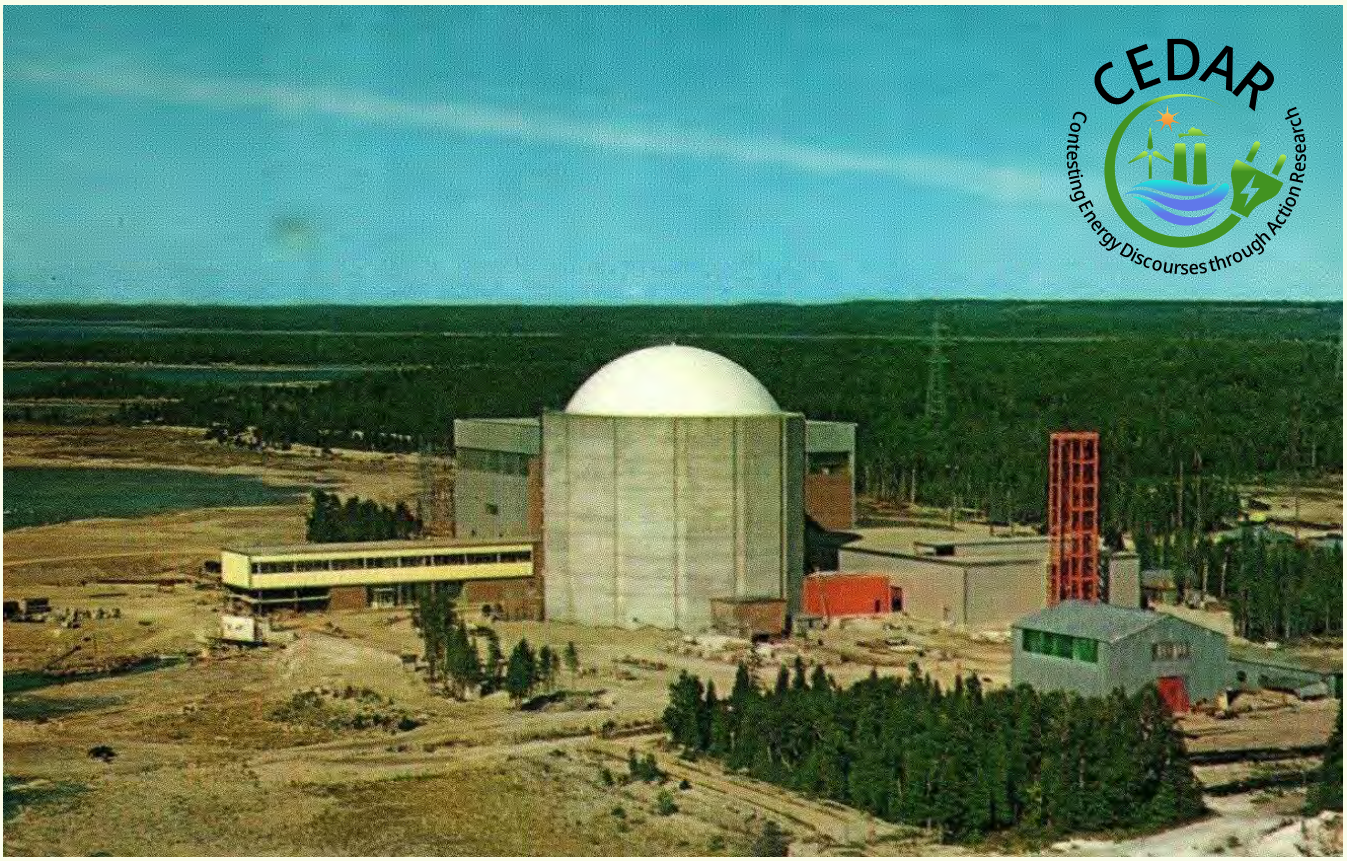

EIGHT YEARS ON THE ROADMAP:

ASSESSING SMALL MODULAR NUCLEAR REACTORS (SMRS) IN CANADA

SUSAN O'DONNELL AND M.V. RAMANA

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Cover photo: A 1960s postcard image of the Douglas Point nuclear reactor on Lake Huron in Ontario. With a design output of just over 200 MW of electricity, the first commercial CANDU reactor is one of the few examples to date of a small nuclear power reactor operating in Canada. Douglas Point was connected to the grid in 1967 and permanently shut down in 1984. Its lifetime load factor was just 55.6%, and thus it provided a little more than half of the electrical energy it was theoretically designed to generate.

NOTE

This report contains a very large amount of factual and numerical data. While we do our utmost to verify and double-check, nobody is perfect. The authors are always grateful for corrections and suggested improvements.

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1. SUMMARY

In 2018, Canada published a strategic plan – a roadmap – to develop small modular nuclear reactors (SMRs) across the country. An SMR is one designed to generate 300 megawatts (MW) of electricity or less, compared to Canada's existing CANDU power reactors which generate 500 MW or more.

According to the "SMR Roadmap," the first demonstration SMR was expected to be operating in 2026. In this milestone year, our report analyzes the financial and developmental status of the 10 SMR designs with some kind of presence in Canada.

Since the Roadmap was published, the federal government and the provincial governments and utilities with an interest in SMRs – in Ontario, New Brunswick, Saskatchewan and Alberta – have been working to entice SMR investors and make deals. Despite their considerable efforts, no significant private sector financing is flowing toward any of the 10 SMR designs in Canada.

The business case for SMRs is not attractive to private corporations, a fact acknowledged by the SMR Roadmap and subsequent official reports. These reports, therefore, call upon the government to "de-risk" or "share risk" with private investors. Since financial risks, including those associated with cost increases and construction delays, do not vanish, these are calls for the public to bear part or all of these risks, while allowing investors to pocket profits.

All the financing announced for SMRs in Canada to date has been public money. Federal and provincial governments combined have provided almost $4.5 billion for SMR design development and support activities. This amount does not include the salary and travel costs of the numerous federal and provincial government and public utility personnel working on SMR activities, or the considerable costs of developing SMR research infrastructure at the federal Chalk River nuclear site, because these costs are unavailable for public scrutiny.

Most of that public funding, more than $4.025 billion, has been for the BWRX-300 SMR project at the Darlington nuclear site on Lake Ontario. Although significant, this level of funding is not enough to pay the full cost for one of these SMR units, let alone all the designs outlined in the government's SMR strategy.

The Darlington SMR current cost estimate is $6.1 billion for the first reactor, a cost projected to drop to $4.1 billion for the fourth, plus $1.6 billion for the associated infrastructure. These high costs imply that the electricity generated by these reactors will be expensive, and this SMR will not be the "source of safe, clean, affordable energy" promised in the Roadmap.

The BWRX-300 is the only SMR design in active development in Canada. The Canadian Nuclear Safety Commission (CNSC) did not require a fully realized design specification before granting the construction licence for the project; it is expected that the CNSC will review the final BWRX-300 design at a later licence application regulatory hearing.

As of March 2026, crews continue to dig a 38-metre-deep shaft for the reactor building on the Darlington site; however, concrete has not been poured for the reactor base, the International Atomic Energy Agency's marker of a reactor construction start.

The demonstration SMR expected to be operating in 2026 was the Micro Modular Reactor (MMR) slated for the federal Chalk River nuclear site in Ontario. After the company proposing that reactor filed for bankruptcy protection in the U.S. in 2024, the MMR project was officially "paused."

The MMR project instigator, Canadian Nuclear Laboratories (CNL), continues to build a federally-funded $1.025 billion facility to conduct research on SMR fuels at the federal nuclear laboratories at Chalk River. The Standing Committee on Natural Resources in the Canadian Parliament is currently investigating the management of the Canadian Nuclear Laboratories, which currently consists of a consortium of private U.S. companies with ties to the nuclear weapons industry. These companies were recently awarded a $24-billion 20-year federal government contract for this purpose.

The two "advanced" SMR designs planned for the Point Lepreau nuclear site in New Brunswick have an uncertain future after the projects failed to secure private sector financing. One of the two reactors, the SSR-W300, and its proposed use of plutonium-based fuel was the subject of an open letter to the Prime Minister by a group of U.S. nuclear non-proliferation analysts. From 2018 to 2025, the federal and provincial governments spent almost $130 million for SMR development and support activities in the New Brunswick but in October 2025, the provincial Energy Minister said the

government would no longer wait for the two SMR designs or take on the risk of first-of-a-kind SMRs.

The stated primary goal of SMR development in Canada, to contribute to climate action by decarbonizing electric grids, could be a potential rationale for these large public investments. However, SMRs stack up poorly against other decarbonization technologies. Wind turbines, solar panels and even energy storage options are more mature, have more social acceptability, and can be built and supply power to an electrical grid more quickly than an SMR. Many studies also suggest that a combination of renewables and storage technologies can be an economical way to meet electricity and energy needs.

What might be surprising in this report is the list of provinces that are most interested in SMRs. The four provinces that have signed a Memorandum of Understanding (MOU) committed to promoting SMRs are Alberta, Saskatchewan, Ontario and New Brunswick. These provinces are also committed to increasing or extending their use of fossil fuels to generate electricity. This distribution of provinces adds to evidence from elsewhere suggesting that the fossil fuel and nuclear industries are aligned in seeing affordable clean renewable energy as the competition. For companies and provinces committed to maintaining fossil fuels, the attraction of nuclear power, including SMRs, is the likely time frame. Building new reactors is a very slow process, giving more time to burn fossil fuels, maintain fossil fuel infrastructure, and delay transitioning energy markets away from their sources of profit and power.

Another stated rationale for developing SMRs in Canada is jobs and economic development. Ontario Power Generation, with its Darlington SMR, and the province of New Brunswick with its advanced SMR plans, both offer the possibility of building a workforce and a supply chain for a new export product as a reason for investing heavily in SMRs. Based on the evidence so far, the possibility of exporting large numbers of SMRs from Canada seem slim.

Almost all the 10 SMR designs in Canada have engaged with the Canadian Nuclear Safety Commission's Vendor Design Review (VDR) process. In our assessment, completing an optional pre-licence Vendor Design Review is not a useful indication of how far an SMR design has progressed toward being actually deployed. Further, the CNSC VDR reports include statements that misleadingly suggest that the design is ready to proceed to licencing. SMR proponents are using this information to promote their designs in a way that could also mislead potential investors.

Some of the funding for SMR research goes to academic researchers, almost exclusively to advance SMR development, confirming the direction set by a government and industry already heavily invested in SMRs. This dynamic not only influences the research itself but also shapes the broader narrative around nuclear energy in Canada, reinforcing the government's position and potentially stifling critical, independent analysis of SMRs as a viable energy solution.

As researchers whose work is also partly funded by government but not beholden to the nuclear establishment, we intend our critical contribution to provide not only important analysis but also some counterweight to the pro-nuclear discourse about SMRs prevalent in the public sphere.

2. INTRODUCTION

Historically, Canadian nuclear reactors were developed almost entirely with federal government research financing and provincial public utility ownership. The resulting commercial CANDU models progressively increased in size from 200 MW at Douglas Point in 1967 to 880 MW at Darlington in 1990, to take advantage of economies of scale, namely the fact that many of the expenses associated with constructing and operating a reactor do not change in direct proportion to the power generated. The 2018 nuclear strategic plan to focus on research and development of small modular nuclear reactors (SMRs) is thus a major departure from this path.

An SMR is one designed to generate 300 megawatts (MW) of electricity or less, but the term has no implications for the physical size of the reactor. [1] The term "modular" is more aspirational and refers to how these reactors are envisioned to be assembled on the site of the power plant using various components ("modules") manufactured at a (different) factory site. Building SMRs amounts to abandoning economies of scale, aspiring instead for potential cost reductions from manufacturing in factories.

Some SMRs are also described by governments and other proponents as "advanced;" these refer to reactor designs not cooled or moderated with water, light or heavy. Although different from the type of reactors being currently built, these designs can be traced back to decades-old failed or terminated

experiments that SMR proponents want to revive.

The SMR strategic plan was announced in the 2018 report published by the federal department Natural Resources Canada, "A Call to Action: A Canadian Roadmap for Small Modular Reactors." The report stated that the first demonstration SMR could be deployed by 2026 with the first commercial deployment by 2030. [2]

It's 2026, the first milestone; time for an assessment.

Our report reviews the 10 SMR designs that have, or had, a presence in Canada: these were explicitly mentioned in Canada's SMR strategy or received funding from or signed a Memorandum of Understanding (MOU) with a government in Canada, or formally engaged with the Canadian Nuclear Safety Commission, or a combination of these.

We use two main indicators of progress: 1) financing achieved by the SMR design in Canada and 2) status of the SMR design development in Canada. We specify "in Canada" because all but one of the SMR designs are owned by companies that have offices and activities in other countries, primarily the U.S.

Our report analyzes industry and government reports, in particular, the initial SMR roadmap and five subsequent reports. But it also relies on discussions with key informants and researchers in Canada and other countries, independent research reports, news and media releases, government databases, and releases from access to information requests. We supplement these with our own original research.

The report first analyzes SMR financing in Canada then introduces Canada's SMR strategy and projected timelines. We then review the financing and progress of the10 SMR designs. Finally, we analyze research on SMRs concluding with several thoughts about Canada's SMR journey. Three tables in the Appendix provide details of public funding by governments in Canada for SMR activities.

Only one of the 10 SMR designs in Canada is in active development: the SMR at the Darlington nuclear site. As of March 2026, crews continue to dig the 38-metre-deep hole for the reactor building; however, concrete has not been poured into the ground, the International Atomic Energy Agency's marker for the start of construction of a reactor project. [3] If the Darlington SMR project is successful, that reactor could potentially add 300 MW of power to Ontario's electric grid.

Compared to the 10 SMR designs in this report, all the existing operating nuclear power plants in the country produce more than 300 MW. All are based on a standard and well-established design, the CANDU, which uses natural uranium as fuel and heavy water as coolant and moderator. Currently, 17 CANDU reactors are operating or being refurbished in Ontario and New Brunswick at four sites – four reactors at the Darlington site and four at the Pickering site, both on Lake Ontario, eight reactors at the Bruce site on Lake Huron, and one reactor at the Point Lepreau site on the Bay of Fundy.

When operating at full capacity, the smallest among these CANDU reactors, at Pickering, can each generate 500 MW of electricity. The largest, at Darlington, can each generate 880 MW of electricity. When viewed in terms of their power outputs, the SMR designs being considered are all closer to the first commercial CANDU reactor, Douglas Point, with a design output of just over 200 MW of electricity, which was connected to the grid in 1967 and permanently shut down in 1984; its lifetime load factor was only 55.6%, producing just a bit more than half of the electrical energy it was theoretically designed to generate. [4]

In addition to their smaller electrical output, the 10 SMR designs in Canada have operating systems, coolants, and fuels that are different to each other and unlike the CANDU.

Using different fuels is particularly significant. The CANDU's design requires uranium mined, processed, and fabricated within Canada and no part of the nuclear fuel chain was entirely dependent on another country. In contrast, all 10 SMR designs require fuel at least partly fabricated outside Canada.

In the initial SMR Roadmap and subsequent five official reports, the stated primary goal of SMR development is to decarbonize power grids to meet Canada's climate action targets. The underlying reason for talking about SMRs in this context is that although they do produce radioactive waste, nuclear reactors do not produce greenhouse gases while operating. Given this rationale, one can also ask how much SMRs have contributed to emission reductions or could do so in the future.

The federal government mandates Canada's climate action targets. *The Canadian Environmental*

Protection Act, 1999 enables two relevant regulations: the 2012 Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations [5] require electrical utilities to end coal-fired power generation by January 2030; and the 2024 Clean Electricity Regulations require electrical utilities to reduce emissions by 2035 and aim for net-zero electricity by 2050. [6] Finally, the *Net-Zero Emissions Accountability Act*, 2021 [7] sets 2050 as the national target for net zero greenhouse gas emissions.

The 2018 SMR Roadmap stated that the first demonstration SMR could be deployed by 2026, a date chosen to enable Canada to not miss out on perceived global investments in SMRs. The report states:

> **"Other countries are moving quickly to deploy SMRs, with significant investments. In Canada, Canadian Nuclear Laboratories is taking steps to successfully demonstrate at least one SMR technology by 2026, while some other options could be ready for commercial deployment on a similar timeline."**

The 2030 date for commercial SMR deployment was chosen to meet Canada's target for phase-out of coal plants. From the Roadmap: "SMRs could be a key player in meeting Canada's commitment to phase out the use of conventional coal-fired power plants by 2030."

Aside from the claim that SMRs will help meet Canada's greenhouse gas emission targets, another stated motivation for SMRs in Canada is economic development and jobs. The SMR Roadmap report outlines the rationale:

> **"with SMRs, we could witness the emergence of a new industrial subsector that will create jobs and economic opportunities across Canada.... Capturing value from an emerging segment will sustain and grow Canada's nuclear workforce and supply chain... with the potential of exporting SMR technologies and related innovations developed in Canada to international markets."**

Reflecting the marketing aspirations of the Roadmap, it laid out the vision of SMRs "as a source of safe, clean, affordable energy" that would capture "benefits for Canada and Canadians."

