an internal regulated transfer rather than as a competitive market outcome.

This structural shift underpins the hybrid framework. The ability to reference observable competitive market prices, even where physical delivery remains subject to negotiation, materially changes the analytical foundation for valuing water at the point of generation.

A hybrid design must balance stability and flexibility. A predictable component would support borrowing and long-term planning, while a variable component linked to market conditions

would allow participation in higher-price periods. Properly structured, such a system could improve value capture while remaining financially workable.

The hybrid approach recognizes the existing ownership structure of CF(L)Co, under which Newfoundland and Labrador Hydro holds 65.8 per cent and Hydro-Québec 34.2 per cent. It does not assume changes to ownership, governance, or operational control, and would operate only until 2041, as it would depend upon agreement to modify the 1969 contractual framework.

Water-related value would be allocated by applying ownership shares to the net market-referenced benchmark described earlier. This provides a transparent method for allocating rents within a joint ownership structure while linking value to observable market outcomes.

This framing clarifies the distinction between where value is generated and where it has historically been realized. Under existing arrangements, a significant portion of water-related economic rent is realized downstream through distribution or export sales. Referencing market value upstream shifts the valuation point closer to the source of the resource without requiring immediate changes to physical infrastructure.

The ownership-based allocation also makes the strategic importance of timing explicit. If market-referenced water values are not reflected in pricing or royalty structures prior to 2041, those values remain a credible alternative upon contract expiry. Articulating that alternative strengthens Newfoundland and Labrador's negotiating position, even if the hybrid approach is not adopted immediately.

Contract Structure and Timing

For a hybrid, market-referenced approach to function in practice, it must be embedded within a contract structure that balances stability with flexibility. The central issue is not whether long-term contracts are required, but how they are designed to reflect evolving market conditions, risks, and values.

One option is to maintain firm contractual arrangements through 2041, consistent with expiry of the existing power contract, while incorporating scheduled review provisions. Reviews at defined intervals—such as every five years—would allow benchmark prices, transmission assumptions, and other key parameters to be updated as conditions change.

Beyond 2041, contract durations could shift toward shorter terms, such as ten-year agreements with review points. This structure would enhance responsiveness to changes in electricity markets, transmission availability, regulatory frameworks, and policy objectives while preserving sufficient certainty for planning and investment.

The purpose of outlining this structure is not to prescribe a specific agreement but to demonstrate that viable alternatives exist between fixed long-term pricing and full exposure to spot markets. Clarifying how hybrid valuation principles can be incorporated into contractual design strengthens Newfoundland and Labrador's capacity to evaluate proposals and supports informed public discussion.

An official of Newfoundland and Labrador Hydro has indicated that the water-royalty structure requires modernization. Internationally, hydroelectric royalty systems have evolved over time, although no uniform standard applies.

Under the current negotiation framework with Hydro-Québec, water royalties appear to function as an internal residual within CF(L)Co. Pricing discussions begin by establishing the electricity price paid to CF(L)Co, with water royalties determined after accounting for capital, labour, and operating costs. Where the purchase price is fixed, the water-royalty rate is correspondingly constrained. Under the proposed Action Plan–2041 model, electricity prices would cover operating and capital costs, while the water royalty would be set externally to reflect market conditions and policy objectives. Without explicit linkage to market benchmarks, fixed annual royalty rates may remain detached from prevailing market realities.

Alternative Approaches to Achieving Water Value

The hybrid, market-referenced framework outlined above is not the only method by which the value of water used in hydroelectric generation might be recognized. It serves as a benchmark against which alternative approaches can be assessed as Newfoundland and Labrador considers post-2041 options.

Alternative approaches differ along two dimensions. The first concerns market orientation—whether value is determined primarily through bilateral arrangements within existing institutional structures or by reference to broader regional or international electricity markets. The second concerns institutional scale—whether valuation and bargaining occur at the level of individual utilities and provinces or within wider regional or intergovernmental frameworks.

