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Ecology Action Centre

IN OUR POWER:

Recharging Nova Scotia's Energy System

Technology Neutral: *More Than Words*

In Our Power: *Recharging Nova Scotia's Energy System*

Our energy system must meet the needs of all Nova Scotians. This is not wishful thinking. Energy is a human right, essential for health, safety, comfort and access to information. A system that is reliable, affordable and sustainable is essential.

We need that system now.

What does technology-neutral mean?

Old habits die hard. When we've done something a certain way for a certain amount of time, we often continue down that path without considering other options. This ingrained way of thinking often becomes reflected in the language we use and the planning we do – and it can limit opportunities to enhance our energy system reliably, affordably and sustainably.

Being technology neutral means defining the need first, not the fuel.

Here are two examples of how an outreach could be made:

- A formal request for a specific type of power plant could be issued. Responses would be limited to the type of plant specified in the request.

- A formal request for a specific service such as a certain amount of electricity during peak demand, short bursts of backup power during extreme weather, or enhanced capacity to stabilize the grid when supply fluctuates. How this is accomplished is not constrained.

For example:
There are numerous examples of how ingrained thinking about our energy system may limit options. Here is one example. Independent Energy System Operator (IESO) Nova Scotia was created by provincial government legislation, the More Access to Energy Act 2024, to take over long-term electricity system planning, procurement of new energy resources and transmission grid operations from Nova Scotia Power. In October 2025, IESO Nova Scotia issued a Request for Expressions of Interest for the construction and operation of one or two 300 megawatt fast-acting natural gas-fired facilities in Pictou County.

This language restricts responses only to natural gas.

Other options, however, such as virtual power plants and grid-scale battery storage, might also work to effectively address the issue. They would also significantly reduce pollution and greenhouse gas emissions, while helping achieve Nova Scotia's renewable energy goals.

Why is being technology-neutral important?

Technology-neutral planning allows energy projects to compete based on performance, not on assumptions, and avoids locking us into just one form of energy production.

This approach helps ensure that decisions are based on:

- Transparent data
- Real costs
- Proven reliability
- Environmental impact

The result: confidence that the chosen solutions are the optimal solutions.

Calls for new energy generation should be, if not specifically for renewables, at a minimum technology neutral. Let proponents prove their solution is the most reliable, affordable, and sustainable rather than restrict thinking – and options.

There is often an assumption that gas is the cheapest means of production. There is also concern that balanced analyses are not being conducted. This includes using available data comparing costs associated with different means of generation, the total cost of production including transportation, decommissioning and stranded assets, use, storage, and carbon pricing (current and future).

For example:
Experts at Agora Energiewende, a German think tank supporting the transition to clean energy in that country, found in 2017 that "a power system with a 95 per cent share of renewables has the same or even lower costs than a fossil-based system under most assumptions for future fuel and CO_2 prices."

They noted that "a renewables-based system insulates the economy against volatile commodity prices, as the costs of fossil-based systems heavily depend on fuel and CO_2 price trends."

However, if you only ask for proposals that rely on gas, you only get responses that rely on gas – an expensive option.

Why does this matter for Nova Scotia?

Nova Scotia is undergoing one of the biggest transformations in its energy history. Coal must be phased out, and new electricity sources have to be developed. At the same time, electricity demand will increase as homes and businesses switch to electric heating, electric vehicles and other clean technologies.

To manage this transition responsibly, energy planners must examine all available options, not assume that one fuel type, such as natural gas, is automatically the cheapest or most reliable.

Research comparing power systems has found that electricity systems dominated by renewables can have similar or even lower long-term costs than fossil-fuel systems, especially when fuel and carbon price volatility are considered.

Renewable energy also protects consumers from global fuel price swings, which can quickly increase electricity costs. We don't want to restrict our options.

For example:

Proven alternatives already exist. For instance, many jurisdictions in North America already rely on battery energy storage, which has transitioned from an emerging technology to a core electricity grid asset across Canada. Recently Jason Rioux, Chief Development Officer, NRStor appeared before the P.E.I. Standing Committee on Natural Resources and Environmental Sustainability to discuss battery energy storage systems (BESS) as an alternative to diesel combustion turbines for P.E.I. His core conclusion was that, based on current costs, performance and policy context, large-scale battery storage is now the lowest-cost, highest-performing capacity option available to P.E.I.