Eight years after the Roadmap, Canada's SMR ambitions remain high. In late 2025, the federal government designated the Darlington SMR a potential "Project of National Interest," a major, transformative project that will "better connect our economy, diversify our industries, access new markets, and create high-paying careers, while protecting Canada's rigorous environmental standards and upholding the rights of Indigenous Peoples." [8]

However, the other nine SMR ventures have very different outcomes to date. This review examines all ten cases in light of the Roadmap's aspirations.

3. FINANCING SMR ACTIVITIES IN CANADA

In Canada, the provinces and territories oversee the development of power generators on their electric grids – all except nuclear reactors. Since 1946, following the end of WWII and Canada's involvement in the U.S.-led Manhattan Project that developed the atomic bombs that destroyed Hiroshima and Nagasaki, the control and supervision of nuclear development and use has been under federal authority. According to the *Nuclear Safety and Control Act,* "Any work or undertaking constructed for the development, production or use of nuclear energy ... is declared to be a work or undertaking for the general advantage of Canada." [9]

As a result of this arrangement, it is but natural that the development of SMRs will largely be funded and promoted by the federal government. However, it is not the only entity driving SMR development, and several provinces and power utilities are also actively engaged in the process.

Since the Roadmap was published in 2018, the federal government and the provincial governments and utilities with an interest developing SMRs – in Ontario, New Brunswick, Saskatchewan and Alberta – have been working to entice SMR investors and make deals. However, as of March 2026, there is no significant private sector financing for any of the 10 SMR designs in Canada.

From 2016 to January 2026, federal and provincial governments combined have directly provided almost $4.5 billion for SMR design development and support activities, as listed in the Appendix. But this $4.5 billion figure does not include the salary and travel costs of the numerous federal and provincial government and public utility managers and staff

working to promote SMRs and coordinate support for SMR design development. For example, it does not include the 2022 federal budget allocation of $50.7 million over five years to the Canadian Nuclear Safety Commission to build capacity for regulating SMRs and support global regulatory harmonization.

This $4.5 billion figure also does not include the considerable costs of SMR activities at the Chalk River federal nuclear site, such as the Advanced Nuclear Materials Research Centre (ANMRC) designed for SMR research and still under construction with a current estimated cost of $1.025 billion, [10] or the numerous other SMR research, promotion and support activities undertaken by the Canadian Nuclear Laboratories and Atomic Energy of Canada Limited (AECL). Information about these costs is unavailable for public scrutiny.

All the financing announced for SMRs in Canada to date has been public money. Appendix Table 2 includes more than 130 instances of public funds transferred for SMR activities.

The range of amounts and groups funded is extensive. For example, the two largest fund transfers were among the most recent, from late 2025: $2 billion from the federal Canada Growth Fund and $1 billion from the Building Ontario Fund, both to Ontario Power Generation (OPG) for the Darlington SMR project. The smallest grant was $13,750 in 2021 from the federal Atlantic Canada Opportunities Agency to New Brunswick's North Shore Mi'kmaq Tribal Council to "support a strategic plan for Indigenous involvement in SMR development in NB," roughly five orders of magnitude smaller than the billion dollar transfers to OPG.

Most of the public funding to date, more than $4.025 billion, has been for the Darlington SMR project. Although significant, this level of funding is not enough to pay the full cost for one Darlington SMR, let alone all the designs outlined in the government's SMR strategy.

The Darlington SMR current cost estimate is $6.1 billion for the first reactor, a cost projected to drop to $4.1 billion for the fourth reactor, plus $1.6 billion for the associated infrastructure. These high costs imply that the electricity generated by these reactors will be expensive, and this SMR will not be "a source of safe, clean, affordable energy". Indeed, in January 2026, Ontario Power Generation announced its intent to sharply increase costs for the public to recoup costs for this and the refurbishment of the Pickering nuclear plant. [11]

The business case for SMRs is not attractive to private corporations, a fact acknowledged by the SMR Roadmap and subsequent official reports that call for Canada to de-risk private investment with significant public sector support for SMR projects.

The federal government has bought this argument, sinking large amounts of money into the Darlington SMR in particular, more than $3 billion of the $4.025 billion total in public funds. Unfortunately for the proponents, this is a fraction of the full project cost for four SMRs. The total cost of the Darlington SMR project, $20.9 billion, is greater than the whole capital investment provided to the Canada Growth Fund, the largest funder of the Darlington SMR and a "wholly owned subsidiary of Canada Development Investment Corporation, established in 2023 to help catalyze private sector investment in Canada's clean economy." [12]

In December 2025, The Globe and Mail, Canada's national newspaper, reported on Ontario Power Generation's "struggle to attract private investors to fund nuclear plants." [13] The Crown Corporation's chief financial officer said that "her company has 'tried many ways' to entice institutional investors to fund the Darlington SMRs, without success."

The case of Saskatchewan is instructive. In its October 2025 document, "Saskatchewan First Energy Security Strategy and Supply Plan," the provincial government announced plans to invest roughly $10 million into research at various universities but called upon "the federal government to invest in 75 per cent of the costs of the first nuclear reactor in the province." [14] For something like the SMR planned in Darlington, that could mean upwards of $4.5 billion.

A detailed list and description of public funding is included in the three tables in this report's Appendix. Below is a summary of funds provided to date for all SMR activities for which public records exist, including federal grants for university research on SMRs. The authors could find no evidence of SMR activities funded in Prince Edward Island, Newfoundland and Labrador or the three territories.

The federal government provided funding to eight provinces for SMR activities:

- to Ontario: $3,119,284,801
- to Saskatchewan: $138,993,813
- to New Brunswick: $97,271,783

- to Alberta: $15,774,000
- to Quebec: $5,812,216
- to Manitoba: $507,000
- to Nova Scotia: $249,500
- to British Columbia: $173,002

Four provinces have provided funding for SMR activities:

- Ontario: $1,001,000,000
- Saskatchewan: $85,000,000
- New Brunswick: $31,673,595
- Alberta: $1,028,000

The federal government also provided funding to three organizations in other countries for international collaboration on SMR activities and research (see Table 2):

- To the OECD in France: $1,091,239
- To the IAEA in Austria: $529,795
- To the UT-Battelle research lab in the United States: $234,080

4. CANADA'S SMR STRATEGY: THREE STREAMS

To date, six official reports with national strategies and SMR development timelines have been published by the federal government, provincial governments, public electrical utilities in Canada, or a combination thereof:

- 2018: SMR Roadmap [15]
- 2020: SMR Action Plan [16]
- 2021: Feasibility of SMR Development and Deployment in Canada [17]
- 2022: A Strategic Plan for the Deployment of Small Modular Reactors [18]
- 2022: SMR Action Plan Progress Update [19]
- 2023: Canada's Energy Future 2023 [20]

The 2018 Roadmap report proposed 53 recommendations for consideration by government, industry and nuclear stakeholders, described as necessary to "capitalize on Canada's SMR opportunity." [21] Most recommendations sought financial support or policy changes from federal, provincial, territorial governments and agencies, including Canada's nuclear regulator, the Canadian Nuclear Safety Commission (CNSC).

Among the Roadmap's priority recommendations were requests to restrict the application of federal environmental impact assessment legislation, incorporate new waste streams into existing long-term radioactive waste management plans, and ensure liability protection for operators and suppliers in the event of an accident. The next year, the new *Impact Assessment Act, 2019* dropped SMRs designed to produce less than a threshold level of power from the list of projects automatically requiring an upfront impact assessment. [22]

The "expected results" listed in the 2018 Roadmap report included the claim that "one or more SMR demonstration" (sic) would be "constructed and in operation in Canada by 2026" and "the first commercial deployment by 2030."

Next, in December 2020, Canada's Minister of Natural Resources released the Action Plan for SMRs, which responds to the 53 recommendations set out in the Roadmap and lists seven principles starting with the intention to act "together and within our jurisdictions and areas of authority to support the development and deployment of various SMR technologies in Canada, with first units in operation by the late 2020s." [23]

Three months later, the third official SMR report appeared. Co-published by four provincial utilities, "Feasibility of SMR Development and Deployment in Canada" outlined three strategic SMR development streams:

- **Stream 1:** A first grid-scale SMR project of about 300 MW constructed at the Darlington nuclear site by 2028, followed by up to four subsequent units in Saskatchewan, with the first unit in Saskatchewan in service in 2032.

- **Stream 2:** Two advanced SMRs developed in New Brunswick at the Point Lepreau nuclear site; an initial ARC Clean Energy demonstration unit by 2030, and Moltex Energy's "waste recycling facility and reactor, operational by the early 2030s."

- **Stream 3:** A new class of micro SMRs, with a 5 MW gas-cooled reactor project by Ultra Safe Nuclear Corporation at the Chalk River nuclear site in Ontario and "expected to be in service by 2026."

In 2022, two more government reports were published. The first, in March, was jointly published by four provincial governments. "A Strategic Plan for the Deployment of Small Modular Reactors" had the same target dates for SMR deployments in Ontario as earlier but the date for SMRs in Saskatchewan was moved back to 2034, and the SMRs for New Brunswick had a more ambitious target, with the ARC-100 design in operation by 2029, and the Moltex design having "both its spent fuel recovery system and reactor in operation by the early 2030s."

The second 2022 report, the October "SMR Action Plan Progress Update," published by Natural Resources Canada, kept the same 2026 date for the demonstration reactor at Chalk River, the 2028 date for the Darlington Reactor and the 2034 date for Saskatchewan. The operational date for the New Brunswick ARC reactor was moved back to 2030 and the Moltex project date was not specified.

The final official report with SMR implementation dates was published by the Canada Energy Regulator, a "departmental corporation and agent of the Crown." The 2023 "Canada's Energy Future" developed scenarios for a path to net zero, all projecting roughly a tripling of nuclear energy generation capacity in Canada by 2050, almost completely based on SMRs. [24] These scenarios, however, relied on unrealistic assumptions about the costs of SMRs, using costs far below the designs like Argentina's CAREM and the U.S. NuScale, [25] that were known at the time the report was written, as well as the subsequently estimated cost of the Darlington SMR, the BWRX-300.

Aside from Ontario and New Brunswick, where the public utilities already have SMRs in their development plans, in its report scenario for net-zero electricity generation the Canada Energy Regulator projected SMRs in future in six provinces currently without nuclear power on their provincial grids: Manitoba, Saskatchewan and British Columbia by 2031; PEI by 2035; Quebec by 2036; and Alberta by 2040. [26]

5. PROGRESS OF SMR DESIGNS IN CANADA

Since the Roadmap was published, 10 SMR designs have appeared in Canada and are reviewed in this report. Four designs were included in the three streams in Canada's SMR strategy, and six more have received funding from a Canadian government source, or formally engaged with Canada's nuclear regulator the CNSC, or signed a Memorandum of Understanding (MOU) with a government in Canada.

- Four SMR designs in Streams 1, 2 and 3 have proponents at existing nuclear sites:
  - o BWRX-300 at OPG's Darlington site on Lake Ontario
  - o ARC-100 and SSR-W300, which is to be paired with Moltex's WATSS, at NB Power's Point Lepreau site on the Bay of Fundy in New Brunswick
  - o Micro Modular Reactor at the Canadian Nuclear Laboratory site at Chalk River in Ontario

- Six other SMR designs have a presence in Canada:
  - o eVinci
  - o IMSR400
  - o LEUNR Micro Modular Reactor
  - o Xe-100
  - o SMR-160
  - o AP300

Table 1, below, illustrates that the operating systems, coolants, and fuels of these 10 SMR designs are different to each other and unlike Canada's CANDU design. The CANDUs currently operating in Canada use fuel made with uranium mined, processed, and fabricated within Canada. In contrast all 10 SMR designs require "enriched" uranium fuel at least partly fabricated outside Canada.

TABLE 1:
FUEL AND COOLANT CHARACTERISTICS OF CANDU AND SMR REACTOR DESIGNS

DESIGN	FISSILE MATERIAL USED IN FUEL	COOLANT
CANDU	Natural Uranium	Heavy Water
BWRX-300	Low Enriched Uranium	Light Water
ARC-100	Enriched Uranium	Molten Sodium
Moltex	Plutonium and Enriched Uranium	Molten Salt
MMR	High Assay Low Enriched Uranium	Helium
eVinci	High Assay Low Enriched Uranium	Heat Pipe (Sodium)
IMSR400	Low Enriched Uranium	Molten Salt
LEUNR	Enriched Uranium	Light Water
Xe-100	High Assay Low Enriched Uranium	Helium
SMR-160	Low Enriched Uranium	Light Water
AP-300	Low Enriched Uranium	Light Water

SMRS AND THE CANADIAN NUCLEAR SAFETY COMMISSION (CNSC) VENDOR DESIGN REVIEW

The regulation of nuclear power in Canada is carried out by the Canadian Nuclear Safety Commission (CNSC), a large agency with an annual budget of more than $200 million and more than 1,000 full-time-equivalent staff. [27] In 2022, the federal budget allocated $50.7 million over five years to the CNSC to build capacity for regulating SMRs, and CNSC staff released a 34-page project plan, "Small Modular Reactor Readiness" which notes that: "Proposed SMR designs include high temperature gas-cooled, molten-salt, liquid metal, and integral boiling and pressurized water reactors, of which the CNSC has minimal experience licensing." [28] As mentioned, historically the only reactors built in Canada have been CANDUs.

One of the services offered by the CNSC to SMR proponents is a "Vendor Design Review (VDR)." Completion of a VDR is often presented as an indicator of SMR progress. Given this common misunderstanding, it's useful to briefly clarify the role of the Vendor Design Review.

The objective of a vendor design review (VDR), "an optional service provided by the CNSC at the request of a vendor" is "to verify, at a high level, that Canadian nuclear regulatory requirements and expectations, as well as Canadian codes and standards, will be met." A VDR "does not certify a reactor design." Further, a VDR "is not required as part of the licensing process for a new NPP,

and its conclusions do not bind or otherwise influence decisions made by the Commission." [29]

To date, eight of the 10 SMR designs in this report have engaged with the Vendor Design Review (VDR) process. CNSC offers the VDR as an optional pre-licensing service in three phases.

VDRs are an income source for the regulator: CNSC charges a fee to put an SMR design through the VDR process. In return, the vendors receive from CNSC staff "feedback early in the design process" and often a statement in the VDR summary report suggesting that the design is ready to proceed to licencing.

In many VDR summary reports we have examined, we found two ambiguous phrases that appear before or after sometimes lengthy lists of safety or technical issues with the design. The phrases are: "Notwithstanding the above, these issues are foreseen to be resolvable" and "CNSC staff did not identify any fundamental barriers to licensing." In their promotional materials, many SMR vendors used completing the CNSC's VDR as a significant milestone of progress of their design.

One of these two phrases is included in the VDR summary reports for all the SMR designs that have completed the CNSC review:

- BWRX-300 [30]
- ARC-100, [31, 32]
- Moltex SSR-W300 [33]
- Micro Modular Reactor [34]
- IMSR400, [35, 36]
- Xe-100; [37] and
- SMR-160 [38]

Such statements in the VDR reports suggest that the design is ready to proceed to licencing. In our assessment, these CNSC statements are misleading, and completing a VDR is not a useful indication of how far an SMR design has progressed toward being actually deployed. Further, SMR proponents are using these statements from the CNSC to promote their designs in a way that could also mislead potential investors. We mention examples of this practice in the SMR design reviews in this section.

SMR DESIGN FOR THE DARLINGTON NUCLEAR SITE IN ONTARIO (STREAM 1)

BWRX-300

Level of financing achieved for the BWRX-300 design in Canada:
The BWRX-300 project received $3.025 billion from the federal government and $1 billion from the Ontario government. There are no reports of private sector investment in this design in Canada, despite significant promotion efforts. [39]

This total funding amount of $4.025 represents a shortfall of more than $2 billion from the projected $6.1 billion cost of the first reactor. That cost does not include $1.6 billion for the common support infrastructure on site for the proposed four BWRX-300 reactors.

Currently, there are no other orders for the BWRX-300 design in Canada.