Two illustrative alternatives are examined in the sections that follow. The first is an Atlantic-national approach, situating Churchill Falls within a broader Atlantic Canadian electricity context. The second is a New England–oriented approach, emphasizing greater exposure to U.S. wholesale markets. These are presented as structured analytical pathways rather than definitive proposals.

Examining these alternatives alongside the hybrid framework clarifies the trade-offs inherent in each approach and reinforces the importance of deliberate planning in determining how the value of the Churchill River's water resource is ultimately realized.

An Atlantic Regional Reference Point

In addition to external wholesale markets, the Atlantic region offers another reference point for assessing water value within a hybrid framework. Electricity transactions between Québec and New Brunswick provide observable price signals reflecting seasonal demand, system constraints, and the cost of firm power in the region.

Although detailed wholesale pricing data in Atlantic Canada are not fully transparent, New Brunswick's purchases from Québec provide an indicative benchmark. These prices, which vary

by season and contract terms, offer a practical comparison without relying exclusively on U.S. markets or a single counterparty.

This Atlantic reference is not a separate pricing system or substitute for broader market benchmarks. Rather, it illustrates how regional price relationships can be incorporated into a hybrid framework that accounts for timing, transmission costs, and ownership shares. In this way, Québec–New Brunswick pricing bridges the gap between internal contract arrangements and fully external market pricing.

Its relevance lies in expanding the range of credible benchmarks available for evaluating water value while remaining within established regional and institutional contexts.

Physical Sequencing and Scale Under an Atlantic Reference

An Atlantic-oriented application of the hybrid framework may require additional transmission capacity, particularly after 2041. This could involve a new line from Churchill Falls to Gull Island, onward to Muskrat Falls, and upgrades to the Maritime Link to accommodate expanded capacity.

Identifying this sequencing does not prescribe a specific development path. It recognizes that broader regional reference points for water value depend on the physical movement of electricity. As transmission scope expands, negotiations would likely shift from bilateral province-to-province arrangements toward a more regional framework reflecting multiple jurisdictions and shared infrastructure.

At that scale, federal participation could emerge, as has occurred with other nationally significant natural resources. Such involvement would reflect coordination and facilitation rather than a transfer of provincial authority. The Atlantic option therefore illustrates how application of the hybrid framework intersects with infrastructure sequencing and intergovernmental considerations

The New England Market Reference

A second variation on the hybrid framework looks to New England wholesale markets as the primary reference point for valuing water. In this version, the 0.658 ownership adjustment factor is not applied, as water value would instead be captured directly through a market-referenced royalty mechanism, with revenues flowing to Newfoundland and Labrador.

This approach aligns most naturally with the period after 2041, when existing contractual arrangements expire and market access options expand. Earlier implementation cannot be excluded but would depend on material changes in prevailing incentives. Absent such changes, continuity of current arrangements would be expected.

Under a New England reference, electricity prices would be anchored to transparent and competitive wholesale markets. Revenues attributable to water would accrue directly to the Newfoundland and Labrador Treasury rather than being realized downstream through Québec's

domestic pricing or export margins. Québec could still benefit indirectly through broader trade and energy relationships.

Contract design would remain important. Agreements could take the form of medium-term contracts with scheduled review provisions, balancing stability with adaptability. This option illustrates how direct exposure to competitive markets would alter the recognition and allocation of water value.

Water Rental Prices and Social Costs

Low water rental rates can encourage inefficient electricity use and generate associated environmental, social, and cultural costs. When water is priced too cheaply, consumption decisions may not reflect the full costs imposed on society, leading to patterns that favour short-term convenience over conservation, system efficiency, or longer-term impacts.

Inefficient use may take several forms, including elevated peak-period consumption, reliance on hydroelectric output when lower-impact alternatives are available, or reduced incentives to invest in efficiency, storage, or demand-management measures. Over time, such patterns can increase pressure on river systems and affect downstream ecological and community conditions.

