

Intelligence MEMOS



From: Neil Alexander
To: Canadian Nuclear Watchers
Date: March 15, 2022
Re: CANADA'S LEADERSHIP IN DEPLOYING SMALL MODULAR REACTORS – DEVELOPING MOMENTUM

Provinces are making significant progress towards the deployment of small modular nuclear reactors (SMRs.)

In December, Ontario Power Generation (OPG) selected GE-Hitachi as its partner to build a business case for a 300-megawatt unit at its Darlington site. OPG has also taken a leading role in driving the demonstration of a micro modular reactor at Canada's nuclear birthplace in Chalk River.

In Saskatchewan, SaskPower has selected an owner's engineer to help with deployment, while PrairiesCan has commissioned a study on the supply chain benefits hosting SMRs would bring to the region. New Brunswick has continued to support the development of more advanced machines that might consume used fuel as their feedstock.

Even the Yukon has commissioned a study on how it might benefit from SMR deployment and [a study from Simon Fraser University](#) has suggested that SMRs should be in the future for British Columbia. And First Nations developers are beginning to see the SMR potential.

All this speaks to a burgeoning interest that could make Canada a leader in solving the global Green House Gas (GHG) challenge while at the same time creating the opportunity to remove energy poverty from remote communities, create economic benefit for the nation and middle-class jobs for Canadians.

While the main drive is coming from the provinces, federal support has helped spur progress. Natural Resources Canada used its convening power to bring interested parties together to produce the SMR roadmap and subsequent action plan. The government has funded development of [Terrestrial Energy's](#) salt reactor technology and [Moltex Energy's](#) version and it is [supporting](#) the creation of the National Indigenous Advisory Council's SMR body.

Most important, it had started to signal why we needed to be interested in SMRs, when the previous Natural Resources Minister, Seamus O'Regan, stated very clearly that the government could not see a route to net zero without nuclear power.

There are troubling signs, however, about Ottawa's commitment.

The current Natural Resources Minister, Jonathan Wilkinson, has not backed up his predecessor's positive comments, but instead has said "If it can compete, there will be a role for it. And if it can't compete, then it won't."

And Environment and Climate Change, Minister Steven Guilbeault, has [said](#) he will "not oppose" New Brunswick's nuclear ambitions while, but pivots to the low cost of wind and solar, building on the economic theme suggested by Wilkinson.

And Ottawa's new [Green Bond Framework](#), conspicuously excludes nuclear, listing it with it with tobacco, firearm manufacturing, alcohol production and gambling as ineligible sectors. Meanwhile, other green bond frameworks explicitly [include](#) nuclear power.

This mixed messaging, on the one hand saying nuclear is needed to achieve climate change objectives while on the other hand questioning whether it will ever be competitive, is a serious problem for provinces trying to find emissions free solutions to power generation while maintaining a reliable grid. It also appears to run counter to other government policies designed to subsidise alternative technologies.

There is little point in the nation investing in the development of SMRs, the provinces spending money preparing to deploy them or the federal government relying on them to achieve their net zero objectives if they are never going to be cost effective or are going to be scuppered by apathy and uncertainty.

If nuclear is necessary to get to net zero and, despite the evidence already presented to it, the government remains unconvinced of the economics, then shouldn't it behoove it to find out?

A bottom-up market study that identifies potential customers, their individual requirements, the real competition facing SMRs and the relative economics specific to those circumstances is needed. It would inform the government about the path ahead, and help the industry develop their plans for a cost-effective fleet.

Neil Alexander has held senior executive positions within the nuclear industry, led a nuclear-focused academic institute and is now an independent consultant.

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