Current status of BWRX-300 development in Canada:
Ontario Power Generation (OPG) received a licence to construct one BWRX-300 reactor in April 2025. While workers had started excavating the 38-metre-deep hole, concrete had not been poured onto the ground for the construction as of March 2026. An update from OPG for winter 2026 announced: "Excavation work on the Unit 1 Reactor Building shaft has reached 87 per cent completion... Once the Reactor Building shaft is wholly excavated, the fully assembled Basemat will be lifted by heavy crane and placed at the bottom of the shaft in Summer 2026." [40]

Details: The BWRX-300 design is the government's SMR strategy Stream 1: "a first grid-scale SMR project of about 300 MW constructed at the Darlington site by 2028, followed by up to four subsequent units in Saskatchewan, with the first unit in Saskatchewan in service in 2032." [41]

According to the International Atomic Energy Agency (IAEA), which uses concrete poured onto

the ground as a marker of reactor construction start, as of March 2026, construction has not yet begun for the Darlington SMR. [42]

The SMR design is developed by GE Vernova Hitachi Nuclear Energy, a global consortium headquartered in Wilmington, North Carolina with offices in Canada and several other countries. The GE Vernova Hitachi design was selected in preference to designs developed by two other SMR vendors, Terrestrial Energy and X-energy. [43] When OPG announced that it was selecting the BWRX-300 design in December 2021, it projected the reactor could "be completed as early as 2028." [44]

Construction of the reactor will involve two major companies besides OPG and GE Vernova Hitachi Nuclear Energy: SNC-Lavalin (now named AtkinsRéalis) and Aecon. According to a six-year alliance agreement signed in 2023, OPG will be the license holder and maintain project responsibility. GEH will provide the design and other activities. Montreal-based multinational AtkinsRéalis will be the architect engineer. Toronto-based Aecon Group will provide all construction services. [45]

Previously, in October 2022, the federal government's Canada Infrastructure Bank had provided OPG with CAD 970 million (US $708 million) to prepare the site for the reactor. [46] The same month OPG applied for a licence to construct one BWRX-300 on the Darlington site, although OPG is planning to build four. [47]

In its licence application, OPG argued that the impact assessment the CNSC approved in 2009 for four large reactors that were never built would also cover the potential impacts of the BWRX-300 reactor. Civil society groups objected to allowing OPG to proceed in this fashion, highlighting several "weaknesses and gaps" inherent in using the older environmental assessment [48] to evaluate the new project proposal, and called for a new environmental assessment. Some groups also noted that the environmental assessment review panel had explicitly excluded a boiling water reactor design – the design used by the BWRX-300 – from its consideration. In April 2024, the CNSC decided that the existing environmental impact assessment was applicable to the BWRX-300 reactor. [49] Earlier in October 2021, the CNSC had already renewed OPG's nuclear power reactor site preparation licence until October 2031. [50]

In April 2025, CNSC approved the application to construct the design, authorizing OPG to construct one BWRX-300 reactor at the Darlington site. [51] The CNSC did not require a fully realized design specification before granting the construction licence. [52] At that time, according to the developers, "construction of the first unit will be complete by 2030." [53] The next CNSC authorization, after OPG submits an application for a "License to Operate" will require the fully realized design reviewed by a future licensing hearing and public process.

In May 2025, the Ontario government approved OPG's plan to spend CAD 7.7 billion (US $5.6 billion) to construct the first BWRX-300 unit, which includes CAD 6.1 billion (US $4.5 billion) for the actual unit and an additional CAD 1.6 billion (US $1.2 billion) "on common infrastructure such as administrative buildings and cooling water tunnels the new reactor will share with three additional BWRX-300s to be built later."

If OPG goes ahead with the remaining three units, the total estimated cost for the project is CAD 20.9 billion (US $15.3 billion). [54] In March 2025, OPG had received $55 million from the federal government to support predevelopment activities for these additional units.

The SMR project infrastructure includes more than three kilometers of tunnels with a diameter of more than six metres for the water cooling system, made with a bespoke tunnel boring machine manufactured in Europe for the Darlington project. [55]

In September 2025, the Prime Minister of Canada announced that the BWRX-300 project, now called the "Darlington New Nuclear Project" would be one of the first projects sent to the new Major Projects Office to be considered as a "Project of National Interest." [56] The announcement stated:

> **"This project will make Canada the first G7 country to have an operational small modular reactor (SMR), accelerating the commercialization of a key technology that could support Canadian and global clean energy**

needs while driving $500 million annually into Ontario's nuclear supply chain. Once complete, Darlington's first of four planned SMR units will provide reliable, affordable, clean power to 300,000 homes, while sustaining 3,700 jobs annually, including 18,000 during construction, over the next 65 years. The project has the potential to position Canada as a global leader in the deployment of SMR technology for use across the country and worldwide."

The following month, in October 2025, the federal and Ontario governments combined announced a combined $3 billion in new subsidies for the project through an "equity commitment agreement." Under the agreement, the Canada Growth Fund Inc. is taking a 15% ownership in the project and the Building Ontario Fund is taking 7.5% ownership. [57]

SMR DESIGNS FOR THE POINT LEPREAU NUCLEAR SITE IN NEW BRUNSWICK (STREAM 2)

Stream 2 of Canada's SMR strategy includes: "two advanced SMRs developed in New Brunswick, an initial ARC Clean Energy demonstration unit by 2030, and Moltex Energy's waste recycling facility and reactor, operational by the early 2030s." [58]

As described, the word "advanced" refers to the use of coolants other than water to remove heat from the reactor core. The ARC design is to be cooled by molten sodium, and the Moltex design is cooled by molten salt. Each reactor design in Stream 2 also uses an unconventional type of fuel. Both these designs have serious problems that have been documented extensively. [59]

New Brunswick's vision was to work with both nuclear start-up companies to build a new industry in the province – a supply chain for advanced nuclear reactors – while also developing the two SMR designs as an advanced reactor demonstration project at NB Power's Point Lepreau nuclear site.

In February 2020, Canadian Nuclear Laboratories and NB Power signed a Memorandum of Understanding (MOU) to "pursue collaboration opportunities in nuclear research, including the development of small modular reactor (SMR) technology in New Brunswick." [60]

In November 2020, NB Power signed an MOU with the two SMR vendors to establish a SMR vendor cluster in New Brunswick [61] From the NB Power media release:

> **"Since 2018, NB Power has been working with ARC Canada and Moltex Energy to advance stream 2 of the Pan-Canadian small modular reactor (SMR) approach. Stream 2 is Generation IV Grid sized SMR technology. The advanced SMRs are being developed for use in Canada and internationally. The parties are working towards establishing New Brunswick as the hub for supply chain and technical support. Both of these companies are developing complementary technologies and each of their designs offers passive, inherent safety features with both reactors, in different ways, contributing to addressing used nuclear fuel."**

In June 2022, New Brunswick Energy Minister Mike Holland hosted the Advanced Small Modular Nuclear Reactor Supply Chain Event in Saint John with more than 100 delegates from across Canada and several from Europe. [62]

However, three years later, in October 2025 after both the ARC and Moltex designs had failed to secure private investment, New Brunswick Energy Minister René Legacy, successor to Mike Holland, told CBC that: "expanding nuclear power generation in the province quickly is more important than spending more time and more taxpayer dollars chasing a surge in economic activity through locally made reactors," and that New Brunswick could consider the BWRX-300 design at Darlington "rather than waiting for reactors from ARC Clean Energy or Moltex, two companies that had planned to build at Point Lepreau. ... [because] we really don't want the first of a kind. New Brunswick is not in a position to take that kind of a risk." [63]

In total, the two reactor designs and associated supporting activities have received $129,945,378 in public funds for SMR activities in the province from federal and provincial governments. This amount includes federal funds to support the

New Brunswick supply chain cluster for a total of $37,596,655 to five organizations: NB Power, University of New Brunswick, North Shore Mi'kmaq Tribal Council, Opportunities New Brunswick and the Organization of Canadian Nuclear Industries.

Details of the two reactor designs in Stream 2 of the SMR strategy are below.

ARC-100

Level of financing achieved for the ARC-100 design in Canada:

The ARC-100 project received $25 million from the New Brunswick government and $7 million from the federal government. There are no reports of private sector investment or orders for the design in Canada.

Current status of ARC-100 development in Canada:

In June 2023, the proponent NB Power applied to the province of New Brunswick for a provincial environmental impact assessment (EIA) and to the CNSC for licence to prepare the site for one ARC-100 reactor. A comprehensive provincial EIA has been in progress since that date. The New Brunswick government department conducting the assessment sent NB Power the final EIA guidelines for comment in November 2023, but NB Power has not responded.

Given the October 2025 announcement by the New Brunswick Energy Minister to the effect that the government was not prepared to wait for the ARC-100 reactor, the future of ARC-100 in New Brunswick seems quite uncertain.

Details: The ARC-100 proponent is NB Power, New Brunswick's public utility with the Point Lepreau nuclear site on the Bay of Fundy. The SMR design is owned by ARC Clean Technology, a U.S. start-up company with offices in Washington, DC, and Saint John, New Brunswick.

The ARC-100 design is a 100 MWe sodium-cooled fast reactor, using HALEU fuel (High-Assay Low-Enriched Uranium) which is fabricated in only in a few countries. Russia, the biggest supplier of HALEU, is subject to economic sanctions, and supplies of the fuel elsewhere are limited. In February 2026, the chief executive of Centrus Energy, one of the largest suppliers of enriched uranium fuel to US nuclear power plants, warned policy makers "of a looming supply crunch because of fast-rising demand and a ban on Russian imports." [64]

The ARC start-up company arrived in New Brunswick in 2018 at the invitation of the Government of New Brunswick, which gave the company [65] a $5 million grant and assistance to set up in the province and apply for federal funding. Over the next several years, the provincial government gave another $20 million to the company and in 2023 the federal government added $7 million, [66] for a total of $32 million in public funds for this design to date.

In July 2022, ARC entered a "collaboration agreement" with Canadian Nuclear Laboratories for work "to advance the fuel development and manufacturing processes to produce fuel for ARC Canada's advanced small modular reactor technology." [67]

In March 2023, the ARC company signed an MOU with the Government of Alberta to "jointly pursue activities to support commercialization of ARC's advanced Small Modular Reactor ("aSMR") technology, the ARC-100, in the province of Alberta." [68]

In June 2023, NB Power applied to the CNSC for a license to prepare the Point Lepreau nuclear site for SMR development, the first phase of its plan to construct and operate the ARC-100 by the early 2030s. [69] At the same time, NB Power applied to the Government of New Brunswick for an Environmental Impact Assessment (EIA).

In October that year, NB Power, ARC Clean Technology and Korea Hydro and Nuclear Power Company (KHNP) signed a Memorandum of Understanding "to explore collaboration opportunities for the commercialization of ARC's advanced SMR technology in Canada, Korea, United States and other jurisdictions

where KHNP has business operations." [70]

Eight months later, in June 2024 the CEO of ARC Clean Technology suddenly left the company, and other staff received layoff notices, raising questions about the company's future. [71]

The ARC-100 design completed the CNSC's optional pre-licence vendor design review phase 1 in October 2019 and phase 2 in July 2025. The CNSC comments to the completed the phase 2 review included the familiar phrase "no fundamental barriers to licensing" but identified a requirement "to perform additional work to address" eight "technical clarifications and findings" if the company or another proponent were to "pursue future VDR work or licence application reviews." [72] The CNSC identified challenges that could pose safety risks if not addressed; for example, the "effectiveness of the proposed means of reactor control and shutdown."

After completing the CNSC phase 2 review for the ARC design, the company embarked on another fundraising round. The former ARC CEO had said the company would need $500 million to develop the ARC-100 design and another $600 million in power purchase agreements to move the project forward. For this new fundraising round, the company highlighted the CNSC phrase in the summary report, "no fundamental barriers to licencing" to signify a technical milestone. A spokesperson said the VDR review gave the company "new 'global credibility' in a race to market" and they planned to finish the design work by 2027 for a target commercial deployment in early 2030s." [73]

Three months later, as mentioned earlier, in October 2025, New Brunswick's energy minister said the province did not want to wait for the ARC SMR because "we really don't want the first of a kind. New Brunswick is not in a position to take that kind of a risk." [74] In January 2026, the ARC company said its recent fundraising round was successful, but no dollar amount or proponent was announced. [75]

MOLTEX SSR-W300 AND WATSS

Level of financing achieved for the Moltex design in Canada:
The Moltex company received $6.5 million from the government of New Brunswick, $1 million from Ontario Power Generation, and $53,166,667 from the federal government to develop its SSR-W300 design and WATTS reprocessing technology. There are no reports of private sector investment or orders in Canada.

Current status of Moltex SSR-W300 and WATSS development in Canada:
The proponent NB Power has not applied for a licence to prepare the site for the Moltex reactor. In March 2025, the Moltex company reported it "successfully validated" its fuel reprocessing technology in collaboration with Canadian Nuclear Laboratories and later announced that "both the SSR-W reactor and the fuel reprocessing process have completed a 'proof-of-concept'" phase." [76]

Given the October 2025 announcement by the New Brunswick Energy Minister to the effect that the government was not prepared to wait for Moltex's reactor, the future of Moltex in New Brunswick seems quite uncertain.

Details: The Moltex SSR-W300 proponent is NB Power, New Brunswick's public electrical utility and owner of the Point Lepreau nuclear site on the Bay of Fundy.

The SSR-W300 design, a 300 MWe molten salt reactor, is owned by Moltex Clean Energy, a U.K. start-up company now based in Saint John, New Brunswick and Wilmington, Delaware.

Moltex is also proposing what it calls WATSS (Waste to Stable Salts), a system that would reprocess used nuclear fuel from CANDU reactors to extract plutonium for use as fuel in its SSR-W300 design. Extracting plutonium from used fuel generated by nuclear power plants has never been done commercially in Canada. [77]

Moltex arrived in New Brunswick in 2018, at the same time as ARC and also at the invitation of the Government of New Brunswick. Like ARC, New Brunswick gave Moltex a $5 million grant and assistance to set up in the province and apply for federal funding.

In April 2020, Canadian Nuclear Laboratories entered into an agreement with Moltex for "work to support aspects of Moltex Energy's nuclear fuel development program for its Stable Salt Reactor, a 300 MW small modular reactor (SMR) design." [78] Information about the value and scope of that work is not publicly available.

In March 2021, the federal government awarded Moltex a $50.5 million grant from its Strategic Innovation Fund and Atlantic Canada Opportunities Agency, a contribution to develop its "Wasteburner" reactor and "WATTS" process that could "lead the way in establishing a first-of-its-kind, world-class non-emitting-energy system for Canada and the world." [79]

In the same funding announcement, the federal government awarded $4,999,568 to NB Power and $561,750 to the University of New Brunswick to support the Moltex project development. The same month, Ontario Power Generation announced a $1 million contribution to Moltex for design development. [80]

Two months later, in May 2021, the SSR-300 design completed CNSC's optional pre-licence vendor design review (phase 1). In the review report, CNSC staff identified several areas where Moltex is still lacking and several potential problems about the safety. Problems included inadequate quality assurance programs, the absence of a secondary control room in the design, and the reliability of shutdown systems. After the lengthy list of issues requiring additional follow-up, the CNSC report included the familiar phrase: "Notwithstanding the above, these issues are foreseen to be resolvable." [81]

The same month, nine distinguished U.S. non-proliferation analysts wrote an open letter addressed to Canada's Prime Minister Justin Trudeau. The letter expressed concern that by "backing spent-fuel reprocessing and plutonium extraction, the Government of Canada will undermine the global nuclear weapons non-proliferation regime that Canada has done so much to strengthen." The U.S. analysts followed that letter with two more to the Prime Minister in 2021 expressing additional concerns and requesting a proliferation assessment of the Moltex proposal. [82]

The first letter and reprocessing controversy featured in a lengthy article in Canada's national newspaper, *The Globe and Mail*. [83] The letter and the news article were widely circulated within the CNSC, Natural Resources Canada and other federal government departments, prompting many questions and meetings about reprocessing within the federal public service. [84]

In February 2023, Moltex announced that the company would need $500 million to develop its project, and more than half the amount would be required from public funds. At that time, the company claimed the WATSS reprocessing unit would be built first by 2030 and the SMR built a few years later. [85]

In January 2025, the federal Atlantic Canada Opportunities Agency awarded Moltex $2,666,667 to "Demonstrate the WATSS technology using spent CANDU fuel." [86] In March 2025, the Moltex company reported it "successfully validated" its fuel reprocessing technology in collaboration with Canadian Nuclear Laboratories and later announced that "both the SSR-W reactor and the fuel reprocessing process have completed a 'proof-of-concept' phase." [87]

In April 2025, Moltex signed a service letter agreement with the Canadian Nuclear Safety Commission for its WATSS process, to obtain feedback on the safety, security and safeguards, and "allow the CNSC to facilitate engagement with the International Atomic Energy Agency to ensure that the WATSS facility and associated fuel cycle will be compatible with the application of international obligations under the treaty on the non-proliferations of nuclear weapons." [88]

The same month, Moltex admitted to financial problems because its U.K.-based parent company faced "a risk of insolvency." [89] In the past, the

company had resorted to crowd funding to raise funds necessary to operate, [90] and there are reports that the parent company is doing so currently. [91]

Several months later, in July 2025, the former Moltex CEO sued the company for wrongful dismissal. The lawsuit "has resulted in Moltex revealing details of a financial struggle that saw it cut staffing levels by more than a quarter roughly two years ago." [92] Because of the lawsuit, the British company's shareholders reportedly "would not approve the Canadian subsidiary's fundraising efforts, effectively stalling the company's efforts to prove its proposed technology." [93]

As mentioned, in October 2025, New Brunswick's energy minister said the province did not want to wait for the Moltex SMR because New Brunswick does not want to take the risk. [94]

SMR DESIGN FOR THE CHALK RIVER NUCLEAR SITE IN ONTARIO (STREAM 3)

MICRO MODULAR REACTOR

Level of financing achieved for the MMR design in Canada:
There are no reports of public financing for the MMR design, although the project was owned by a joint venture, one of whose members was the public utility Ontario Power Generation. When one of the companies involved, Ultra Safe Nuclear Corporation, applied for bankruptcy protection in the U.S. in October 2024, it owed more than US $16 million to various entities, including US $641,307 to the Canadian Nuclear Safety Commission. [95]

Current status of MMR development in Canada:
In December 2024 a startup company called Nano Nuclear in New York acquired the patent for the Micro Modular Reactor design and in April 2025 announced its intention to construct a demonstration reactor in Canada and enter the CNSC licencing process. As of March 2026, it has not done so.

