



The Maritime Link

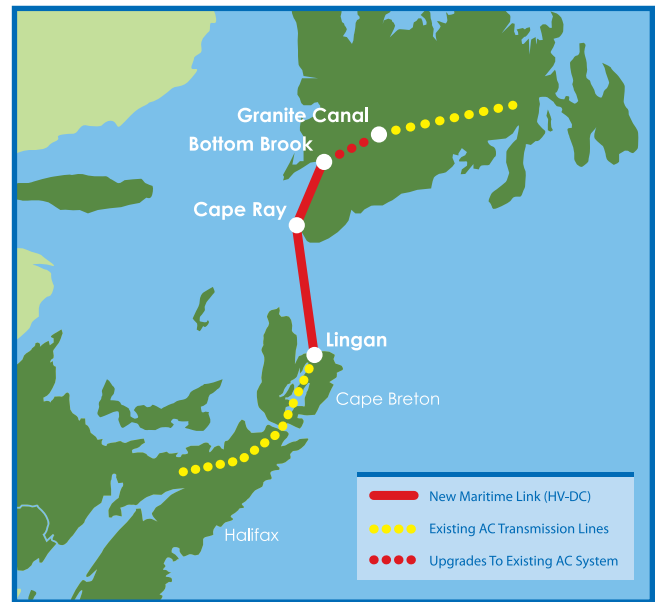
Nova Scotia's Connection to a Better Energy Future

Maritime Link

Securing our clean energy future

Nova Scotia's interest in the Maritime Link—connecting us to Newfoundland and Labrador's vast hydroelectric supply by overland and subsea transmission cable—is motivated by the following facts:

- 1 Our over reliance on coal is a problem, affecting both our electricity prices and our environment.
- 2 New Government of Canada law means coal use must drop dramatically before 2030.
- 3 As we replace coal with cleaner sources of energy, the Maritime Link is the lowest long-term cost option.



Change Is Necessary

Nova Scotia's dependence on coal must change because:

- Demand for coal is rising globally; costs have gone up 75 per cent in recent years, driving our electricity rates higher.
- The majority of our coal is imported from the United States or South America, meaning our electricity dollars are spent outside Canada.
- Nova Scotia's own legal targets demand increased use of clean energy and decreased GHG emissions in the electricity sector.
- A dramatic reduction in coal use is required to meet new 2030 federal coal reduction regulations.

Nova Scotia must look for new sources of cleaner energy to replace coal.

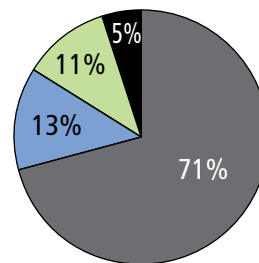
Legal Targets – NS Electricity Sector

- **By 2020**, Nova Scotia's electricity sector must emit no more than 7.5 MT of GHG's (Government of Nova Scotia)
- **By 2030**, Nova Scotia's electricity sector must emit no more than 4.5 MT of GHG's (equivalency agreement with Government of Canada)

Change Is Happening Now

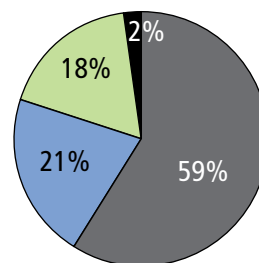
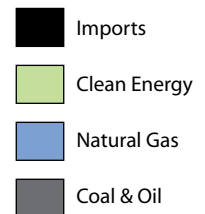
Nova Scotia is already taking action to move towards cleaner, more diverse, and more local and regional sources of energy. Not only have we set ambitious targets for change, we are well on our way to meeting them.

Nova Scotia's Electricity Transformation

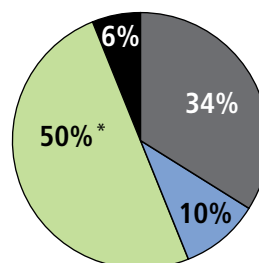


Over time, Nova Scotia's reliance on imported coal will drop significantly as cleaner energy use increases.

2009



2012



2030 (forecast)

The pay-offs are significant: reduced emissions, price stability, energy dollars staying in our regional economy, and many new jobs.

* includes all imports of renewable energy

The Path Ahead

We have made significant progress in our efforts to wean ourselves off coal. But we have a long way to go to meet both the federal 2030 deadline for coal reduction targets and the energy demands of Nova Scotia's growing economy.