Higher water rental rates can serve two related functions. They signal that water is a scarce public resource, discouraging inefficient use, and they generate revenues that can help address environmental, cultural, or community impacts associated with hydroelectric development.

Water rental pricing therefore extends beyond revenue generation. It aligns operational decisions with public objectives and helps ensure that use of a public resource reflects its broader economic and social value.

Value-Added Price Increases toward Replacement and Demolition

The value added by Churchill Falls (Labrador) Corporation Limited is the difference between the price received for electricity and the costs of purchased goods, services, and natural resources, including water royalties. This residual covers labour and capital costs, including the required return on capital.

From an economic perspective, capital costs extend beyond standard accounting measures. They include depreciation, financing costs, taxation, and opportunity costs. Collectively, these components are referred to as the user cost of capital.

This definition is consistent with the framework used in official productivity and performance measurement by Canadian statistical agencies and international organizations such as the OECD and the United Nations. Applying this perspective ensures that pricing and valuation discussions reflect the full economic costs of operating, maintaining, replacing, and ultimately decommissioning large-scale hydroelectric infrastructure.

Demolition Costs and Asset Lifespan

Electricity charges associated with Churchill Falls (Labrador) Corporation Limited should incorporate the costs of eventual demolition and site remediation. Hydroelectric facilities are long-lived but not permanent assets, with typical lifespans ranging from 50 to 100 years.

The Churchill Falls generating station entered service in the mid-1970s. On a 100-year horizon, its expected operating life would extend to approximately 2074. From an economic perspective, decommissioning and remediation obligations fall within the same long-term planning horizon as reinvestment and replacement decisions.

If these costs are not recognized over the facility's operating life, they are shifted to future governments and taxpayers. Unfunded decommissioning obligations must eventually be met through higher electricity prices, increased public debt, or general taxation. Excluding such costs from current pricing decisions therefore creates a deferred financial liability.

Although precise figures depend on site conditions and regulatory requirements, experience from large hydroelectric projects elsewhere suggests demolition and remediation costs can reach hundreds of millions—and in some cases exceed a billion—dollars when full environmental restoration and long-term monitoring are included. For a project of Churchill Falls' scale, these costs are material. Incorporating them into long-term pricing ensures that current users contribute to the asset's full lifecycle cost rather than deferring that burden to future generations.

Potential Infrastructure Projects

Potential infrastructure projects fall into two categories: those proposed in the Memorandum of Understanding (MOU) and those that may arise under alternative planning paths. This distinction separates projects embedded in current negotiations from those outside the present framework.

The MOU identifies two projects directly associated with Churchill Falls: the upgrade and enlargement of the existing generating facility, and the Gull Island project together with the transmission link required to bring that power to market.

This classification provides a foundation for assessing the role, timing, and implications of each project within a broader action plan before turning to projects outside the current MOU.

Infrastructure Projects and Security of Supply

The infrastructure projects proposed in the MOU are framed as measures to strengthen Hydro-Québec's security of supply. From Newfoundland and Labrador's perspective, however, they influence how value is allocated through Churchill Falls (Labrador) Corporation Limited. This tension was evident in earlier negotiations and became embedded in the long-term contractual arrangements established in 1969.

Hydro-Québec's consistent incentive within CF(L)Co has been to secure access to the largest possible volume of electricity from the Churchill River system at the lowest feasible cost. This incentive has shaped decision-making since inception. Low-cost access to Churchill Falls power

enabled Hydro-Québec to maintain comparatively low domestic rates while attracting electricity-intensive industry.

As export markets expanded, the same low-cost supply supported profitable external sales—particularly into U.S. markets—while preserving regulated domestic pricing. Over time, Churchill Falls became a foundational component of Hydro-Québec's system portfolio, contributing both to domestic price stability and export revenues.

In this context, the infrastructure projects proposed in the MOU extend beyond neutral development objectives. They affect Hydro-Québec's long-term supply portfolio and link any adjustment in value received by Newfoundland and Labrador to acceptance of those projects.

