GOVERNMENT OF CANADA RESPONSE TO RECOMMENDATIONS IN THE STANDING COMMITTEE ON NATURAL RESOURCES' REPORT:

"THE NUCLEAR SECTOR AT A CROSSROADS: FOSTERING INNOVATION AND ENERGY SECURITY FOR CANADA AND THE WORLD"

The Government of Canada has reviewed the report of the Standing Committee and thanks its members for their efforts in developing this report. The Government also wishes to extend its thanks to the numerous witnesses who provided expert testimony to the Committee, providing the members with a diversity of perspectives on the nuclear sector.

The Government agrees with all of the Committee's recommendations. The Government's response to the specific recommendations made by the Committee follows. We outline federal activities, programs, and engagement mechanisms—as well as the contributions of other nuclear sector stakeholders—to foster innovation, increase coordination, and support a strategic vision for the future of nuclear energy and nuclear science and technology in Canada.

Nuclear energy is an important part of Canada's current clean energy mix and will continue to play a key role in achieving Canada's low carbon future. Nuclear energy is the second-largest source of non-emitting electricity in Canada. In 2015 it accounted for 15% of national electricity generation, 33% of electricity generated in New Brunswick, and almost 60% of Ontario's electricity. Nuclear energy displaces over 50 million metric tons of carbon dioxide emissions each year compared to the same amount of electricity produced from natural gas. To put that figure in context, the Government of Canada's target under the Paris Agreement is to reduce carbon dioxide emissions by 219 million metric tons by 2030. With $26 billion being invested in the refurbishment of CANDU (CANada Deuterium Uranium) reactors in Ontario, nuclear energy will remain a primary source of clean and reliable energy in Canada for many decades to come.

Canada has been a world leader in nuclear energy since the development of Canada's own CANDU reactor technology by Atomic Energy Canada Ltd (AECL) in 1952. Today, there are a total of 31 CANDU reactors in operation on four continents, and the world continues to look to Canada as an innovator in nuclear technology for energy, as well as for medical, industrial, and space applications.

As the Standing Committee's report indicated, the nuclear sector in Canada is at a crossroads. Expert witnesses drew attention to a number of opportunities to advance nuclear safety, support nuclear innovation, research and development, and enhance collaboration to promote Canadian leadership in nuclear energy and nuclear science and technology at home and abroad.

This report was timely as it dovetailed with *Generation Energy*, a national dialogue on Canada's path to a low-carbon future led by the Honourable Jim Carr, Minister of Natural Resources Canada. There is strong alignment between the Committee's report and what the Government heard through the *Generation Energy* dialogue, including from stakeholder roundtables on *"Generation Energy: What's Next for Nuclear"*, which were chaired by the Parliamentary Secretary to the Minister of Natural Resources in spring 2017. Five themes, in particular, emerged from the roundtables, as follows:

1. **The Government of Canada is an important partner**, essential for industry success. There is a role for the Government in **providing certainty** (policy, regulatory, funding) to improve investor confidence and deepen relationships with partner governments.

2. **Nuclear energy is an important part of Canada's energy and climate change initiatives**, and public education to demystify the nuclear sector by highlighting the roles of nuclear science and technology in everyday life will **build and maintain public confidence**.
3. Establishing **lasting partnerships between various players and across the entire breadth of the sector** (including large companies, utilities, small and medium enterprises or SMEs, governments, laboratories and academia), **will bring the industry to the next level**.
4. There is a need to recognize and promote the fact that **next generation nuclear workers are diverse and have a passion for environmentalism and global citizenship**. With nuclear power plant refurbishments underway in Ontario, there will be many opportunities for young people entering the nuclear field today and for years to come.
5. **The nuclear industry has a bright future**, not only in power, but also across the full spectrum of the industry (health, security, agriculture, etc.). **An overall strategy could help guide future partnerships and investments.**

A consistent theme throughout the Committee's report is one of partnerships, and bringing together industry, academia, Indigenous governments and communities, federal, provincial, and territorial governments, as well as international partners, to advance the nuclear sector both in Canada and abroad.

In the Government's response to each of the Committee's recommendations, linkages are drawn to the themes heard during the "*Generation Energy: What's Next for Nuclear?*" roundtables, including the importance of partnerships.

RECOMMENDATION #1: ***The Committee recommends that the Government of Canada work with industry, Indigenous governments and communities, provincial/territorial governments, and international partners to ensure that Canada's nuclear sector continues to advance its rigorous regulatory and safety practices by:***

a) continuing to invest in R&D and innovations to advance the sector's safety profile, including its operations and waste management practices in Canada and abroad;
b) ensuring that enough financial securities are available to address the impacts of any unexpected nuclear incident or accident on public safety, health and/or the environment; and
c) staying abreast of international developments in the fields of nuclear safety and waste management.