The province commissioned John Dalton of Power Advisory LLC, an energy expert on the New England and Eastern Canadian markets, to compare the three most likely primary supply options: adding hydro from Newfoundland and Labrador, adding hydro from Quebec, and adding a mix of natural gas and clean energy (like wind) from within Nova Scotia.

Nova Scotia's Lowest Long-term Cost Option: Dalton Report

Power Advisory LLC used a proprietary computer model that simulated the hour-by-hour operation of the electricity system from 2017 to 2052. The base case results were stress-tested against potential changes in demand, peak load, fuel price and other variable costs. Their report concludes that, under all reasonable assumptions, **hydroelectric power from the Lower Churchill will be the lowest long-term cost option.**

The chart below clearly demonstrates some of the advantages of the Maritime Link.

Ranking the Options

	Lower Churchill Hydro	Hydro Quebec	New domestic (natural gas + wind) ²
Lowest cost 2017-2052¹	1st	2nd (+ \$402 million)	3rd (+ \$1525 million)

Dalton's report considered other factors besides cost, with the **Lower Churchill Hydro** option ranking as the best long-term option across a variety of important factors:

Strategic Advantages

Benefit	Lower Churchill Hydro	Hydro Quebec	New domestic (natural gas + wind) ²
Improved diversity and security of energy supply (source, location, ownership)	2nd	3rd	1st
Improved regional grid reliability	1st	2nd	3rd
Improved regional supply flexibility, promoting price competition	1st	2nd	3rd
Achieve environmental and clean energy targets	1st	1st	3rd

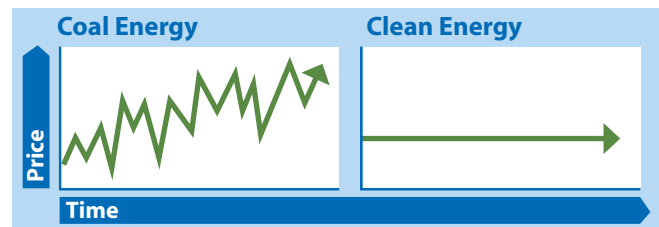
¹ John Dalton's full report is available here: novascotia.ca

² Nuclear was not considered; there is no plan to change provincial laws that prohibit both nuclear generation plants and uranium mining. New carbon sources like coal or oil were also not considered.

The Outlook: Long-term Price Stability

The Maritime Link comes with a lot of benefits. For electricity customers, the greatest benefit may be price stability. With a 35-year contract at a fixed price, the Maritime Link offers Nova Scotians some shelter from the volatile fossil fuel world market. And the more we build clean, regional energy infrastructure, the more stable and secure our energy prices become.

Contract Pricing: Coal vs. Clean Energy



The benefit of renewable electricity is that the price remains fixed or stable over long-term contracts. Coal prices fluctuate greatly over much shorter-term contracts, with a significant upward trend in recent years.

The Maritime Link

Benefits

The Maritime Link offers:

- The lowest long-term cost option to meet energy and environmental targets
- A reliable source of clean energy, at predictable prices, for 35 years
- A flexible source of energy, able to balance wind, and delivered when needed
- A second interconnection point to the North American grid, which improves system reliability
- An electrical “loop,” rather than a dead end, that allows Nova Scotia to take energy from multiple sources at competitive regional rates
- Access to surplus clean power at market rates without the cost of transmission
- Ability to integrate future regional energy sources like hydro, tidal, and solar as they come online and become cost-competitive

Project Details

- Emera pays 20 per cent of the project costs for 20 per cent of the energy generated by the Muskrat Falls project for 35 years
- Expected online in 2017
- \$1.5 billion estimated project cost
- Will provide approximately 900 gigawatt hours of power per year (8-10% of NS electricity needs)
- Emera has option to double energy purchase at market price (40% of total output)
- Federal loan guarantee provides expected cost savings to ratepayers in excess of \$100 million over 35 years

UARB Review

The Utility and Review Board will review the costs of all options. It will determine whether the Maritime Link is the lowest-cost option and in the best interests of Nova Scotia ratepayers.

Maritime Link

- The 8-10% base power that will come from the Maritime Link Power is enough to power close to 100,000 homes.
- When you add the extra power from the market, it translates into enough to power more than 200,000 homes.