Details: The Micro Modular Reactor was to be part of Stream 3 of Canada's SMR strategy, which described it as "a new class of micro SMRs", and as "a 5 MW gas-cooled reactor project… underway at the Chalk River site in Ontario and expected to be in service by 2026." [96]

Chalk River is Canada's federally-owned nuclear research centre, located on the Ottawa River about 180 km upstream from Canada's capital city. The research centre is run by Canadian Nuclear Laboratories (CNL), a private-sector consortium currently comprised solely of U.S. companies. At the time the MMR project was active, CNL was run by two U.S. companies and the Montreal-based engineering multinational SNC Lavalin (now AtkinsRéalis).

The Micro Modular Reactor (MMR) design, a 15 MW thermal (5 MWe) reactor, was owned by a joint venture involving Ultra Safe Nuclear Corporation (USNC), Ontario Power Generation, and a company called Global First Power based at Chalk River. In a sign of the corporate complexity proponents resorted to, Global First Power itself has been described as "a joint venture partnership owned by Ontario Power Generation and USNC Power, the Canadian operating arm of the US based Ultra Safe Nuclear Corporation." [97]

The MMR is a gas cooled reactor, and the operational history of commercial gas cooled reactors has been underwhelming. [98] The net electricity demand from remote mines and communities would be insufficient to develop the facilities needed to manufacture SMRs, and the costs of the electricity generated by any reactor small enough to power a remote mine or community would be prohibitively high. [99]

For many years, the MMR project was expected to be the first SMR to be built in Canada. It was intended to be "a commercial demonstration reactor" and "a model… to provide safe and sustainable low-carbon power and heat to industries, such as mining, and remote communities." [100] This idea of a small reactor for remote locations aligns with the 2018 SMR Roadmap, which referred to "three potential applications for SMRs in Canada: on grid, heavy industry, and remote communities" and multiple designs to meet these "different energy demands." [101]

Canadian Nuclear Laboratories (CNL) was the instigator of the MMR project. In its 2017 Long Term Strategy, CNL set a goal for an SMR on a site managed by CNL before 2030. [102] In April 2018, CNL issued an "invitation to site the first SMR," [103] and an update in June about the "strong interest" shown by four SMR proponents." [104] It finally decided on the companies mentioned above.

The USNC MMR design completed CNSC's optional pre-licencing vendor design review (phase 1) in February 2019. In the VDR report, after a lengthy list of design and safety issues identified in the review, the CNSC included the familiar phrase: "Notwithstanding the above, these issues are foreseen to be resolvable and will be followed up on in future VDRs." [105]

In March 2019, Global First Power applied to the CNSC for a license to prepare the site. [106] In July that year, Canadian Nuclear Laboratories announced the "Notice of Commencement for Canada's first proposed SMR project," [107] when the proponents submitted their project description to the Impact Assessment Agency (IAAC). [108]

In February 2020, CNL entered into an agreement with a USNC subsidiary to "include research related to the manufacturing of USNC's proprietary Fully Ceramic Microencapsulated (FCMTM) fuel, designing an irradiation program for USNC's graphite core, and the establishment of a functional laboratory for fuel analysis at CNL's Chalk River campus." [109] Later that year, CNL and USNC signed a formal agreement to "work co-operatively with respect to licensing, design, siting and other matters to support advancement of the project" at the Chalk River site. [110]

The following year, in April 2021, CNL announced it had "successfully fabricated Fully Ceramic Microencapsulated (FCMTM) fuel pellets, an advanced and proprietary reactor fuel designed by Ultra Safe Nuclear Corporation (USNC) for their Micro Modular Reactor (MMRTM)." [111]

By May 2021, CNL and AECL were congratulating Global First Power after its site preparation licence application to CNSC "is now moving on to formal licence review." [112]

All that enthusiasm seems to have come to nought. The CNSC webpage for the licence application currently states: "CNSC staff have paused all work related to the environmental assessment and the application review for the licence to prepare site as of August 2024," and lists the project as "paused." [113]

The pause was presumably a result of Ultra Safe Nuclear Corporation (USNC) announcing in February 2024 that it was involved in "a reduction of USNC staff and the concentration of efforts on selected markets and customers" because "only a subset" of potential customers for the reactor design "have shown the resolve to incorporate advanced reactors in the near term." [114]

The company followed this in October 2024 by filing a Chapter 11 petition (bankruptcy protection). [115] According to one document submitted to the Bankruptcy Court in the U.S. state of Delaware, USNC and its subsidiaries owed more than US $16 million to various entities, including US $641,307 to the Canadian Nuclear Safety Commission. [116]

In December 2024, another U.S. startup company called Nano Nuclear, based in New York, acquired the patent for the Micro Modular Reactor design and another reactor technology and associated intellectual property rights for US $8.5 million [117] Some months later, Nano Nuclear announced it "is actively preparing to construct a KRONOS demonstration reactor in Canada, where it will enter the licensing process under Canadian Nuclear Safety Commission (CNSC) oversight." [118] As of March 2026, it had not done so.

OTHER SMR DESIGNS IN CANADA

As mentioned earlier in the report, 10 SMR designs are included in this report because they have or had a presence in Canada: they were explicitly mentioned in Canada's SMR strategy, or received funding from a Canadian government source, or formally engaged with Canada's nuclear regulator, or signed a Memorandum of Understanding (MOU) with a government partner in Canada, or a combination of these. [119]

The four designs previously discussed were referenced in Canada's SMR strategy: the BWRX-

300, ARC-100, Moltex SSR-W300 and WATSS, and Micro Modular Reactor. These four collectively received $4,117,666,667 in public funding.

The final six SMR designs collectively received $55,864,500. The six are reviewed below in order of the amount of public funding awarded directly to the vendor of the SMR design, with the last two designs receiving no funding:

- $27,219,000 in federal funding to Westinghouse Electric for its eVinci design
- $25,032,500 in federal funding to Terrestrial Energy for its IMSR400 design
- $3,140,000 in federal funding to Canadian Space Mining Corporation for its LEUNR MMR design
- $473,000 in provincial funding from Alberta to X-energy for a study of its Xe-100 design
- $0 to Holtec for its SMR-160 design
- $0 to Westinghouse Electric for its AP300 design

In addition to the direct funding to the SMR design vendor above, other organizations received public funds to support the development of several of these designs. For example, the Saskatchewan government announced $80 million to the Saskatchewan Research Council to operate the first eVinci reactor in Canada.

eVINCI

Level of financing achieved in Canada:

Westinghouse Electric's eVinci design received one federal grant for $27,219,000 from the Strategic Innovation Fund. There are no reports of private financing or orders for the reactor in Canada.

Current status of eVinci development in Canada:

The eVinci design is currently being studied at the University of Saskatchewan (and possibly also at the Saskatchewan Research Council) but the Westinghouse Electric company's website states that "all eVinci staff" are working "under one roof" at a single site in the United States. [120]

Details: The eVinci design, a 5 MWe solid core heat pipe reactor, is owned by Westinghouse Electric Company LLC, with dozens of offices around the globe including several in Ontario. Since 2023, Westinghouse has been owned by Canadian companies Brookfield and Cameco. [121]

In March 2020, Westinghouse announced that the U.S. Department of Defense was funding the development of its eVinci reactor as a "mobile nuclear reactor prototype project" allowing for "operations via a mobile platform utilizing standard military transportation." [122]

In March 2022, the Canadian government (Innovation, Science and Economic Development Canada) gave the Westinghouse Ontario office $27.2 million to develop the eVinci reactor, the third grant to an SMR vendor from its Strategic Innovation Fund (SIF). The SIF program was intended to "provide an opportunity to generate non-emitting energy for communities while attracting investments in Canadian businesses and creating jobs for Canadian workers." [123] But as mentioned earlier, according to Westinghouse's website, all its staff working on the eVinci are in the United States.

In May 2022, Westinghouse signed a Memorandum of Understanding (MOU) with the Saskatchewan Research Council to "jointly develop a project to locate an eVinci micro-reactor in Saskatchewan for the development and testing of industrial, research, and energy use applications." [124]

The next year, Westinghouse applied to the Canadian Nuclear Safety Commission for eVinci design to undergo the optional pre-licence vendor design review (phase 2) in June 2023. The assessment remains "in progress."

In November 2023, the Government of Saskatchewan announced $80 million in funding to the Saskatchewan Research Council (SRC) to "operate the first-ever eVinci™ microreactor in Canada" and "support licensing and other work for the project, which is scheduled to be completed in 2029." [125] This was followed by a SRC announcement in December to collaborate with a university in UAE for further research to identify potential industrial applications for microreactors. [126] However,

on the SRC website, the most recent news item mentioning the eVinci is from two years ago.

In April 2025, Westinghouse signed a Memorandum of Understanding (MOU) with a different research organization in the province, the University of Saskatchewan, to collaborate on a study of the "economic analysis of the benefits and opportunities an eVinci microreactor could bring if deployed in remote communities to provide reliable and resilient power and heat." [127]

As noted in the earlier discussion of the Micro Modular Reactor, an evaluation published in 2020 of the net electricity demand from remote mines and communities found that these markets are insufficient to develop the facilities needed to manufacture these SMRs. [128]

The Westinghouse eVinci website currently features photographs of a heritage building in Etna, Pennsylvania, described as "our eVinci microreactor accelerator and standalone technology hub," that will "bring together all eVinci staff under one roof" and "has enough square footage to host all our manufacturing" and "will be the key facility for manufacturing all heat pipes for the nuclear demonstration unit as well as commercial units in the future." It seems clear that Westinghouse intends the eVinci design development to occur in the U.S. [129]

In May 2024, the Montreal-based company Prodigy Clean Energy partnered with Westinghouse to develop a barge that could house up to two eVinci reactors to make a "floating nuclear power plant to serve remote Indigenous communities." [130] A few months later, the federal government awarded the Prodigy company $2,750,000 to "support research and development to enable transportable nuclear power plants as part of the SMR supply chain." [131] There are no orders for the eVinci in Canada.

IMSR400

Level of financing achieved for the IMSR400 design in Canada:

From 2016 to 2023, Terrestrial Energy received a total of $25,032,500 in federal funding from three government sources: Industry, Science and Economic Development Canada, Sustainable Development Technology Canada and the National Research Council, to develop the IMSR400 design. There are no indications of private sector financing or orders for the design in Canada.

Current status of IMSR400 development in Canada:

After 2023, the Terrestrial Energy website has no more news releases featuring the IMSR design in Canada. All of the significant updates in Terrestrial Energy's 2026 Shareholder Letter pertained to the United States. [132]

Details: The IMSR400 design, a 200 MWe molten salt reactor, is owned by Terrestrial Energy Inc., a company with offices in Oakville, Ontario and Charlotte, North Carolina. For some years, the company also had an office in Calgary.

Somewhat similar to the Moltex design, the IMSR400 is a molten salt reactor; the challenges of molten salt reactors have been documented at length by U.S. nuclear laboratories like Oak Ridge and the U.S. Atomic Energy Commission. [133]

Terrestrial Energy was the first SMR vendor to receive significant grants from the federal government: $5.7 million in March 2016 from Sustainable Development Technology Canada [134] and $349,500 in November 2016 from the National Research Council of Canada. [135] The previous year, its Chief Executive expressed the hope that their design would be "up and running and connected to the grid by early next decade." [136]

In September 2020, Canadian Nuclear Laboratories announced a "collaboration agreement" with Terrestrial Energy "to develop and test techniques

to track the behaviour of the proposed liquid fuel that would be used in Terrestrial Energy's IMSR design." [137] Information about the value and scope of that work is not available to the public.

The next month, the federal government (Innovation, Science and Economic Development Canada) gave Terrestrial Energy an additional $18.9 million, the first grant to an SMR vendor from its Strategic Innovation Fund. [138] Also in October 2020, Ontario Power Generation named the Terrestrial Energy SMR design as one of the three contenders for its SMR project for the Darlington site. [139] But instead of the Ontario based company's design, OPG selected the BWRX-300 design in December 2021.

In July 2022, the company signed an MOU with Invest Alberta and then in March 2023, set up "an engineering, research and development office" in Calgary, where the company was "drawn by the province's low corporate tax rate, business-friendly environment and the large number of international companies in the region." [140]

Shortly after opening up its Calgary office, the company received the first of its final two federal grants, also from the National Research Council. In 2023, the $30,000 funding came from a Youth Employment Program to support a "new hire" to "perform compile, normalize, and analyze industrial data regarding power plants [that will] inform business and technical decisions regarding IMSR deployment, particularly in the context of re-powering coal-fired plants with generation IV nuclear technology." [141]

The IMSR400 design completed the CNSC's vendor design review phase 1 in November 2017 and phase 2 in April 2023. In the phase 2 report, the CNSC identified a number of issues to be addressed, including: "the capability and effectiveness of the proposed means of reactor control and shutdown needs to be further demonstrated; safety analyses demonstrating the effectiveness of passive safety systems, particularly the internal reactor vessel auxiliary cooling system (IRVACS), need to be performed." The CNSC report included the familiar phrase "No fundamental barriers to licensing were identified within the completed review of the topical areas as part of the phase 2 VDR." [142]

Several months after the VDR review completion, in August 2023, Terrestrial Energy signed a contract with Westinghouse, with support of GBP 2.9 million (US $3.8 million) from the U.K. government, to provide services or explore development in the United Kingdom. The media release announcing the contract quoted Canadian Nuclear Safety Commission's misleading phrase from VDR report to promote the reactor:

> **"In April 2023, the Canadian Nuclear Safety Commission (CNSC) concluded, following a systematic and multi-year review against Canadian regulatory requirements, that there were no fundamental barriers to licensing the IMSR plant for Canadian commercial use. This was the first regulatory review of a commercial nuclear plant using molten salt reactor technology and the first advanced, high-temperature fission technology to complete a review of this type."** [143]

In September 2024, Terrestrial Energy received its final funding in Canada, $30,000, again from the Youth Employment Program, to "analyse and present data about market needs" to maintain "an accurate understanding of the state of the market and need for both grid electricity and industrial heat is an important part of ensuring successful planning and strategy for IMSR deployment. This becomes more important as we approach the customer agreement phase of deployment." [144]

The company is currently active in the U.S. After 2023, the Terrestrial Energy website has no more news releases featuring the IMSR design in Canada. As mentioned, all significant updates in Terrestrial Energy's 2026 Shareholder Letter pertained to the United States.

LEUNR MICRO MODULAR REACTOR

Level of financing achieved in Canada:
In total, the LEUNR design has received $3.14 million from three federal government sources: Canadian Space Agency, Department of National Defense and National Research Council. There are no reports of private sector financing or orders for the design.

Current status of LEUNR MMR development in Canada:
The LEUNR appears to be the only SMR design owned by a company that does not have an office outside Canada. The authors of this report could find no reports of design developments. This company is currently one 20 selected to be part of NATO's Defence Innovation Accelerator for the North Atlantic (DIANA) program with contracts due to begin in 2026.

Details: The LEUNR (Low Enriched Uranium Nuclear Reactor) is proposed by a Toronto-based start-up, Canadian Space Mining Corporation (renamed Canadian Strategic Missions Corporation in 2025). There is no information about the LEUNR MMR design on the company's website. [145] But, in June 2024, SpaceQ Media Inc., a media and market intelligence company, reported that the design was based on the Slowpoke-2, an old reactor design based on enriched uranium fuel, originally developed by Atomic Energy of Canada Limited. [146] This fits with the description offered on the Canadian Strategic Missions Corporation: "an evolution of an iconic Canadian research reactor." [147] The website also claims that the company is "on track to demonstrate by 2029, and to deploy at scale thereafter."

In February 2023, the design received $1 million from the Canadian Space Agency's Space Technology Development Program that supports innovation to grow the Canadian space industry and support future space missions. [148]

The motivation for the reactor was laid out by the CEO of the company who claimed to be interested in commercializing the technology "for people living and working on the moon... We put together a plan for Canada to put a reactor on the moon, well ahead of any international competitors... That drew us, very early on, to the SLOWPOKE, which was right in line with the power scales needed by NASA and the international community... I reflected back on the 15 years that I'd spent in real estate, and I wasn't really sure what it achieved ... I worked on $4.5 billion in deals, and investors made money, and there was some small-scale impact, but I realized that I wanted to have impact at planetary scale." [149]

In April 2025, the Department of National Defence awarded the company $1 million from its Innovation for Defence Excellence and Security program to "support innovations and concepts that advance NORAD modernization science and technology (S&T) to future-proof North America's defence against aerospace and maritime threats." [150]

In July 2025, the Canadian Space Agency gave the company another $1 million to develop its SMR design and in August 2025, the National Research Council added $140,000 to the project.

Until December 2025, the company was known as Canadian Space Mining Corporation but changed its name that month to Canadian Strategic Missions Corporation to reflect the shift in focus to "dual-use ... technology that can be practically applied in both space and on Earth, as well as by civilians and the military." [151] The rebrand followed Prime Minister Mark Carney's promise that Canada would spend five percent of its GDP on defence by 2035, and allocating over $80 billion to defence in budget 2025.

At that time, the company clarified that the LEUNR did have a "licencing sheet" from Canadian Nuclear Laboratories, but that CNL did not transfer the SLOWPOKE-2 licence to the company.