GOVERNMENT RESPONSE:

The Government of Canada agrees with this recommendation, which is bolstered by the *What's Next for Nuclear* theme #3 of establishing lasting partnerships between various players across the sector. Nuclear energy is reliable, safe, and environmentally responsible as long as it is developed within a robust regulatory framework that adequately addresses safety, security, non-proliferation, and waste management concerns. Collaboration between industry, federal and provincial governments, laboratories and research organizations, and international partners and institutions is essential to advancing these rigorous regulatory and safety practices in Canada. The Government of Canada is committed to providing responsible stewardship to support a strong and safe nuclear sector.

a) Through programs managed by AECL, the Canadian Nuclear Safety Commission (CNSC), and Defence Research and Development Canada (DRDC), the Government of Canada continues to invest in research, development, and innovations to advance the sector's safety profile and protect the health, safety, and security of the public.

The federal government has committed $76 million annually for 10 years to the Federal Nuclear Science & Technology Work Plan, for nuclear-related science and technology in support of core federal priorities and the mandates of 13 federal departments and agencies. The work plan, managed by AECL, provides funding to Canadian Nuclear Laboratories (CNL) to advance nuclear research in five theme areas:

1. Supporting the development of biological applications and understanding the implications of radiation on living things;
2. Enhancing national and global security by supporting non-proliferation and counter-terrorism;
3. Nuclear emergency preparedness and response;
4. Supporting safe, secure and responsible use and development of nuclear technologies; and
5. Supporting environmental stewardship and radioactive waste management.

With respect to the sector's safety profile, the Federal Nuclear Science & Technology Work Plan aims to support Canada's position as a global player in areas of security, health, energy and nuclear regulation while maintaining the unique technical knowledge needed to regulate Canada's nuclear industry, and to meet Canada's obligations in international energy, regulatory, and security fora.

In addition, under its mandate to fulfill Canada's radioactive waste and decommissioning responsibilities, AECL provides support to CNL to undertake science and technology projects that will support infrastructure decommissioning, environmental remediation, and waste management requirements at AECL sites.

The CNSC funds research to deliver on its mandate to regulate the use of nuclear energy and materials to protect health, safety, security and the environment; to implement Canada's international commitments on the peaceful use of nuclear energy; and to provide objective scientific, technical, and regulatory information to the public.

The CNSC's research supports new techniques to improve its understanding of new technology and innovation in the sector. The CNSC's 2016-17 fiscal year research and development expenditures totalled $3.3 million. Areas of focus for technological development in the coming years are: enhancements to safety systems of existing reactors (ten of which are expected to be refurbished over the next decade), new reactor technologies that are being applied to small reactor designs, decommissioning of shutdown reactors, and solutions for the safe and long-term storage of radioactive waste.

The CNSC's regulatory regime is subject to continuous improvement—including regular review and updating of regulations, standards and guides. The CNSC participates with all stakeholders in the development of relevant industry standards through bodies such as the Canadian Standards Association (CSA) Group, which includes seeking input from the public. When the CNSC amends its regulations, it similarly works in collaboration with the nuclear sector, the public, and

Indigenous Peoples to seek their input, and holds public Commission meetings to discuss the proposed amendments.

The government also provides funding to enhance Canada's resilience to radiological threats through the Canadian Safety and Security Program, led by Defence Research and Development Canada's Centre for Security Science, in partnership with Public Safety Canada. The program's mission is to strengthen Canada's ability to anticipate, prevent, mitigate, prepare for, respond to, and recover from natural disasters, serious accidents, crime, and terrorism through the convergence of science and technology with policy, operations, and intelligence.

The Government recognizes that the Canadian nuclear industry invests in research and development to advance safety and sustainability of the sector across the full fuel cycle, from mining to fuel fabrication, operations, refurbishment, waste management, and decommissioning. For example, through the CANDU Owners Group, an industry-funded forum for collaboration among utilities that own CANDU reactors, industry is advancing research and development to demonstrate the safe performance of CANDU reactors and their operations in Canada and around the world. The Government is committed to continuing work with industry to advance the safety profile of the nuclear sector, in collaboration with provinces and territories, Indigenous governments, and communities.

b) On January 1, 2017, the Government of Canada brought into force the *Nuclear Liability and Compensation Act (NLCA)* that establishes a modern regime to manage nuclear civil liability and compensation in the unlikely event of a nuclear accident causing injury or damage at a Canadian nuclear installation. The NLCA came into force on January 1, 2017, following the completion of implementation steps including the publication of the supporting regulations in May 2016, and the development of supporting financial security documents. It can be viewed at http://www.laws.justice.gc.ca/eng/acts/N-28.1/FullText.html.