Newfoundland and Labrador's Objectives and Constraints

The Government of Newfoundland and Labrador sought to advance industrial development in Labrador, where iron mining and pelletizing facilities were already operating. Reliable, low-cost electricity was viewed as a means of broadening the province's economic base.

Premier Frank Moores' decision to nationalize Churchill Falls (Labrador) Corporation Limited formed part of this broader electrification strategy, bringing generation under public ownership while distribution and downstream activities remained largely private. Electricity exports were contemplated as a development option. However, Québec's control of the transmission corridor and the 1969 power contract materially constrained Newfoundland and Labrador's ability to realize export value or capture a larger share of associated economic rents.

As a result, notwithstanding Newfoundland and Labrador's ownership interest in CF(L)Co, a larger share of the project's economic benefits accrued to Québec.

This conclusion has remained central to public understanding of Churchill Falls and continues to shape interpretation of subsequent proposals and negotiations.

Equity Participation, Debt, and Trade-offs

For any new infrastructure project, a Churchill River Action Plan must address a central question: what are the probable benefits to the well-being of Newfoundlanders and Labradorians of taking an equity stake? Put plainly, "Good for ye; what's in it for we?"

Answering that question requires consideration of Newfoundland and Labrador's fiscal position. Public borrowing capacity is finite, and other infrastructure priorities compete for funding. Equity participation decisions must therefore be assessed within the broader context of public finance rather than in isolation.

As Ed Roberts observed in 2022, "We did this to ourselves." That remark underscores the importance of evaluating debt exposure within a wider framework of trade-offs, recognizing that judgments about acceptable risk and return inevitably involve subjective assessment.

The Churchill Falls Enlargement and Upgrade

Under the Memorandum of Understanding, the Churchill Falls facility would be expanded through construction of a second powerhouse adjacent to the existing plant, incorporating two turbines with a combined capacity of approximately 1,100 MW. The projected load factor is approximately 4.15 per cent, and the estimated capital cost is $4.6 billion.

A load factor at this level indicates that the additional capacity would operate primarily during peak demand periods, particularly in winter months. The project is therefore structured to provide incremental firm capacity rather than continuous base-load production.

Publicly available information is currently insufficient to permit a thorough independent evaluation of the project's expected rate of return, risk profile, or financing structure. Nor has a publicly articulated societal cost–benefit analysis been presented assessing broader well-being impacts beyond financial metrics. As noted in *Value(s): Building a Better World for All*, Prime Minister Mark Carney emphasizes the importance of rigorous cost–benefit analysis for major public investments. Given the scale of the proposed expenditure, such analysis would be appropriate.

An enlargement of this magnitude would also require an updated environmental impact assessment reflecting contemporary regulatory standards and cumulative effects considerations. These factors are central to determining whether the expansion advances long-term public objectives or primarily addresses external system-level supply requirements.

Pricing, Allocation, and Sequencing

Any additional generation associated with an enlargement or upgrade should be subject to appropriate water rental rates consistent with the valuation principles established for existing production.

Churchill Falls (Labrador) Corporation Limited is currently profitable, strengthening its capacity to access financing. However, the scale of the proposed investment implies that borrowing or structured capital contributions would likely be required, with implications for ownership shares, risk allocation, and public balance sheets.

Under the existing ownership structure, 65.8 per cent of incremental output would accrue to Newfoundland and Labrador Hydro and 34.2 per cent to Hydro-Québec, unless alternative institutional arrangements were adopted.

Newfoundland and Labrador Hydro could direct its share toward external markets, including New England, consistent with the previously outlined hybrid framework. This allocation logic would apply under either enlargement or upgrade scenarios.

Given financing requirements and construction scheduling, it is appropriate to assess whether an upgrade should precede an enlargement, particularly if the objective is to enhance winter reliability under existing arrangements. Continued use of the pricing structure under the

Guaranteed Winter Availability Contract therefore warrants careful evaluation before any decision to abandon it, as proposed in the 2024 MOU.

