

Intelligence MEMOS



From: Duncan T. Munn

To: Energy Observers

Date: December 4, 2023

Re: **NUCLEAR ENERGY AND LNG ARE KEYS TO LOW-CARBON CANADA**

The national conversation about net-zero has tended to focus on renewable energy, such as wind and solar, both of which have important roles to play. But nuclear energy and liquefied natural gas (LNG) have also emerged as pragmatic drivers on the road toward a low-carbon future. Each has its own unique advantages.

Nuclear stands out as a reliable source of base-load electricity. Unlike wind and solar installations, which produce much less energy than their rated capacities when, respectively, the wind isn't blowing or the sun shining, nuclear reactors can operate more or less indefinitely at close to capacity output. That ensures a stable energy supply, offsetting the intermittency associated with wind and solar. In building a robust energy grid capable of meeting the demands of a modern economy, reliability is a crucial asset.

Nuclear's low emissions – once built, at least – make it an attractive option for reducing Canada's carbon footprint. Technological advances, including small reactors and so-called next-generation reactors, promise to address concerns about nuclear waste and how to dispose of it safely. Cleaner nuclear will pave the way for a more sustainable and reliable energy supply.

The high energy density of nuclear power is especially advantageous in a country our size. Built at scale, wind and solar installations devour land. Nuclear sites take up less space, which helps balance efficiency and environmental responsibility.

Canada has some nuclear advantages. We have the world's largest deposits of uranium, a key fuel source. And we have a history as a research leader and exporter of reactor technology and radioisotopes. At the moment, though many Canadians may not realize this, 15 percent of Canada's electricity already comes from nuclear power. And the \$26-billion, 15-year program to refurbish Ontario's Darlington and Bruce nuclear units is one of the largest such projects in North America. The sector can expand, offering not just clean energy but also high-quality, well-paying jobs in the future.

For its part, LNG is a transitional fuel with considerable benefits of its own. Cleaner burning than coal and oil, it can help reduce emissions during the transition to a fully renewable energy system. Gas in liquid form is also more versatile and can be transported and stored more easily than in its gaseous form, which allows for greater flexibility in meeting energy demands. Given Canada's immense reserves, LNG really should be an important economic driver in the medium term, so long as policy allows it.

Building LNG infrastructure and export facilities does generate demand for construction jobs, which are always attractive to governments. But a more important consideration is that LNG is a good alternative to coal consumption, which rose 3.3 per cent worldwide in 2022, according to the International Energy Agency. Supplying LNG that can replace coal will offend purists who would have the world eliminate all fossil fuels immediately, but in the world as it is rather than as they would prefer it to be, countries switching over to Canadian LNG from coal would be an environmental improvement. An energy-hungry world could consume fuels that produce a lower total of emissions. As in so many areas of policy (and life) we shouldn't let the perfect be the enemy of the good.

But time to act is short. While supplies remain tight and pricing robust, many global LNG projects will come on stream over the next decade just as the world's de-carbonization policies advance. This could lead to future imbalances. The market case to fill demand exists today but won't last forever.

As Canada navigates the delicate balance between prosperity and environmental stewardship, a more diversified energy portfolio that includes both nuclear power and LNG is the kind of clear-eyed pragmatic approach Canadians have always said they prefer. These two energy sources, each with its own strengths, can complement the growth of renewables by providing stability, reliability and economic opportunities during the transition to a lower-carbon future.

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A version of this Memo first [appeared](#) in the Financial Post.