Natural Resources Canada is the lead federal department for policy development in respect of nuclear liability legislation, and for ensuring that the process of compensation for damages arising from a nuclear incident is well coordinated and administered in Canada. The department consulted with industry, provincial governments, and the international community in developing the new legislation to modernize Canada's nuclear liability regime, which ensures that adequate financial securities are available to address the impacts of a nuclear incident on public safety, health and/or the environment in Canada.

Operators of nuclear installations designated under the NLCA are absolutely and exclusively liable for any civil damages caused by an incident at that installation and are required to carry financial security to cover their liability. The NLCA increases the liability limit for nuclear power plant operators from the $75 million in the previous legislation to $1 billion over a period of four years (with $650 million applying on January 1, 2017 to $1 billion applying on January 1, 2020). This amount is in line with other jurisdictions around the world. Because the level of risk is different for the activities of classes of nuclear installations other than nuclear power plants, the *Nuclear Liability and Compensation Regulations* assign operators of a particular class a liability amount that is proportional to the level of risk posed by that class of nuclear installation.

Pursuant to the requirements of the legislation and its regulations, all nuclear operators now have in place the increased financial security required of them. Natural Resources Canada administers the legislation and monitors the operators' financial security on a regular basis.

The new legislation also broadens the number of categories of nuclear damage for which compensation may be sought, including certain forms of environmental damage, preventive measures and economic loss. It also improves the procedures for delivering compensation: in the event of a serious incident, the NLCA could provide special compensation measures imposed by the government to replace the normal court process.

The NLCA permitted Canada to ratify the International Atomic Energy Agency's (IAEA) Convention on Supplementary Compensation for Nuclear Damage on June 6, 2017. The Convention addresses liability and compensation within member countries arising from a nuclear incident occurring within a member country or during nuclear material transport. Canada's ratification of the Convention creates treaty relations with parties to the Convention, including the United States.

Internationally, the Government of Canada participates, through Natural Resources Canada, in the IAEA International Expert Group on Nuclear Liability (INLEX). Participation in this forum enables the Government to explore and advise on best practices related to nuclear liability legislation and international nuclear liability treaties.

c) The Government recognizes that international engagement is essential to stay informed of developments in nuclear safety and waste management, and to contribute to the advancement of the state-of-art in these fields. International engagement helps Canada ensure it has a robust framework to address safety and waste management issues, and it enables Canada to advance strategic priorities with partners and demonstrate leadership in advancing the development of nuclear energy.

Canada actively participates in a number of international committees and activities at the IAEA and the Nuclear Energy Agency. The IAEA promotes the safe, secure and peaceful use of nuclear technologies, whereas the Nuclear Energy Agency is a specialised agency within the Organisation for Economic Co-operation and Development (OECD) that facilitates cooperation on scientific, technical, and legal issues among countries with advanced nuclear technology infrastructures. In addition, Canada collaborates bilaterally with key partners such as the United States, United Kingdom, China, and India on issues that encompass nuclear safety and waste management.

Canada regularly opens its doors to international scrutiny on its practices to ensure its standards and practices are world leading. The CNSC fully supports IAEA peer review missions, including the International Regulatory Review Service (IRRS), the International Physical Protection Advisory Service, and other technical reviews. For example, in 2015, a team of IAEA experts completed a two-week mission to review national nuclear security practices in Canada at the request of the Government of Canada. In the past, Canada has also initiated an IRRS mission, which is an IAEA service offered to Member States at their request to review their regulatory regimes and processes.

To fulfill its international commitments and treaty obligations, Canada also actively participates in nuclear safety and security organizations and treaties, such as the International Partnership for Nuclear Disarmament Verification, the Comprehensive Nuclear-Test-Ban Treaty, the Non-

Proliferation Treaty, and the Fissile Material Cut-off Treaty. Through the CNSC, Canada participates in meetings of other international organizations, such as the International Nuclear Regulators Association, the CANDU Senior Regulators Group, and the G7 Nuclear Safety and Security Group.