The company's "Remote monitoring for Micro Modular Reactors (MMRs)" project is currently included in NATO's Defence Innovation Accelerator for the North Atlantic (DIANA) program with contracts due to begin in 2026, to develop "dual-use (civilian and military) technology for ten different defence and security challenges." [152]

XE-100

Level of financing achieved in Canada:
The Alberta government gave X-energy $473,000 in 2024 to study converting a thermal energy plant to its Xe-100 SMR. This seems to be the only public funding received in Canada. There are no records of private sector financing or orders for the design in Canada.

Current status of Xe-100 development in Canada:
The reference on the company website to the Alberta contract is the last posting about activities in Canada. All the other news on the X-energy company's website refer to developments in the U.S. or U.K. [153]

Details: The Xe-100 design, an 80 MWe high-temperature gas-cooled reactor, is owned by X-energy LLC, a company headquartered in Rockville, Maryland, with offices in Toronto and the U.K.

In October 2020, Ontario Power Generation announced X-energy was one of three companies as potential contenders for the Darlington SMR project, but ultimately the Ontario utility chose instead the BWRX-300 design. [154]

The Xe-100 design completed the Canadian Nuclear Safety Commission's optional pre-licencing vendor design review (combined phases 1 and 2) in December 2023. Although the CNSC report stated, as per form, that "staff did not identify any fundamental barriers to licensing," it did mention "some technical areas that need further development in order for X-energy to better demonstrate adherence to CNSC requirements." [155]

Among the areas identified in the CNSC report is insufficient information to demonstrate that all regulatory requirements "for means of reactor shutdown are fully met." Further, the CNSC report stated: "The negative reactivity characteristics are a fundamental safety feature of Xe-100 design and play an important role in the control and shutdown of the reactor. Demonstration of this feature shall include operating experience (OPEX) and experimental data to the extent practicable."

Given the very limited experience with high-temperature gas cooled reactors, and that experience has not inspired much confidence, finding reliable data might be a challenge. However, the X-energy news release about the VDR completion quotes the CNSC stock phrase, "there are no fundamental barriers to licensing the Xe-100" and claims that the outcome "increases confidence in proceeding with formal license applications in Canada." [156]

In April 2024, the government agency Emissions Reductions Alberta funded X-energy to study converting a thermal energy plant to its Xe-100 SMR. The study final cost was $473,000. [157]

The $473,000 Alberta contract with X-energy appears to be the company's only receipt of public funds in Canada, and its primary activity in the country. All the other news on the X-energy company's website refers to developments in the U.S. or U.K.

SMR-160

Level of financing achieved in Canada:
The SMR-160 design has not received public funding in Canada. There are no reports of private sector financing or orders for this design in Canada.

Current status of SMR-160 development in Canada:
Holtec International completed the CNSC VDR phase 1 review in August 2020 and indicated its intent to proceed with the VDR phase 2 process but as of March 2026, that has not happened. In its webpage on Pre-Application Activities at the United States Nuclear Regulatory Commission website, the section on SMR-160 includes the note "Suspended as of December 2023." Instead Holtec International is now developing a SMR-300 design.

The company's news section last mentions Canada in November 2021.

Details: The SMR-160 design, a 160 MWe light-water reactor, is owned by SMR LLC, a subsidiary of the Holtec International company based in Camden, New Jersey. Holtec Canada has a mailing address in Halifax, Nova Scotia.

Holtec submitted the SMR-160 design to the Canadian Nuclear Safety Commission's vendor design review process and completed the phase 1 review in August 2020. The VDR report identified issues for which the company would need to provide more information to confirm, inter alia: "application of the single-failure criterion to the control systems under all operating conditions; adequacy of the shutdown means under all conditions, including scenarios where the main control room is lost; applicability of selected design standards for containment structures." The CNSC summary report includes the stock phrase: "Notwithstanding the above, these issues are foreseen to be resolvable." [158]

A Holtec media release in 2020 indicated the company's intent to proceed with the VDR phase 2 process but as of March 2026, that has not happened. [159]

In January 2023, Holtec applied for a patent in the U.S. for multi-stage compressors that would enable any coal-fired plant to be repurposed by replacing its coal-fired boiler with the SMR-160 small modular reactor as a source of steam to drive the turbine. In the news article about the move, Holtec referenced the fact that its SMR design had completed the phase 1 VDR. [160]

Holtec's business model has been characterized as "overpromising" but also featuring "underdelivery." [161] The company "suspended its effort to get Nuclear Regulatory Commission approval for the [SMR-160] design in 2023 and has not promoted or pursued development of that design since. Reactor efforts now focus on the newer SMR-300 design, the company said in a statement." [162]

The SMR-160 design is no longer listed on the company website, and a review of the company news articles found that the last article referencing Canada was in November 2021 when Holtec mentioned completing the CNSC's VDR process. [163]

AP300

Level of financing achieved in Canada:
The AP300 design has not received public funding. There are no reports of private sector financing or orders for this design in Canada.

Current status of AP300 development in Canada:
There are no reports of AP300 development in Canada. In May 2025, the vendor Westinghouse Electric signed MOUs with two First Nations in New Brunswick to promote the development of the design.

Details: The AP300 design is based on the AP1000 pressurized-water reactor currently operating in the U.S. and China. The AP300 and AP1000 designs are owned by Westinghouse Electric Company LLC, the same company that owns the eVinci design.

As mentioned earlier, Westinghouse has dozens of offices around the globe including several in Ontario and has been owned by Canadian companies Brookfield and Cameco since 2023. [164]

Although SMRs are advertised as lowering costs by being built in a factory, Westinghouse seems not to be planning to build any factories itself. Instead, it is entering into multiple contracts. In October 2024, Westinghouse signed an MOU with a company called Seaspan in North Vancouver to "manufacture key reactor components for Westinghouse's AP1000 and AP300 nuclear power plants." [165] The company's website describes Seaspan as an organization "building large non-combat vessels for the Canadian Coast Guard and Royal Canadian Navy." [166] There is no history of experience in building nuclear reactor components. In December 2024, Westinghouse signed a MOU with BWXT Canada in Cambridge, Ontario to manufacture components for the AP1000 and AP300. [167] In December 2025, Westinghouse signed a MoU with the Promation company in Peterborough, Ontario to manufacture components for the same two reactor designs. [168] Promation primarily makes robotics and tooling systems. Notably, Westinghouse is promoting the AP1000

and AP300 designs together. Westinghouse is currently competing for the multi-billion-dollar contract to build AP1000 reactors for the proposed Peace River Nuclear Power project in Alberta and at the Bruce Power nuclear site on Lake Huron and is strategically building a supply chain in Canada.

The AP300 design is one of two SMR designs in this report that has not applied to enter the CNSC Vendor Design Review process. No licences have been applied for or granted for the design in Canada. [169]

In May 2025, Westinghouse announced the company had signed a memorandum of understanding (MOU) with the First Nation governments of Pabineau and Eel River Bar in New Brunswick to promote Westinghouse technology for new build projects at the Port of Belledune. [170]

SMR PLANS IN OTHER PROVINCES

Only four Canadian provinces have expressed interest in or funded SMR activities. In 2019, Ontario, New Brunswick, and Saskatchewan signed a non-binding Memorandum of Understanding (MOU) to work together to inter alia advance the development and deployment of SMRs, to convince the federal government to provide financial support for SMRs and to "provide a clear unambiguous statement that nuclear energy is a clean technology and is required as part of the climate change solution." Alberta signed on to the MOU in 2020. [171]

Saskatchewan and Alberta both strongly support continuing their reliance on fossil fuels. Saskatchewan, for example, is spending hundreds of millions of dollars to refurbish its coal plants and SaskPower gets over three quarters of its electricity from coal and natural gas. [172] Yet, both provinces have been extensively promoting SMRs. Journalist Tim Rauf's investigation of why Alberta was doing so concluded: "the untested technology is more about greenwashing than about cutting emissions." [173] Building new reactors is a slow process, which means that the fossil fuel infrastructure can be maintained for an extended period of time. [174]

Saskatchewan:

As mentioned, the Stream 1 strategy includes building four subsequent units of the same design planned for the Darlington site in Saskatchewan, with the first unit in Saskatchewan in service in 2032, a date later pushed to 2034.

In 2022, the power utility SaskPower selected the BWRX-300 design for potential deployment in Saskatchewan but has not placed an order and deferred to 2029 the decision on whether to build an SMR. [175] SaskPower maintains a website with information and updates on SMR development in the province. [176]

As outlined earlier in the report, the Westinghouse eVinci design is being studied at the Saskatchewan Research Council and the University of Saskatchewan although it is unclear whether the eVinci development will happen in Canada.

In early 2024, the federal government awarded SaskTel more than $130 million in two grants for the "SMR pre-development project" from Environment and Climate Change Canada and Natural Resources Canada. [177]

Later that year, the Saskatchewan government announced that the first SMR would be built at one of two sites near Estevan, a community close to the southern border of the province. The premier told reporters that the advantage of the Estevan site included "existing transmission capacity and workforce continuity" because the city is currently the site of two of SaskPower's three coal-fired plants. [178] Although these plants are due to be phased out, it does not look like the deadline of 2030 will be met.

In September 2024, SaskPower created a subsidiary, SaskNuclear, "to advance the province's Small Modular Reactor project through the regulatory and licensing process" that will be "wholly owned by SaskPower and will share a President and CEO, as well as a Board of Directors." [179]

In October 2025, the Government of Saskatchewan released its "Saskatchewan First Energy Security Strategy and Supply Plan," that "calls upon the federal government to invest in 75 per cent of the costs for the first nuclear reactor in the province." [180]

In January 2026, grants totalling $6.9 million in public funding were announced for a new SMR research and testing centre at the University of Regina. [181] The grants came from SaskPower ($4 million), the federal agency Prairies Economic Development Canada ($1.9 million) and Innovation Saskatchewan ($1 million), with the last also offering an in-kind contribution.

Later that month, the provincial government and SaskPower announced that SaskPower would begin to "formally evaluate large nuclear reactor technologies for use in Saskatchewan [and] the technology selection process will take place in parallel with SaskPower's existing nuclear small modular reactor (SMR) project. [182]

To date, the federal government has provided almost $139 million in grants to develop research and infrastructure to support SMRs in Saskatchewan to recipients including SaskPower, Saskatchewan Industrial and Mining Suppliers Association, University of Regina, University of Saskatchewan and the First Nations Power Authority. The Province of Saskatchewan provided a total of $85 million to advance SMR efforts in the province.

Alberta:

Alberta's SMR plans are less developed. Nevertheless, from July 2022 to April 2023, the Alberta government signed four MOUs with SMR vendors to collaborate on the deployment of SMRs in the province. There is no indication that the province made a financial contribution with any of these agreements:

- July 22, 2022, with Terrestrial Energy [183]
- January 31, 2023, with X-energy [184]
- March 23, 2023, with ARC Clean Technologies [184]
- April 20, 2023, with Korea Atomic Energy Research Institute [186]

In November 2023, Alberta announced $7 million for the oil and gas company Cenovus Energy to study the potential use of SMRs in operations at the oil sands. [187] When Cenovus ended the study early, the final study cost was much less, $555,000. The study found that SMRs were not feasible "in the near future" for oil sands operations:

> **"Cenovus decided in 2024 (during the execution of phase 1 work) not to continue with the Program beyond the end of 2024. The phase 1 evaluation of nuclear from a business perspective showed SMRs are not economic or commercially feasible at present or in the near future. The capital costs are high, the timelines are long and uncertain, and technology and supply chains lack maturity. While there is a potential application for industrial heat needs, significant progress in these areas is required, which may not happen for several years."** [188]

In January 2024, the company Capital Power (Nuclear) Ltd., which marketed itself as North America's 5th largest independent gas power producer in its January 2026 Investor Presentation, entered into an "agreement" with Ontario Power Generation to "examine the feasibility of developing SMRs in Alberta, including possible ownership and operating structures." [189] This work was funded by a federal grant of $13 million in October 2024, described as developing "an assessment of the potential suitability of three locations in Alberta as potential host locations for Small Modular Reactor (SMR) deployment, and increase public and Indigenous community understanding and awareness of SMRs and nuclear power generation." [190]

In April 2024, Alberta announced another SMR study, this one with the nuclear company X-energy to assess the feasibility of converting a thermal energy plant to its Xe-100 SMR design. The study final cost was $473,000 and the report's analysis of the potential of its SMR design was positive,[191] although there is no report of follow-up. In September 2025, the federal government gave $30,000 to Canadian Association of Small Modular Reactors in Calgary to host the "Pioneering SMRs in Western Canada Forum in 2025 and 2026." [192]

The following year, the private company Energy Alberta filed an initial project description to the Impact Assessment Agency of Canada to build large CANDU MONARK reactors in the Peace River region. The company signed an MOU with Westinghouse to "collaborate in defining the next steps in considering the deployment of an advanced AP1000® modular reactor in Alberta" in October 2025, [193] and in March 2026,

Energy Alberta updated its project description to include the possibility of deploying either the CANDU or the Westinghouse design. [194]

To date, the federal government provided $15,774,000 for SMR activities in Alberta, including several research studies. Alberta provided $1,028,000 for the studies by Cenovus and X-energy.

6. SMR RESEARCH IN CANADA

In a sense, much of the activity in Canada associated with SMRs could be called "research" – almost all the SMR designs reviewed in this report are still on the drawing board. Even the first-of-a-kind BWRX-300 at Darlington is essentially a research project; CNSC did not require a fully realized design before granting the construction licence. [195]

As illustrated earlier (Table 1), the 10 SMR designs in Canada have operating systems, coolants, and fuels different not only to CANDU reactors but also to each other. If these designs ever move forward, questions will arise about Canada's nuclear research capacity and the resources spent on SMR research.

In addition to the costs presented here regarding direct funding for SMR research at universities and Canadian Nuclear Laboratories, there may be other costs associated with research on SMRs, but these are not available for public scrutiny. An example of indirect funding for SMR research are generous tax credits for businesses spending on SMR research and development as provided in federal budgets.

CANADIAN NUCLEAR LABORATORIES (CNL)

The Chalk River laboratories is Canada's premier centre for nuclear research and development (R&D) for more than 60 years – and the institutions there want to keep it that way for SMR R&D.

Located about 180 km northwest of Ottawa, the Chalk River facility, a federal government nuclear research campus, has been the originating hub for much of the research on, and development of, nuclear power in Canada. In 1952, responsibility for Chalk River was transferred from the National Research Council to a new Crown corporation, Atomic Energy of Canada Limited (AECL) tasked with overseeing and expanding Canada's nuclear research and technology development. In the following decades, AECL developed and built CANDU reactors in Canada and exported the design to countries like India and South Korea. [196]

In 2014, Canadian Nuclear Laboratories (CNL) was formed as an AECL subsidiary. CNL's main functions – in addition to operating the federal nuclear research laboratory and developing research capacity in Canada – are to clean up legacy radioactive waste at federally owned sites, decommission federally owned nuclear reactors, and produce medical isotopes. To accomplish these tasks, CNL employs more than 3,200 staff, with more than 500 scientists, engineers, and technicians involved in "industry-driven research and development in clean energy, radiopharmaceuticals, and environmental protection." [197]

In 2015, AECL turned over CNL management and operations to a private-sector consortium consisting of SNC Lavalin (now AtkinsRéalis) and two U.S. companies (Fluor and Jacobs) in a so-called government-owned, contractor-operated (GOCO) model. Under this model, "ever-increasing amounts of tax dollars" are being funneled to this consortium. During the first 10-year contract between AECL and the consortium [198] running CNL, the value of annual federal funding to AECL skyrocketed from $392 million in 2015 (including Supplementary Estimates) to $1.9 billion in 2025. [199]

In 2016, the federal government committed $800 million over five years to modernize the Chalk River site, [200] and Canadian Nuclear Laboratories launched a ten-year plan to "demonstrate the commercial viability of the small modular reactor by 2026, with a view to positioning Canada to take a leadership role in this emerging nuclear technology with CNL recognized globally as a leader in SMR prototype testing and S&T support." [201]

By February 2018, the cost of the Chalk River upgrades had risen to $1.2 billion, and CNL announced three new facilities to be built at a cost of more than $100 million: a business hub, a

logistics facility, and a warehouse building. [202]

Two months later, in April, CNL issued a request for proposals to build the Advanced Nuclear Materials Research Centre (ANMRC) with an estimated construction cost of $370 million. The stated purpose of the ANMRC is to conduct research on SMRs and "next-generation nuclear fuels, and glovebox facilities to support the development of advanced fuel fabrication concepts." [203]

The same month, April 2018, as discussed earlier in this report, CNL began the process to site "the first SMR" at a CNL-managed site, later confirmed as the MMR project at Chalk River. [204] Earlier, in 2016, the CEO of Canadian Nuclear Laboratories told a Parliamentary committee that CNL's guidance of the SMR project "calls for modest investment of approximately $15 million in the first two years to conduct a request for expressions of interest". [205] However, the actual cost is unconfirmed because CNL, by virtue of its private ownership, does not make its financial records available for public scrutiny.