Contract Horizon and Transmission Integration

The current power contract expires in 2041, which remains the central planning horizon for evaluating modifications to existing arrangements. Hydro-Québec typically structures export contracts with terms of approximately 20 years or less. The Churchill Falls agreement is exceptional in both duration and structure, providing long-term supply certainty at stable pricing.

Contract duration is material. Long-term agreements secure supply certainty for the purchaser but limit pricing flexibility for the supplier. In the case of Churchill Falls, the extended term has constrained Newfoundland and Labrador's ability to adjust pricing in response to changing market conditions. New commitments associated with expansion or upgrade should therefore be assessed against realistic contractual horizons and the risks of long-term price lock-in, particularly in periods of technological, regulatory, climate, and geopolitical uncertainty.

The potential development of a bi-directional transmission link between Gull Island and Muskrat Falls warrants evaluation within a broader regional and national transmission strategy. Such a configuration could increase system flexibility, enable power to move in either direction as conditions require, and enhance reliability and market access. Its assessment should occur as part of integrated transmission planning rather than as a stand-alone project.

Gull Island: Capital Intensity, Fiscal Capacity, and Risk

The Gull Island project represents a large-scale renewable asset with significant generation capacity. Its principal constraint is fiscal capacity rather than engineering feasibility.

Newfoundland and Labrador currently carries the highest per capita provincial government debt in Canada. Large hydroelectric projects are capital intensive and typically financed through long-term borrowing. Proceeding with Gull Island would therefore materially affect public debt levels, borrowing costs, and credit exposure, whether directly through the province or indirectly through Newfoundland and Labrador Hydro.

Projected revenues may make such projects appear manageable, but they depend on market prices, contractual design, and demand conditions. Long-term forecasts are inherently uncertain, and forecasting error increases with the time horizon. Revenue projections should therefore be treated as conditional scenarios rather than fixed outcomes. If revenues materialize as expected, debt can be serviced; if not, the liabilities remain.

Higher debt levels carry opportunity costs. Public borrowing capacity is finite, and additional debt for one major project may constrain the province's ability to address other priorities such as health care, education, infrastructure maintenance, or economic diversification. Increased debt service reduces fiscal flexibility and shifts risk to future taxpayers.

Greater leverage also increases exposure to uncertainty. Hydroelectric generation is affected by climate variability, and electricity demand is evolving as economies electrify. Expanding digital infrastructure and global economic conditions influence export markets, pricing, and capital costs. Long-term borrowing combined with long-duration commitments reduces the province's capacity to adjust if external conditions change. Debt and risk may therefore rise together and should be evaluated jointly.

Gull Island cannot be assessed solely on generation capacity or environmental attributes. It must be evaluated within the province's overall fiscal position, tolerance for long-term borrowing, and capacity to manage uncertainty. The central issue is whether the province can prudently absorb the financial and risk obligations required to proceed.

Active Planning

The issues discussed above call for active planning rather than reactive sequencing. The Memorandum of Understanding reflects a process in which a general concept is advanced, agreement is reached in principle, and critical details are left to subsequent negotiation.

This sequencing places commitments ahead of clearly articulated objectives, alternatives, and valuation principles. When managing a scarce public resource, those elements should be established before commitments are made. In this context, the specific terms of implementation determine how value is allocated, how risks are borne, and how long-term outcomes are shaped.

Meaningful public debate, therefore, requires examination of the specific terms that would govern a final agreement and assessment of whether they reflect deliberate planning or the consequences of reactive negotiation.

Using The Churchill River to Potentially Transform Newfoundland and Labrador's Economy

The Churchill River is a valuable resource for Canada and North America, with the potential to transform Newfoundland and Labrador's economy and society in the long term. Effective planning should account for the long-term effects on residents, governments, and communities, considering economic, environmental, social, cultural, and health factors. The decisions we make now will shape our future.