An Assessment of the December 12, 2024, Churchill Falls MOU between Newfoundland and Labrador and Quebec

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Conclusions (edit DM)

- The revenues that will flow to the province are substantial and **potentially** transformative.
- While the province is protected from some risks associated with cost overruns and project delays, it is not protected from all of them. If all projects proceed as planned, the province will have to increase its borrowing, which is close to the current net debt level, which is not insignificant.
- The MOU has insufficient information to evaluate any proposed new developments thoroughly.

The MOU Essentials

- The provincial treasury is estimated to receive more than $225 B in total revenue,
- from Churchill Falls alone, $17 billion over the next 17 years or $1 billion, starting in 2025,[5]
- The effective average price is expected to increase from 0.2 cents per KWh to 5.9 cents per KWh, will escalate over time and will be tied to market prices,[6]
- HQ will pay CF(L)Co $33.8 billion in today's dollars[7], which is $180 billion to Newfoundland and Labrador expressed in nominal dollars,
- The new pricing agreement for the power from the existing plant is not contingent on the new capacity-enhancing development proceeding. As such, it is possible to analyze the new pricing agreement separately from the Gull Island, Churchill Falls upgrade, Churchill Falls expansion, and the increased transmission facilities,

- an increased capacity of 3,900 MW on the Churchill River, giving NLH access to nearly four times as much energy for use in Labrador than is available today,[8]
- the province will be fully protected from the risk of construction and cost overruns,

- The construction will generate thousands of jobs, and electricity will make industrial development in Labrador more feasible and likely.

- The binding agreements associated with the MOU should be signed by April 2026,

- HQ will pay $3.5 billion in today's dollars for the right to co-develop the new capacity-enhancing projects. As indicated in the MOU, this is equivalent to $4.8 billion in nominal dollar terms,

- The fact Sheet suggests that the combined project will cost $33 billion in spending, which appears to be in nominal dollars. However, the Fact Sheet does not indicate whether it is real (i.e., adjusted for inflation) or nominal dollars. The specific breakdown provided in the Fact Sheet is:
    - $29.4 billion for Gull Island, which includes financing costs,
    - $4.6 billion for Churchill Falls expansion, which includes financing costs,
    - $1.9 billion for the Churchill Falls upgrade, which includes financing costs,
    - $3.6 billion for new transmission lines, which provides for financing costs,
    - The total expected cost of construction is $35.0 billion.

- The ownership of Gull Island will be 60% NLH and 40% HQ, while the ownership structure of the existing plant, the upgrades and the expansion will remain as currently in CF(L)Co, which is 65.8% NLH and 34.2% HQ,

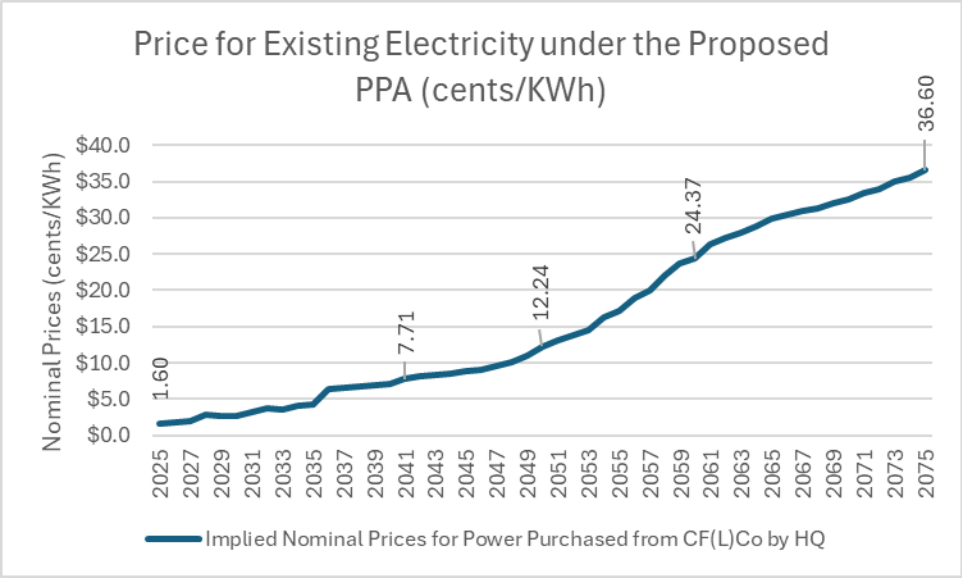
- the price of Gull Island power and power from the Churchill Falls expansion will cover all costs associated with the project, including a return on equity ranging between 8 and 9 percent,

- The power sales from the Churchill Falls upgrade will be part of the contract for the existing plant.

- The prices for Gull Island power, power from the Churchill Falls expansion and the Churchill Falls upgrade are expected to increase by 2% annually.
- HQ will be responsible for any cost overruns for the Gull Island project and the Churchill Falls expansion project, and it will be responsible for managing construction and completion for both projects,
- CF(L)Co will be responsible for any cost overruns for the Churchill Falls upgrade project,
- NLH will construct 340 km of 735kV AC transmission lines in Labrador and will be responsible for any cost overruns,
- Power sales from the new developments will cover the transmission lines' costs, including a cost-of-service return.