In July 2019, CNL launched the Canadian Nuclear Research Initiative (CNRI), a co-funded applied research program "that enables research and development to accelerate the deployment of small modular reactors in Canada. [206] In November that year, CNL announced it had selected four SMR vendors – the MMR proponent USNC, Moltex, Terrestrial Energy and Kairos – to collaborate with to conduct research on advanced nuclear fuels. [207] Information about the value and scope of these SMR research activities is not available to the public.

In 2020, when the SMR Action Plan was released, CNL committed to undertake nine different wide-ranging actions to provide "strong support for a vibrant, new SMR industry in Canada" including "all aspects of SMR development and deployment including: prototype fuel development and fuel studies, reactor materials and structural materials integrity testing, techno-economic studies, feasibility studies, nuclear co-generation assessments, sensor network development and cyber security, fission product release studies and reactor life cycle assessments." [208]
A year later, the construction contract for the Advanced Nuclear Materials Research Centre for SMR research facility was awarded, [209] and building construction broke ground in 2022. The ANMRC is scheduled for completion in 2028. According to a media release, the 10,000-square-metre research facility will feature 23 laboratories, accommodate 160 employees, and have "12 new shielded hot cells that will enable post-irradiation examination of small modular reactor (SMR) and next-generation nuclear fuels." [210]

In August 2024, Ultra Safe Nuclear Corporation, the proponent of the MMR reactor design at Chalk River that Canadian Nuclear Laboratories was supporting, filed for bankruptcy protection. Shortly after, AECL published its corporate plan indicating that the cost of the ANMRC facility for research on SMRs had risen to an estimated $1.025 billion. [211]

In December 2025, the original Canadian Nuclear Laboratories contract ended and AECL awarded a new contract to a consortium named "Nuclear Laboratory Partners of Canada Inc" comprised of BWX Technologies, Kinectrics, Amentum and Battelle. BWX Technologies is deeply involved in the US nuclear powered navy and Battelle manages multiple US nuclear laboratories, including the Los Alamos laboratory that first developed nuclear weapons. Reportedly the largest-ever federal contract awarded, these companies are receiving $1.2 billion a year to run Chalk River. [212]

In September 2025, the Green Party of Canada called on the federal government to stop the contract being awarded to a consortium consisting only of U.S. corporations. [213] The contract is especially troubling at a time when Canada–U.S. relations are strained by tariffs and trade disputes.

At the time of writing this report, a Parliamentary committee is undertaking a study into the U.S. ownership of Canadian Nuclear Laboratories. Witnesses as well as briefs filed for the study in January 2026 raised concerns about the lack of transparency of CNL operations, lack of protocols in place to ensure research at Chalk River is not transferred to U.S. companies, and the links between the U.S. companies and the nuclear weapons research they are involved in. [214] The MPs on the Committee raised questions about why we need U.S. companies

to run Canadian Nuclear Laboratories and asked whether Canadian researchers could do it instead.

UNIVERSITIES

Many Canadian universities are engaged in SMR research and advocacy. University researchers are generally free to set their own research agenda. However, research agendas are shaped by funding. Two of the main sources of funding and other supports for nuclear research are Canadian Nuclear Laboratories and the Natural Sciences and Engineering Research Council, both of which favour research that promotes SMRs rather than work that critically examines these technologies.

Canadian Nuclear Laboratories and Universities

CNL engages with universities in Canada in multiple ways. With its "Academic Partnership Program," CNL has formal agreements with at least nine universities spanning the country: McMaster, Ottawa, Ontario Tech, Western, Waterloo, New Brunswick, Queens, Regina, and Saskatchewan. [215] On university campuses, CNL hosts events, workshops, and lectures and provides funding for scholarships and other opportunities for students studying nuclear technology.

Canadian Nuclear Laboratories was a primary partner and funder in establishing the University Network of Excellence in Nuclear Engineering (UNENE) in 2002 to support "the growth of a knowledgeable, highly qualified nuclear workforce." [216] This network has nineteen members, including one university each in Argentina and Romania. [217] CNL remains a funder on the UNENE board of directors. Industry partners include CNL, AECL, various leading nuclear companies and the three nuclear power utilities (NB Power, Ontario Power Generation and Bruce Power), with the two latter sponsoring Industrial Research Chairs at several participating universities. In five of its partner universities – McMaster, Ontario Tech, Queen's, Waterloo, and Western – the UNENE offers the UNENE MEng degree, a part-time program for industry professionals.

In 2020, the UNENE developed an "SMR Action Plan" as part of the government and industry's strategic initiative for SMRs in Canada. In its plan, UNENE made numerous commitments to develop university capacity for SMR research and skills development across the country. [218] The universities of New Brunswick, Toronto, Regina, Queen's, Ontario Tech, and McMaster also published "Chapters" as participating organisations to the SMR Action Plan.

Natural Sciences and Engineering Research Council and Universities

Most funding for nuclear research is provided by the federal Natural Sciences and Engineering Research Council (NSERC). From 2017 to 2025, NSERC provided almost $30 million in grants for research on SMRs to universities in Canada, funding used primarily to train research students, produce research publications, participate in research events, and purchase research equipment. Salaries for the faculty members conducting SMR research are paid by the universities, except for several research chair positions funded federally or with industry partners.

The $30 million in NSERC funding for SMRs includes several federal government granting programs set up specifically to fund SMR research. One program in partnership with the Canadian Nuclear Safety Commission provided more than $9 million for SMR research in 2023; the NSERC-CNSC initiative recently closed applications for a new round of funding with the results to be announced in 2026. Another NSERC initiative with Natural Resources Canada granted more than $8 million for SMR research.

University research on SMRs has also been funded by other federal and provincial programs in addition to NSERC and includes laboratory developments and other infrastructure to support SMR research. The total amount we were able to trace for this report, for university research activities on SMRs, is $46,385,000. (See Table 2 and Table 4 in the appendix). In total, across all funding programs, more than two dozen university researchers are funded for SMR-related research, research training and research infrastructure in 18 universities, listed below in order of funding received, rounded to the nearest thousand:

- $9,509,000 to University of Regina
- $8,742,000 to Western University
- $5,326,000 to McMaster University
- $4,062,000 to University of New Brunswick

- $3,367,000 to Queens University
- $2,627,000 to Ontario Tech University
- $2,526,000 to University of Alberta
- $2,279,000 to University of Toronto
- $1,698,000 to University of Waterloo
- $1,605,000 to University of Saskatchewan
- $1,328,000 to École Polytechnique
- $1,029,000 to Université Laval
- $652,000 to University of Guelph
- $507,000 to University of Manitoba
- $360,000 to University of Ottawa
- $345,000 to McGill University
- $250,000 to Dalhousie University
- $173,000 to Royal Roads University

Research and Public Perception of SMRs

Almost all of this funding for SMR research in universities aims at advancing the feasibility and promoting the adoption of SMRs as part of the country's broader energy strategy. In addition to furthering the technical feasibility of SMRs, there is also funding aimed at building public trust in this technology despite the known risks associated with nuclear power. In comparison, practically no funding has been made available for critical examinations of whether SMRs are feasible, affordable, or sustainable.

Through this pattern of funding, as well as numerous public statements by officials, the Canadian government has clearly expressed its commitment to SMRs as a "low-carbon" energy source and a crucial tool for climate mitigation. There is thus no doubt about the desired outcome of these research projects, namely, to support the development and acceptance of SMRs.

The situation is ripe for a self-perpetuating loop, where institutions and researchers are incentivized, whether consciously or unconsciously, to produce findings that at least attempt to further the government's pro-SMR stance. Pointing this out is not meant to malign researchers, or devalue the research conducted at universities. At the same time, one cannot but observe that in such a research environment, a positive response bias, or social desirability bias, becomes almost inevitable.

The reinforcement of this bias is further amplified when these academics speak to the media or are called upon to give advice to or testify before government bodies that seek input from those involved in SMR research. When academics testify on the value of SMRs and the expansion of nuclear capacity, the social desirability bias is pronounced. They are, in effect, confirming the direction set by a government and industry already heavily invested in SMR development. This dynamic not only influences the research itself but also shapes the broader narrative around nuclear energy in Canada, reinforcing the government's position and potentially stifling critical, independent analysis of SMRs as a viable energy solution.

The alignment of academic research with government and industry goals, therefore, raises important questions about the objectivity of the research process and the role of academia in influencing public opinion on nuclear energy.

7. CONCLUSION

Canada's SMR journey began officially in 2018 with the SMR Roadmap report, announcing that the first SMR would be operating in Canada in 2026. Our report reviewing SMR progress is published in this milestone year.

Our report reviewed the 10 SMR designs that have or had a presence in Canada using two main indicators of progress: 1) financing achieved by the SMR design in Canada and 2) status of the SMR design development in Canada. We conclude our report by briefly summarizing the progress of the three development streams in Canada's SMR strategy before offering our analysis of Canada's SMR push.

Canada's first SMR stream was focused on a design to be built at Ontario's Darlington nuclear site. If one uses the standard marker for when construction of a reactor is said to have commenced, namely when concrete has been poured onto the ground, the BWRX-300 is not officially under construction as of March 2026. At the same time, as we complete this report, workers at the Darlington site are hard at work, excavating a 38 metre deep hole for the reactor shaft, building tunnels to transport water for cooling the reactor, and putting into

place various other associated infrastructure.

The Darlington SMR project has to date received $4.025 billion in public funding from the federal and Ontario governments. Although significant, this level of funding is not enough to pay the full cost for even one Darlington SMR. The current estimate of the capital costs associated with just the first BWRX-300 reactor is $6.1 billion. The cost of further SMRs at the same site is projected to drop, but even then, the fourth reactor might cost $4.1 billion. An additional $1.6 billion is estimated as the cost of the associated infrastructure.

Despite earnest efforts by OPG, the project proponent, no private sector entity has promised to invest in the project, at least to date. These high costs imply that the electricity generated by these reactors will be expensive, resulting in increases in electricity bills for Ontario ratepayers in the near future. OPG announced in early 2026 that power rates would increase sharply to recoup costs for the Darlington SMR and the Pickering nuclear plant refurbishment, years before these projects end. [219]

Canada's second SMR stream is two "advanced" SMR designs for New Brunswick's Point Lepreau nuclear site. The two reactor designs and associated supporting activities in New Brunswick received $129,945,378 in public funds from federal and provincial governments. There are no reports of private sector funding for these designs.

Both those designs – the ARC-100 and the Moltex SSRW-300 (with its WATSS technology) have stalled, particularly since October 2025 when New Brunswick's Minister of Energy stated the province is no longer interested in supporting these first-of-a-kind reactors because of the risks involved.

Canada's third SMR stream is a demonstration micro modular reactor at the Chalk River nuclear site in Ontario. The MMR project was instigated and supported by Canadian Nuclear Laboratories (CNL), a consortium of private U.S. companies for which financial records are not publicly available. However, at a Parliamentary Committee hearing in 2016, CNL suggested that its support of the project "calls for modest investment of approximately $15 million in the first two years to conduct a request for expressions of interest." [220]

When the project proponent filed for bankruptcy protection in the United States in October 2024, the company owed more than US $16 million to various entities, including US $641,307 to the Canadian Nuclear Safety Commission and also lower amounts to dozens of small Canadian businesses. [221]

Finally, six other SMR designs in Canada were reviewed. The six together collectively received $55,864,500 in public funds, with two receiving no funding. None of the six designs have reported any development progress in Canada, despite numerous MOUs with various entities.

Significantly, five of these six SMR designs are owned by companies with offices in the U.S. Three of these companies have used their completion of the Canadian Nuclear Safety Commission's Vendor Design Review (VDR) process as a promotional tool to attract partners and funding. As discussed earlier, we believe that specific statements in the CNSC VDR reports suggest that the design is ready to proceed to licencing, the CNSC statements are misleading, and that SMR proponents are using this misleading information to promote their designs in a way that could also mislead potential investors. Perhaps these companies see participation in the VDR process as a way to "validate" their designs without any intent to actually develop them in Canada.

Overall, our analysis found little interest in SMRs among banks and other sources of private capital. When measured in terms of their ability to generate power, SMRs are more expensive than big reactors. Studies around the world have reinforced the uneconomical nature of SMRs.

Estimates by Australia's Commonwealth Scientific and Industrial Research Organisation, for example, show that each unit of electrical energy from SMRs would be far more expensive that a corresponding unit from solar and wind power plants, even when the cost of storage technologies and other means of accounting for the variability are included. [222]

The stated primary goal of SMR development in Canada is to contribute to climate action by decarbonizing electric grids. This could be

an important rationale for increased levels of public investment in SMRs. However, SMRs stack up poorly against other decarbonization technologies. Wind turbines, solar panels and energy storage options are more mature, more cost competitive, have more social acceptability, and can be built and supply power to an electrical grid more quickly than an SMR.

One argument that initially motivated SMRs in Canada was the idea that there were niche markets within the country where the high costs of electricity did not matter as much because they were using diesel generators to meet their energy needs. However, this expectation proved to be wrong; further, the market offered by remote mines and communities were insufficient to financially cover the cost of building the facilities needed to manufacture SMRs. [223]

The conclusion about the uneconomical nature of SMRs is reinforced by the oil company Cenovus, which concluded that "from a business perspective… SMRs are not economic or commercially feasible at present or in the near future. The capital costs are high, the timelines are long and uncertain, and technology and supply chains lack maturity". [224]

We noted that Alberta had been supporting SMR activities, and an investigation of Alberta's motivations concluded: "the untested technology is more about greenwashing than about cutting emissions." [225] The same case has been made for Saskatchewan, [226] and Ontario and New Brunswick. [227] Building new reactors is a slow process, giving more time to burn fossil fuels and maintain fossil fuel infrastructure.

Interestingly, even mainstream media sources are highlighting the alignment of fossil fuel and nuclear industries against renewable energy. A recent article in Bloomberg Businessweek mentions: "For decades oil, gas and coal backers were locked in a rivalry with nuclear interests, competing for shares of America's energy grid; but today many on both of those sides have teamed up to counter the rise of renewable power." [228]

Another stated rationale for developing SMRs in Canada is jobs and economic development. The business case is also weak for public investment in SMRs for these reasons. There will always be jobs when building and operating a nuclear reactor; but having to pay for these workers is one reason electricity produced by a nuclear reactor is so expensive. However, the clear desire for OPG with its Darlington reactor, and New Brunswick with its advanced SMR plans, is to build a workforce and supply chain for a new export product. Money is made if the SMRs are built in Canada and sold abroad. The promise of "modular" reactors built in factories and later exported does not match up with the bespoke solutions developed for the Darlington SMR build. Unless the order books for the Darlington reactor fill quickly, the possibility of exporting significant quantities of SMRs from Canada seem slim.

We conclude by turning to a remarkable claim made by the CEO and President of Canadian Nuclear Laboratories in 2016 to Parliament's Natural Resource Committee, as part of his presentation justifying the public funds spent on upgrades to the Chalk River site to accommodate SMR research:

> **"Canada has a proud history of discovery and innovation and can stand shoulder to shoulder with its international peers. Insulin, the snowmobile, the Canadarm, and cobalt-60 for cancer treatment pioneered at our very own Chalk River labs; our time has come again, and SMRs and vSMRs can live among the annals of great Canadian innovations."** [229]

Ten years after the prediction that SMRs will "live among the annals of great Canadian innovations," and eight years after the Roadmap promised a bright future for SMRs, the evidence points otherwise.

