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To the Standing Committee on Science and Research
Sixth Floor, 131 Queen Street
House of Commons
Ottawa ON K1A 0A6

Brief for Committee study on SMRs
by
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Stop public funding and support for Small Modular Nuclear Reactors

The development of Small Modular Nuclear Reactors (SMNRs) in any form, including models, should not be funded or promoted with public dollars from the Net Zero Accelerator initiative or any other federal funding. (I think it is misleading to not include 'Nuclear' in the name of this technology.)

SMNRs are

A. Unproven:

No SMNRs have yet been built and the models being proposed, which have no guarantee of success, would take a decade or more to develop.

There should be a rejection of the application by ARC, one of the nuclear companies in New Brunswick, for $122 million in federal funds to develop its sodium-cooled reactor on the Bay of Fundy. This technology has been tried and failed several times in past decades. Technical problems have left serious environmental clean up problems.

To quote from a 2021 article by esteemed authors in the Bulletin of the Atomic Scientists, https://www.tandfonline.com/doi/abs/10.1080/00963402.2021.1941600?journalCode=rbul20, ". . .Small modular reactors fail the tests of time and cost, which are of the essence in meeting the challenge of climate change. Even the official schedules indicate that their contributions will be negligible by 2030 and remain small by 2035, when the grid needs to be nearly completely decarbonized."

The 2020 World Nuclear Industry Status Report says that developing new nuclear energy is too slow to address the climate crisis – as well as more expensive – compared to renewable energy and energy efficiency.

B. Uneconomical and unnecessary:

According to this Canadian study, energy from small nuclear reactors could cost up to ten times more than renewable energy (solar, wind power and battery storage) which has become the world's cheapest source of energy. Meanwhile the cost of nuclear reactors continues to increase.

C. Unsafe:

The SMNRs that your committee is studying will produce radioactive waste of many kinds. Some of the proposed models would extract plutonium from irradiated fuel, worsening concerns about weapons proliferation and creating new forms of radioactive waste that are especially dangerous to manage. There is still no federal government detailed policy or strategy for dealing with radioactive waste, some of which will need to be safely stored away from living things for hundreds of thousands of years.

D. Undemocratic:

Canadians have not been consulted by the federal government on whether the development of SMNRs should be supported by public tax dollars, and I don't think there would be public acceptance of such policy if the environmental risks and financial liabilities were disclosed.

Regardless of financing, any private development of SMNRs in Canada must be strongly regulated to curtail environmental risks.

As I have previously stated to the Canadian Nuclear Safety Commission (CNSC) regarding its draft regulatory guide for Small Modular Reactors:

1. SMNRs must not be exempt from environmental assessments.
2. The CNSC shouldn't be lobbying to exempt SMNRs from environmental assessment.
3. Proponents of SMNRs must have extensive plans for dealing with radioactive waste before building an SMNR.
4. The SMNR industry must be required to be open and transparent.

There must be no exemption from the federal impact assessment process for any future SMNRs in Canada.

Your committee must listen to unbiased scientists and researchers, and not to the biased nuclear industry proponents that you invited to give presentations.

Federal funds earmarked for climate action must be used wisely and not squandered on unproven 'wild card' technology.

Thank you for considering my contribution.

Anthony Reddin