Some Issues (DM)

Prices

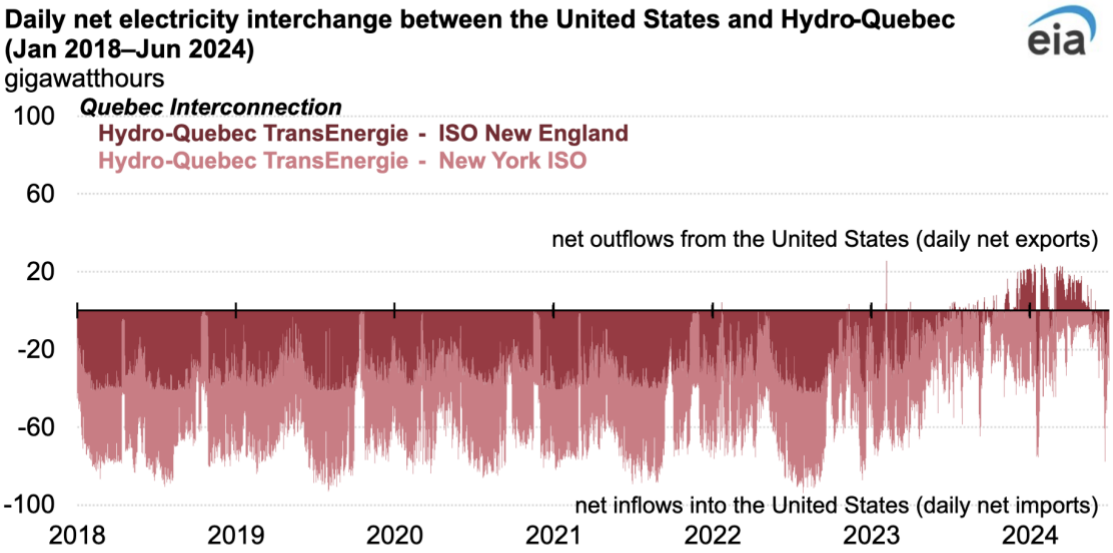


Climate Change and Electricity Generation to Meet Long-Term Contracts

Quebec Interconnection

Hydro-Quebec's cross-border daily average electricity deliveries into NYISO declined by 72% to 7 GWh in 2023. Hydro-Quebec's cross-border electricity deliveries into ISO-NE decreased by 22% in 2023 to 29 GWh.

Daily net electricity interchange between the United States and Hydro-Quebec (Jan 2018–Jun 2024)



Data source: U.S. Energy Information Administration, Form EIA-930, *Daily Balancing Authority Operations Report*
Note: The net values represent the interchange from a U.S. balancing authority to a Canadian balancing authority. Values are reported by U.S. balancing authorities. Negative interchange values indicate net inflows into the United States, and positive interchange values indicate net outflows from the United States. EIA's interchange data only account for balancing authorities bordering Canada. Electricity imports and exports occur simultaneously in both directions between various states in the United States and Canadian provinces.

Ontario surpassed Quebec in electricity exports in 2023

Quebec is generally Canada's largest electricity exporter. In 2023, however, exports from Quebec fell 41.1% year over year to 13.3 million MWh, as the province dialled back electricity exports to maintain water levels in hydroelectric reservoirs. As a result, Ontario (13.9 million MWh) became the largest exporter of electricity in 2023, despite shipping 11.5% less electricity to the United States compared with one year earlier.

Reducing energy costs in Maine and New England

The agreements with Massachusetts electricity distributors is **for a 20 year supply of clean, reliable, baseload energy (approximately 9.45 terawatt/hours (TWh) per annum).** The electricity will be produced by the **extensive fleet of Hydro-Québec hydroelectric power plants** and will reduce dependence on fossil fuels in the New England region.

The NECEC will suply clean energy to 1.2 million New England households. Under this long-term arrangement, customers will benefit from **stable prices for the next 20 years,** avoiding price rises during peak demand in summer and winter. In fact, **NECEC will reduce customer spending on electricity by $3,900 million over the next 20 years.** Each year, customers in Massachusetts will save $150 million, and those in Maine, $40 million.

Market Demand Dynamics

AI, data centers, and higher temperatures increase the electricity demand.

Market Supply Dynamics

- Emerging alternative sources of electricity
- Tariffs on generating equipment

Risk Analysis

- Provincial Debt (Wade)

Water Rentals Charged by GNL

- Existing ??
- Upgrade ??
- Extension??
- Gull Island ??

Note: The GQ does not charge HQ for water rent, which allows the price of hydroelectric power to be much lower downstream to consumers than if oil, gas, coal, or uranium were used. GO and GNB do charge water rental fees.

How should water rents be calculated?

Peak Loads (seasonal and daily) and Reservoirs as Storage Batteries: Bruneau