APPENDICES

ENDNOTES

TABLES

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[1] For example, the Darlington SMR design includes a reactor structure 73 metres tall (240 feet / 21 storeys), with 35 metres above ground and 38 meters below ground. See pp. 31-32 of "Darlington New Nuclear Project Environmental Impact Statement Review Report for Small Modular Reactor BWRX-300, Enclosure 2," NK054-REP-07730-00055 R000, OPG Proprietary, October 5, 2022. https://www.opg.com/documents/dnnp-environmental-impact-statement-review-report-for-small-modular-reactor-bwrx-300-pdf/

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Table 2: Public Funding for SMR Activities by Recipient

(Table sorted by SMR Activity Spending high to low. Source of Public Funds and Reference are hyperlinked)

Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
Canada Growth Fund	**$2,000,000,000**	**Ontario Power Generation**	Canada GF, 2025	ON
Building Ontario Fund	**$1,000,000,000**	**Ontario Power Generation**	Building ON, 2025	ON
Canada Infrastructure Bank	**$970,000,000**	**Ontario Power Generation**	CI Bank, 2022	ON
Environment CC Canada Future Electricity Fund	**$80,010,000**	**Saskatchewan Power Corporation**	Open Gov file, 2024	SK
Government of Saskatchewan	**$80,000,000**	**Saskatchewan Research Council**	Gov SK, 2023	SK
Environment CC Canada Future Electricity Fund	**$55,597,590**	**Ontario Power Generation**	Open Gov file, 2024	ON
NRCan Electricity Pre-Development Program	**$50,000,000**	**Saskatchewan Power Corporation**	Open Gov file, 2024	SK
Industry Science Economic Development SIF	**$47,500,000**	**Moltex Energy**	Open Gov file, 2020	NB
Industry Science Economic Development SIF	**$27,219,000**	**Westinghouse Electric Canada**	Open Gov file, 2022	ON
NRCan Electricity Pre-Development Program	**$25,000,000**	**NB Power**	Open Gov file, 2024	NB
Industry Science Economic Development SIF	**$18,923,000**	**Terrestrial Energy**	Open Gov file, 2019	ON
NRCan Electricity Pre-Development Program	**$13,000,000**	**Capital Power (Nuclear) Limited Partnership**	Open Gov file, 2024	AB
New Brunswick Climate Change Fund	**$10,000,000**	**ARC Clean Energy**	NB CCF, 2021	NB
NRCan Electricity Pre-Development Program	**$7,000,000**	**ARC Clean Energy**	Open Gov file, 2023	NB
Sustainable Development Technology Canada	**$5,700,000**	**Terrestrial Energy**	Climate Action, 2016	ON

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New Brunswick Climate Change Fund	**$5,000,000**	**ARC Clean Energy**	NB CCF, 2020	NB
New Brunswick Climate Change Fund	**$5,000,000**	**ARC Clean Energy**	NB CCF, 2022	NB
New Brunswick Energy Solutions Corp	**$5,000,000**	**ARC Clean Energy**	NB ESC, 2018	NB
New Brunswick Energy Solutions Corp	**$5,000,000**	**Moltex Energy**	NB ESC, 2018	NB
NRCan Enabling SMRs Program	**$4,999,996**	**Western University**	Open Gov file, 2025	ON
Atlantic Canada OA Regional Innovation Ecosystem	**$4,999,568**	**NB Power**	Open Gov file, 2021	NB
Saskatchewan Power	**$4,000,000**	**University of Regina**	Regina LP, 2026	SK
NRCan Enabling SMRs Program	**$3,750,000**	**Nuclear Waste Management Org**	Open Gov file, 2024	ON
NRCan Enabling SMRs Program	**$3,537,809**	**Canadian Nuclear Laboratories**	Open Gov file, 2024	ON
Atlantic Canada OA Business Scale-up	**$3,000,000**	**Moltex Energy**	Open Gov file, 2021	NB
Atlantic Canada OA Regional Innovation Ecosystem	**$2,919,287**	**University of New Brunswick**	Open Gov file, 2022	NB
NRCan Enabling SMRs Program	**$2,830,385**	**Saskatchewan Industrial and Mining Suppliers Association**	Open Gov file, 2025	SK
NRCan Enabling SMRs Program	**$2,750,000**	**Prodigy Clean Energy Ltd**	Open Gov file, 2024	QC
Atlantic Canada OA Business Scale-up	**$2,666,667**	**Moltex Energy**	Open Gov file, 2024	NB
NRCan Enabling SMRs Program	**$2,131,000**	**Chemetics Inc**	Open Gov file, 2024	ON

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Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
NRCan Enabling SMRs Program	**$2,070,336**	**North Shore Mi'kmaq Tribal Council**	Open Gov file, 2024	NB
Prairies EDC Regional Econ Growth via Innovation	**$1,955,000**	**University of Regina**	Open Gov file, 2025	SK
NSERC-SMR Eng Research	**$1,675,050**	**McMaster University**	NSERC	ON
NRCan Enabling SMRs Program	**$1,656,000**	**University of Alberta**	Open Gov, 2024	AB
New Brunswick Climate Change Fund	**$1,500,000**	**Moltex Energy**	NB CCF, 2022	NB
NSERC-NRCan SMR Research Program	**$1,400,000**	**McMaster University**	Open Gov file, 2024	ON
NSERC-NRCan SMR Research Program	**$1,280,000**	**University of Regina**	Open Gov file, 2024	SK
NSERC-NRCan SMR Research Program	**$1,264,000**	**Western University**	Open Gov file, 2024	ON
NSERC-NRCan SMR Research Program	**$1,200,000**	**Queen's University**	Open Gov file, 2024	ON
NSERC-NRCan SMR Research Program	**$1,200,000**	**University of Toronto**	Open Gov file, 2024	ON
NSERC-NRCan SMR Research Program	**$1,199,300**	**McMaster University**	Open Gov file, 2024	ON
NSERC-SMR Eng Research	**$1,150,400**	**Ontario Tech University**	NSERC	ON
NRCan Enabling SMRs Program	**$1,094,850**	**Opportunities New Brunswick**	Open Gov file, 2024	NB
Canadian Space Agency	**$1,000,000**	**Canadian Space Mining Corporation**	Open Gov file, 2023	ON
Canadian Space Agency	**$1,000,000**	**Canadian Space Mining Corporation**	Open Gov file, 2025	ON

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Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
Department of National Defence	$1,000,000	Canadian Space Mining Corporation	Open Gov file, 2025	ON
OPG Centre for Cdn Nuclear Sustainability	$1,000,000	Moltex Energy	OPG, 2021	NB
Innovation Saskatchewan	$1,000,000	University of Regina	Regina LP, 2026	SK
Atlantic Canada OA Regional Innovation Ecosystem	$950,864	Org Canadian Nuclear Industries	Open Gov file, 2022	ON
NRCan Enabling SMRs Program	$941,651	University of Regina	Open Gov file, 2024	SK
NRCan Enabling SMRs Program	$935,542	Queen's University	Open Gov file, 2024	ON
NRCan Enabling SMRs Program	$925,000	Canadian Standards Association	Open Gov file, 2024	ON
NSERC-NRCan SMR Research Program	$919,500	Western University	Open Gov file, 2024	ON
NSERC-NRCan SMR Research Program	$899,707	University of Saskatchewan	Open Gov file, 2024	SK
NSERC-NRCan SMR Research Program	$870,000	University of Alberta	Open Gov file, 2024	AB
NRCan Smart Renewables	$800,000	First Nations Power Authority SK	Open Gov file, 2021	SK
Atlantic Canada OA Regional Innovation Ecosystem	$561,750	University of New Brunswick	Open Gov file, 2021	NB
Emissions Reductions Alberta	$555,000	Cenovus Energy	ER Alberta, 2023	AB
NSERC-NRCan SMR Research Program	$549,216	Université Laval	Open Gov file, 2024	QC
NRCan Enabling SMRs Program	$543,000	Org Canadian Nuclear Industries	Open Gov file, 2024	ON

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Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
NSERC-NRCan SMR Research Program	**$537,900**	**Ontario Tech University**	Open Gov file, 2024	ON
NSERC-SMR Eng Research	**$511,750**	**Queen's University**	NSERC	ON
NSERC-NRCan SMR Research Program	**$507,000**	**University of Manitoba**	Open Gov file, 2024	MB
NSERC-SMR Eng Research	**$479,366**	**Western University**	NSERC	ON
Emissions Reductions Alberta	**$473,000**	**X-Energy**	ER Alberta, 2023	AB
NSERC-SMR Eng Research	**$468,631**	**University of Waterloo**	NSERC	ON
NSERC-SMR Eng Research	**$437,021**	**University of Guelph**	NSERC	ON
NSERC-NRCan SMR Research Program	**$400,000**	**École Polytechnique de Montréal**	Open Gov file, 2024	QC
NSERC-NRCan SMR Research Program	**$370,673**	**University of Waterloo**	Open Gov file, 2024	ON
NSERC-CNSC SMR Research Program	**$360,000**	**École Polytechnique de Montréal**	Open Gov file, 2023	QC
NSERC-CNSC SMR Research Program	**$360,000**	**McMaster University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**McMaster University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**Ontario Tech University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**Queen's University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**Queen's University**	Open Gov file, 2023	ON

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(Table sorted by SMR Activity Spending high to low. Source of Public Funds and Reference are hyperlinked)

Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
NSERC-CNSC SMR Research Program	**$360,000**	**Université de Sherbrooke**	Open Gov file, 2023	QC
NSERC-CNSC SMR Research Program	**$360,000**	**Université Laval**	Open Gov file, 2023	QC
NSERC-CNSC SMR Research Program	**$360,000**	**University of Ottawa**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**University of Saskatchewan**	Open Gov file, 2023	SK
NSERC-CNSC SMR Research Program	**$360,000**	**University of Toronto**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**University of Toronto**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**University of Waterloo**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**University of Waterloo**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$360,000**	**Western University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$359,596**	**Western University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$359,500**	**Western University**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$359,100**	**University of Toronto**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$356,949**	**University of Waterloo**	Open Gov file, 2023	ON
National Research Council IRAP Contributions Firms	**$350,000**	**Clyde Union Canada**	Open Gov file, 2022	ON
National Research Council IRAP Contributions Firms	**$349,500**	**Terrestrial Energy**	Open Gov file, 2016	ON

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Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
NSERC-CNSC SMR Research Program	**$345,000**	**McGill University**	Open Gov file, 2023	QC
NSERC-CNSC SMR Research Program	**$344,000**	**École Polytechnique de Montréal**	Open Gov file, 2023	QC
NSERC-CNSC SMR Research Program	**$343,000**	**Ontario Tech University**	Open Gov file, 2023	ON
NSERC-SMR Eng Research	**$332,000**	**University of Regina**	NSERC	SK
NSERC-CNSC SMR Research Program	**$304,125**	**University of New Brunswick**	Open Gov file, 2023	NB
NRCan Enabling SMRs Program	**$261,535**	**Calian Ltd**	Open Gov file, 2024	ON
NRCan General Contribution	**$260,000**	**Canadian Nuclear Association**	Open Gov file, 2018	ON
NSERC-CNSC SMR Research Program	**$250,000**	**University of Waterloo**	Open Gov file, 2023	ON
NSERC-CNSC SMR Research Program	**$235,400**	**Ontario Tech University**	Open Gov file, 2023	ON
CNSC Regulatory Research	**$234,080**	**UT-Battelle (Oak Ridge National Lab)**	Open Gov file, 2017	USA
NSERC-SMR Eng Research	**$225,070**	**University of Saskatchewan**	NSERC	SK
NSERC-SMR Eng Research	**$224,000**	**École Polytechnique de Montréal**	NSERC	QC
NSERC-CNSC SMR Research Program	**$215,504**	**University of Guelph**	Open Gov file, 2023	ON
NRCan Outreach and Engagement	**$194,402**	**OECD (Paris)**	Open Gov file, 2025	France
NSERC-CNSC SMR Research Program	**$190,850**	**McMaster University**	Open Gov file, 2023	ON

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Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
CNSC Regulatory Research	**$181,320**	**International Atomic Energy Agency (Vienna)**	Open Gov file, 2018	Austria
NSERC-CNSC SMR Research Program	**$180,000**	**Dalhousie University**	Open Gov file, 2023	NS
CNSC Research and Support	**$178,410**	**International Atomic Energy Agency (Vienna)**	Open Gov file, 2025	Austria
New Brunswick Innovation Foundation	**$173,595**	**University of New Brunswick**	Open Gov file, 2023	NB
Global Affairs Canada	**$173,002**	**Royal Roads University**	Open Gov file, 2025	BC
NRCan Small Scale Research	**$158,000**	**Pembina Institute**	Open Gov file, 2021	AB
NSERC-CNSC SMR Research Program	**$141,000**	**McMaster University**	Open Gov file, 2023	ON
National Research Council IRAP Contributions Firms	**$140,000**	**Canadian Space Mining Corporation**	Open Gov file, 2025	ON
NRCan Outreach and Engagement	**$129,050**	**OECD (Paris)**	Open Gov file, 2018	France
NRCan Outreach and Engagement	**$126,992**	**OECD (Paris)**	Open Gov file, 2021	France
NRCan Enabling SMRs Program	**$126,475**	**Kinectrics Inc**	Open Gov file, 2024	ON
NRCan Outreach and Engagement	**$125,515**	**OECD (Paris)**	Open Gov file, 2020	France
NRCan Outreach and Engagement	**$124,152**	**OECD (Paris)**	Open Gov file, 2022	France
NRCan Outreach and Engagement	**$122,899**	**OECD (Paris)**	Open Gov file, 2019	France
NSERC-SMR Eng Research	**$120,000**	**Université Laval**	NSERC	QC

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Table 2: Public Funding for SMR Activities by Recipient

(Table sorted by SMR Activity Spending high to low. Source of Public Funds and Reference are hyperlinked)

Source of Public Funds	SMR Activity Spending	Funding Recipient	Reference	Location
NSERC-NRCan SMR Research Program	**$120,000**	**University of Saskatchewan**	Open Gov file, 2024	SK
NRCan Outreach and Engagement	**$105,429**	**OECD (Paris)**	Open Gov file, 2023	France
NSERC-SMR Eng Research	**$103,225**	**University of New Brunswick**	NSERC	NB
CNSC Regulatory Research	**$100,065**	**International Atomic Energy Agency (Vienna)**	Open Gov file, 2022	Austria
NRCan Outreach and Engagement	**$81,400**	**OECD (Paris)**	Open Gov file, 2024	France
NRCan Outreach and Engagement	**$81,400**	**OECD (Paris)**	Open Gov file, 2025	France
CNSC Research and Support	**$70,000**	**World Inst for Nuclear Security (Vienna)**	Open Gov file, 2020	Austria
NSERC-SMR Eng Research	**$69,500**	**Dalhousie University**	NSERC	NS
Atlantic Canada OA Regional Innovation Ecosystem	**$38,225**	**Atlantica Centre for Energy**	Open Gov file, 2022	NB
Prairies EDC Regional Econ Growth via Innovation	**$30,000**	**CASMR - Canadian Association of SMRs**	Open Gov file, 2025	AB
National Research Council IRAP Youth Employment	**$30,000**	**Terrestrial Energy**	Open Gov file, 2024	AB
National Research Council IRAP Youth Employment	**$30,000**	**Terrestrial Energy**	Open Gov file, 2023	AB
Atlantic Canada OA Regional Innovation Ecosystem	**$13,750**	**North Shore Mi'kmaq Tribal Council**	Open Gov file, 2021	NB
Total	**$4,499,382,824**			

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Alberta	**$13,000,000**	Capital Power (Nuclear) Limited Partnership	NRCan Electricity Pre-Development Program	Open Gov file, 2024
Alberta	**$1,656,000**	University of Alberta	NRCan Enabling SMRs Program	Open Gov, 2024
Alberta	**$870,000**	University of Alberta	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Alberta	**$158,000**	Pembina Institute	NRCan Small Scale Research	Open Gov file, 2021
Alberta	**$30,000**	CASMR - Canadian Association of SMRs	Prairies EDC Regional Econ Growth via Innovation	Open Gov file, 2025
Alberta	**$30,000**	Terrestrial Energy	National Research Council IRAP Youth Employment	Open Gov file, 2024
Alberta	**$30,000**	Terrestrial Energy	National Research Council IRAP Youth Employment	Open Gov file, 2023
Total federal funding to Alberta for SMR activities: $15,774,000				
British Columbia	**$173,002**	Royal Roads University	Global Affairs Canada	Open Gov file, 2025
Total federal funding to British Columbia for SMR activities: $173,002				
Manitoba	**$507,000**	University of Manitoba	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Total federal funding to Manitoba for SMR activities: $507,000				
New Brunswick	**$47,500,000**	Moltex Energy	Industry Science Economic Development SIF	Open Gov file, 2020
New Brunswick	**$25,000,000**	NB Power	NRCan Electricity Pre-Development Program	Open Gov file, 2024
New Brunswick	**$7,000,000**	ARC Clean Energy	NRCan Electricity Pre-Development Program	Open Gov file, 2023

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
New Brunswick	**$4,999,568**	NB Power	Atlantic Canada OA Regional Innovation Ecosystem	Open Gov file, 2021
New Brunswick	**$3,000,000**	Moltex Energy	Atlantic Canada OA Business Scale-up	Open Gov file, 2021
New Brunswick	**$2,919,287**	University of New Brunswick	Atlantic Canada OA Regional Innovation Ecosystem	Open Gov file, 2022
New Brunswick	**$2,666,667**	Moltex Energy	Atlantic Canada OA Business Scale-up	Open Gov file, 2024
New Brunswick	**$2,070,336**	North Shore Mi'kmaq Tribal Council	NRCan Enabling SMRs Program	Open Gov file, 2024
New Brunswick	**$1,094,850**	Opportunities New Brunswick	NRCan Enabling SMRs Program	Open Gov file, 2024
New Brunswick	**$561,750**	University of New Brunswick	Atlantic Canada OA Regional Innovation Ecosystem	Open Gov file, 2021
New Brunswick	**$304,125**	University of New Brunswick	NSERC-CNSC SMR Research Program	Open Gov file, 2023
New Brunswick	**$103,225**	University of New Brunswick	NSERC-SMR Eng Research	NSERC
New Brunswick	**$38,225**	Atlantica Centre for Energy	Atlantic Canada OA Regional Innovation Ecosystem	Open Gov file, 2022
New Brunswick	**$13,750**	North Shore Mi'kmaq Tribal Council	Atlantic Canada OA Regional Innovation Ecosystem	Open Gov file, 2021
Total federal funding to New Brunswick for SMR activities: $97,271,783				
Nova Scotia	**$180,000**	Dalhousie University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Nova Scotia	**$69,500**	Dalhousie University	NSERC-SMR Eng Research	NSERC
Total federal funding to Nova Scotia for SMR activities: $249,500				

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Ontario	**$2,000,000,000**	Ontario Power Generation	Canada Growth Fund	Canada GF, 2025
Ontario	**$970,000,000**	Ontario Power Generation	Canada Infrastructure Bank	CI Bank, 2022
Ontario	**$55,597,590**	Ontario Power Generation	Environment CC Canada Future Electricity Fund	Open Gov file, 2024
Ontario	**$27,219,000**	Westinghouse Electric Canada	Industry Science Economic Development SIF	Open Gov file, 2022
Ontario	**$18,923,000**	Terrestrial Energy	Industry Science Economic Development SIF	Open Gov file, 2019
Ontario	**$5,700,000**	Terrestrial Energy	Sustainable Development Technology Canada	Climate Action, 2016
Ontario	**$4,999,996**	Western University	NRCan Enabling SMRs Program	Open Gov file, 2025
Ontario	**$3,750,000**	Nuclear Waste Management Org	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$3,537,809**	Canadian Nuclear Laboratories	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$2,131,000**	Chemetics Inc	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$1,675,050**	McMaster University	NSERC-SMR Eng Research	NSERC
Ontario	**$1,400,000**	McMaster University	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$1,264,000**	Western University	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$1,200,000**	Queen's University	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$1,200,000**	University of Toronto	NSERC-NRCan SMR Research Program	Open Gov file, 2024

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Ontario	**$1,199,300**	McMaster University	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$1,150,400**	Ontario Tech University	NSERC-SMR Eng Research	NSERC
Ontario	**$1,000,000**	Canadian Space Mining Corporation	Canadian Space Agency	Open Gov file, 2023
Ontario	**$1,000,000**	Canadian Space Mining Corporation	Canadian Space Agency	Open Gov file, 2025
Ontario	**$1,000,000**	Canadian Space Mining Corporation	Department of National Defence	Open Gov file, 2025
Ontario	**$950,864**	Org Canadian Nuclear Industries	Atlantic Canada OA Regional Innovation Ecosystem	Open Gov file, 2022
Ontario	**$935,542**	Queen's University	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$925,000**	Canadian Standards Association	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$919,500**	Western University	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$543,000**	Org Canadian Nuclear Industries	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$537,900**	Ontario Tech University	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$511,750**	Queen's University	NSERC-SMR Eng Research	NSERC
Ontario	**$479,366**	Western University	NSERC-SMR Eng Research	NSERC
Ontario	**$468,631**	University of Waterloo	NSERC-SMR Eng Research	NSERC
Ontario	**$437,021**	University of Guelph	NSERC-SMR Eng Research	NSERC

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Ontario	**$370,673**	University of Waterloo	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Ontario	**$360,000**	McMaster University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	McMaster University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	Ontario Tech University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	Queen's University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	Queen's University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	University of Ottawa	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	University of Toronto	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	University of Toronto	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	University of Waterloo	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	University of Waterloo	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$360,000**	Western University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$359,596**	Western University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$359,500**	Western University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$359,100**	University of Toronto	NSERC-CNSC SMR Research Program	Open Gov file, 2023

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Ontario	**$356,949**	University of Waterloo	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$350,000**	Clyde Union Canada	National Research Council IRAP Contributions Firms	Open Gov file, 2022
Ontario	**$349,500**	Terrestrial Energy	National Research Council General Purpose	Open Gov file, 2016
Ontario	**$343,000**	Ontario Tech University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$261,535**	Calian Ltd	NRCan Enabling SMRs Program	Open Gov file, 2024
Ontario	**$260,000**	Canadian Nuclear Association	NRCan General Contribution	Open Gov file, 2018
Ontario	**$250,000**	University of Waterloo	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$235,400**	Ontario Tech University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$215,504**	University of Guelph	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$190,850**	McMaster University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$141,000**	McMaster University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Ontario	**$140,000**	Canadian Space Mining Corporation	National Research Council IRAP Contributions Firms	Open Gov file, 2025
Ontario	**$126,475**	Kinectrics Inc	NRCan Enabling SMRs Program	Open Gov file, 2024
Total federal funding to Ontario for SMR activities: $3,119,284,801				
Quebec	**$2,750,000**	Prodigy Clean Energy Ltd	NRCan Enabling SMRs Program	Open Gov file, 2024

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Quebec	**$549,216**	Université Laval	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Quebec	**$400,000**	École Polytechnique de Montréal	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Quebec	**$360,000**	École Polytechnique de Montréal	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Quebec	**$360,000**	Université de Sherbrooke	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Quebec	**$360,000**	Université Laval	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Quebec	**$345,000**	McGill University	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Quebec	**$344,000**	École Polytechnique de Montréal	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Quebec	**$224,000**	École Polytechnique de Montréal	NSERC-SMR Eng Research	NSERC
Quebec	**$120,000**	Université Laval	NSERC-SMR Eng Research	NSERC
Total federal funding to Quebec for SMR activities: $5,812,216				
Saskatchewan	**$80,010,000**	Saskatchewan Power Corporation	Environment CC Canada Future Electricity Fund	Open Gov file, 2024
Saskatchewan	**$50,000,000**	Saskatchewan Power Corporation	NRCan Electricity Pre-Development Program	Open Gov file, 2024
Saskatchewan	**$2,830,385**	SK Industrial and Mining Suppliers Assn	NRCan Enabling SMRs Program	Open Gov file, 2025
Saskatchewan	**$1,955,000**	University of Regina	Prairies EDC Regional Econ Growth via Innovation	Open Gov file, 2025
Saskatchewan	**$1,280,000**	University of Regina	NSERC-NRCan SMR Research Program	Open Gov file, 2024

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Table 3: Federal Funding for SMR Activities by Province
(Table sorted by SMR Activity Spending, high to low within each province, Source and Reference hyperlinked)

Location	SMR Activity Spending	Funding Recipient	Source of Public Funds	Reference
Saskatchewan	**$941,651**	University of Regina	NRCan Enabling SMRs Program	Open Gov file, 2024
Saskatchewan	**$899,707**	University of Saskatchewan	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Saskatchewan	**$800,000**	First Nations Power Authority SK	NRCan Smart Renewables	Open Gov file, 2021
Saskatchewan	**$360,000**	University of Saskatchewan	NSERC-CNSC SMR Research Program	Open Gov file, 2023
Saskatchewan	**$332,000**	University of Regina	NSERC-SMR Eng Research	NSERC
Saskatchewan	**$225,070**	University of Saskatchewan	NSERC-SMR Eng Research	NSERC
Saskatchewan	**$120,000**	University of Saskatchewan	NSERC-NRCan SMR Research Program	Open Gov file, 2024
Total federal funding to Saskatchewan for SMR activities: $139,753,813				

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
Canada Growth Fund	$2,000,000,000	The mandate of the federal Canada Growth Fund is "building a financially prudent portfolio of investments that unlock private sector investment in Canadian businesses and projects to help grow Canada's economy at speed and scale on the path to emissions reductions, in the interest of remaining competitive globally over the longer term."
Building Ontario Fund	$1,000,000,000	The provincial Building Ontario Fund is "an arms-length, board-governed Crown agency enabled by the Building Ontario Fund Act, 2024. It will help build a stronger province for Ontario's quickly growing population and lay a strong foundation for future generations. The Building Ontario Fund is designed to do more than finance infrastructure – it's built to spark transformation."
Canada Infrastructure Bank	$970,000,000	The federal Canada Infrastructure Bank "is an impact investor developing the next generation of infrastructure Canadians need. We deliver outcomes such as sustainable economic growth, connected communities and energy competitiveness."
Environment CC Canada Future Electricity Fund	$135,607,590	The federal Environment and Climate Change Canada's Future Electricity Fund will support "clean electricity projects and/or programs. Proceeds collected from electricity generating facilities covered by the OBPS (such as utilities) will be returned through funding agreements with governments of jurisdictions where the federal carbon pollution pricing system currently applies or applied in the past."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
NRCan Electricity Pre-Development Program	$95,000,000	The federal Natural Resources Canada's Electricity Pre-Development Projects program supports "predevelopment activities associated with nationally and regionally significant, large-scale non-emitting clean electricity infrastructure projects with significant predevelopment requirements to advance the projects."
Industry Science Economic Development SIF	$93,642,000	The federal Innovation, Science and Economic Development Canada's Strategic Innovation Fund, Stream 1- R&D purpose: "Encourage R&D that will accelerate technology transfer and commercialization of innovative products, processes and services; facilitate the growth and expansion of firms in Canada; attract and retain large scale investments to Canada; and advance industrial research, development and technology demonstration through collaboration between academia, non-profit organizations and the private sector."
Government of Saskatchewan	$80,000,000	The Saskatchewan government provided $80 million over five years to the Saskatchewan Research Council to lead the demonstration of a microreactor in Saskatchewan. Note: The first installment of $21.5M was included in the province's 2024-25 budget for the SRC.
NRCan Enabling SMRs Program	$28,553,579	The federal Natural Resources Canada's Enabling Small Modular Reactors program objective is to: "support the establishment of conditions and enabling frameworks necessary for SMRs to displace fossil fuels and contribute to climate change mitigation, by supporting research on waste management and minimization for SMRs and SMR supply chains (including fuel supply)."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
New Brunswick Climate Change Fund	$21,500,000	The New Brunswick Climate Change Fund "supports government progress in the completion of the Climate Change Action Plan." The Government of New Brunswick announced $20 million for the ARC-100 design in the 2021-22 budget. This amount was paid over three years from this fund. Moltex also received $1.5M from this fund.
NSERC-NRCan SMR Research Program	$12,717,296	"In support of Canada's Small Modular Reactor Action Plan, the federal Natural Sciences and Engineering Research Council (NSERC) is partnering with Natural Resources Canada to fund research on SMRs. As stated in Budget 2022: Support to develop this technology can position Canada as a clean energy leader; support the decarbonization of provincial electricity grids in places like New Brunswick and Saskatchewan; facilitate the transition away from diesel power in remote communities; and help decarbonize heavy emitting industries."
New Brunswick Energy Solutions Corp	$10,000,000	New Brunswick Energy Solutions Corp. was a company set up in 2018 solely as a vehicle to give $5 million each to two start-up companies from the U.S. (ARC-100 SMR design) and the U.K. (Moltex SSR-W300 SMR design). After the company disbursed the $10M, the company was dissolved. According to a CBC article, the purpose of this work-around was to avoid scrutiny by the province's energy regulator.
Atlantic Canada OA Regional Innovation Ecosystem	$9,483,444	Atlantic Canada Opportunities Agency is a federal regional development agency. The REGI - Regional Innovation Ecosystem program funds "non-profit organizations that support businesses at each stage of development. By doing this, we create strong and inclusive regional networks to fuel growth and innovation."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
NSERC-CNSC SMR Research Program	**$9,384,024**	The federal agencies Natural Sciences and Engineering Research Council of Canada (NSERC) and Canadian Nuclear Safety Commission (CNSC) "are collaborating to enhance research and knowledge, strengthen the science needed for regulatory decisions regarding the safe and secure deployment of small modular reactors (SMRs)." This amount is for the Phase I grants "to support effective and efficient regulation and regulatory oversight of SMRs." Results from Phase 2 competition will be announced in 2026.
NSERC-SMR Eng Research	**$5,796,013**	This amount is SMR research in nuclear engineering funded by the federal agency Natural Sciences and Engineering Council Canada (NSERC) since 2018. Results generated by NSERC awards database. Search parameters: fiscal year=2018-2019 to 2024-2025; keyword=SMR; research subject = nuclear engineering (all); display results=statistics by organization. Note: These results do not include the NSERC-CNSC SMR or NSERC-NRCan SMR research programs listed separately in this table.
Sustainable Development Technology Canada	**$5,700,000**	A federal investment fund now called Foresight Canada: "Canada's key industries are changing. The clean transition is here, but the real work is ensuring the world's best cleantech gets scaled and adopted—fast. The Foresight team drives this crucial transformation. We have a dual focus: accelerating incredible Canadian ventures into the market, and actively helping industry identify and integrate technologies that boost their productivity and profitability. We accelerate cleantech adoption because a sustainable future demands we move faster than business as usual.'
Atlantic Canada OA Business Scale-up	**$5,666,667**	Atlantic Canada Opportunities Agency is a federal regional development agency. The Business Scale-up and Productivity program is to "help businesses speed up their growth so they can be more productive, compete on the world stage and reach new markets."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
Saskatchewan Power	$4,000,000	Saskatchewan Power is the provincial public electrical utility. "Established in 1929, we are Saskatchewan's leading power supplier. We support our province's growth and work to enhance quality of life for our over half a million customers." SaskPower gave this grant in 2026 for a new SMR research centre; the original funding source could be the federal grant to SaskPower in 2024.
Canadian Space Agency	$2,000,000	The federal Canadian Space Agency's Space R&D - Advanced Technologies program "provides financial support to organizations to conduct space related research and development in priority areas. It will support targeted knowledge development and innovation to sustain and enhance the Canadian capacity to use space to address national needs and priorities in the future."
Prairies EDC Regional Econ Growth via Innovation	$1,985,000	The federal agency Prairies Economic Development Canada's Regional Economic Growth through Innovation program provides "streamlined, nationally consistent and yet regionally tailored support for business productivity and scale-up and assists the enhancement of regional industrial and technology clusters and regional innovation ecosystems."
NRCan Outreach and Engagement	$1,091,239	The federal department Natural Resources Canada's Outreach and Engagement program objectives: "To encourage and accelerate innovation via the dissemination of information; to maintain a sustainable and responsible development of Canada's natural resources via participation into engagement activities; to share best practices at home and abroad on clean, sustainable, efficient technologies and practices related to natural resources; and, to assist in the protection of our natural resources from pests, fire and other hazards."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
Emissions Reductions Alberta	$1,028,000	Emissions Reductions Alberta funds "the technology solutions that industry needs to meet outcomes Alberta is looking for. Since 2009, ERA has helped deliver on the province's environmental and economic goals by investing in the pilot, demonstration, and deployment of clean technology solutions that reduce emissions, lower costs, attract investment, and create jobs in Alberta."
Department of National Defence	$1,000,000	The federal National Defence department's Innovation for Defence Excellence and Security Program "solicited proposals to support innovations and concepts that advance NORAD modernization S&T to future-proof North America's defence against aerospace and maritime threats."
Innovation Saskatchewan	$1,000,000	"Innovation Saskatchewan is an agency of the Government of Saskatchewan. We fuel economic growth by empowering innovators and supporting Saskatchewan's vibrant tech sector and research community."
OPG Centre for Cdn Nuclear Sustainability	$1,000,000	The provincial public electrical utility Ontario Power Generation's Centre for Canadian Nuclear Sustainability "provided $1 million to assist Moltex in demonstrating the technical viability of a new process to recycle used CANDU fuel."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
National Research Council IRAP Contributions Firms	$839,500	The federal National Research Council's Industrial Research Assistance Program Contributions to Firms supports "research, development, adoption and/or adaptation of innovative or technology-driven new or improved products, services or processes in Canada up to their commercialization."
NRCan Smart Renewables	$800,000	The Federal Natural Resources Canada's Smart Renewables and Electrification Pathway Program will focus on "contributions to deploy advanced large-scale renewable energy projects and technologies that provide grid services."
CNSC Regulatory Research or Research and Support	$763,875	The federal agency Canadian Nuclear Safety Commission's Regulatory Research and Evaluation / Research and Support objectives are to "enable the research, development and management of activities that contribute to the objectives of the Research and Support Program in order to reduce uncertainties regarding health, safety, security and environmental issues."
NRCan General Contribution	$260,000	The federal department Natural Resources Canada provided a grant to the lobby group the Canadian Nuclear Association for this purpose: "to assess the needs of the Canadian market, with the goal of narrowing the expansive field of Small Modular Reactor (SMR) technologies currently being proposed by vendors to those best suited to the domestic market. The Project will include four regional workshops as part of a stakeholder engagement process meant to inform the Roadmap, alongside the outputs of a series of technical working groups, culminating in a final report that will be made publically available."

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Table 4: Public Fund Source Totals with Source Description

(Table sorted SMR Activity Spending high to low. Source of Public Funds is hyperlinked)

Source of Public Funds	SMR Activity Spending	Source Description
New Brunswick Innovation Foundation	$173,595	The provincial New Brunswick Innovation Foundation "is an evergreen pre-seed and seed stage venture capital organization that invests in the creation and scaling of New Brunswick tech companies. Backed by a $100 million fund, we offer a comprehensive support system, including direct equity investment in companies, a fund-of-funds strategy, specialized funds that support sustainability and competitiveness and a network of business accelerators and incubators."
Global Affairs Canada	$173,002	The federal Global Affairs Canada's Contr-Indo-Pacific Engagement Program provided a grant "to survey the energy policy, regulatory and commercial environment for small modular reactors (SMR) in selected Indo-Pacific countries."
NRCan Small Scale Research	$158,000	The federal Natural Resources Canada's Small Scale Research program purpose is to "encourage and accelerate innovation in the natural resources sectors; to assist in the protection of our natural resources; to encourage and develop new and more efficient techniques and technology for sustainable development of our natural resources; and, to provide for a better understanding and knowledge of our natural resources."
National Research Council IRAP Youth Employment	$60,000	The federal National Research Council's Industrial Research Assistance Program Youth Employment Program assists "in increasing the supply of highly qualified people, promoting the benefits of advanced studies, demonstrating federal leadership by investing in the skills required to meet the needs of the knowledge economy and facilitating the transition of highly skilled young people to a rapidly changing labour market."
Total	**$4,499,382,824**	