Canada is a contracting party to the IAEA *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*. As a party to the Convention, Canada undertakes a comprehensive review of its waste management governance and practices every three years. Following this review, Canada submits a national report that outlines how the safety of radioactive waste management is achieved. The report presents how Canada is staying abreast of international developments in this area and how Canada has integrated those best practices into its active radioactive waste management and decommissioning activities. Canada's national report is peer reviewed by the Contracting Parties to the Joint Convention, and has been well received by the international forum. Canada also continues to demonstrate its leadership role and commitment to the peer review process by regularly putting forward its technical specialists in the field as reviewing officers to assist with the Joint Convention.

Canadians have been recognized as leaders in these fora. For example, the CNSC's Executive Vice-President and Chief Regulatory Officer, Ramzi Jammal, was elected President of the Convention and led the Seventh Review Meeting of the CNS in March 2017, at the IAEA headquarters in Vienna. Canadian participation in these fora directly informs the Government's understanding of international developments in nuclear safety and security, health, waste management and energy technologies and ensures that regulatory activities are consistent with internationally agreed upon best practices and principles, as appropriate in a Canadian context. Canada's involvement also allows it to influence and enhance nuclear safety from an international regulatory perspective and to exchange information and experience among regulatory organizations.

Beyond the federal government, nuclear power plant operators participate in a number of groups to share best practices and keep abreast of nuclear safety developments. The CANDU Owners Group facilitates sharing operating experience among CANDU reactors owners internationally to ensure the safe operation of CANDU power plants worldwide. Canadian power plant operators also participate in the World Association of Nuclear Operators, which has a mandate to maximize the safety and reliability of nuclear power plants worldwide. The Association unites nuclear companies and countries to assess, benchmark, and improve performance through mutual support, exchange of information, and emulation of best practice. In addition, Canadian nuclear power plant operators participate in the World Institute of Nuclear Security, a non-governmental voluntary organization that provides a forum to share best practices in strengthening the physical protection and security of nuclear and radioactive materials and facilities.

As a non-profit organization established by Canadian nuclear electricity producers to design and implement Canada's plan for the safe, long-term management of nuclear fuel waste, the Nuclear Waste Management Organization (NWMO) works with experts from across Canada and internationally to support its design, siting, and confidence-building activities. It supports research projects with 15 Canadian universities and has exchange agreements with national radioactive waste management organizations in Sweden, Finland, Switzerland, France, South Korea, and United Kingdom. The NWMO, by incorporating innovative approaches in its

public and stakeholders engagement activities, is also setting best practices and is a recognized leader through its collaborative siting process and commitment of finding a willing-host community for this project.

By collaborating with leading researchers in Canada and other countries, the NWMO helps ensure its work is based on international best practices. At the same time, by sharing its own research advances, the NWMO is making significant contributions to the field of nuclear waste management.

RECOMMENDATION #2: ***The Committee recommends that the Government of Canada continue its support for Canadian nuclear research and development (R&D) and innovation in the short, medium and long term, by:***

- ***a) considering long-term options to provide a reliable, high-flux neutron source for Canadian researchers;***
- ***b) working in collaboration with industry, especially small companies, to ensure that researchers and experts have access to the services and infrastructure they need to excel in their innovation and R&D pursuits; and***
- ***c) working with industry, the healthcare community and provincial/territorial governments to ensure that the Canadian supply of medical isotopes remains uninterrupted in the short, medium and long term.***

GOVERNMENT RESPONSE:

The Government of Canada agrees with this recommendation, which aligns with the *What's Next for Nuclear* theme #3 of establishing lasting partnerships across the sector to bring industry to the next level. Partnerships between government, academia, and industry are key to ensuring access to the facilities, support, and expertise that the sector needs advance research, development, and innovation in nuclear science and technology.

a) The Government recognizes the potential value of a new high-flux neutron source for Canadian researchers. A high-flux research reactor could enable ongoing fuel, materials and safety research to support reliable, low-cost, low-carbon electricity to power Canada and its economy. It could also support emerging opportunities, including the development of the next generation of nuclear energy technologies such as small and very small modular reactors that may be suited to providing clean energy to northern communities and remote mining installations.

AECL's National Research Universal (NRU) reactor has been one of Canada's most productive science and technology facilities for 60 years. It was foundational to the development of the CANDU technology, which is the basis for an industry that supports 30,000 jobs and provides 15% of Canada's electricity – and almost 60% of Ontario's electricity. NRU has also contributed to the health of Canadians and patients globally through isotope production that was carried out over many decades. Recognizing that a reactor of this age cannot continue to operate indefinitely, the NRU reactor will be permanently shut down in March 2018.

The Government recognizes that, although the science and technology mission at Chalk River Laboratories is much broader than just the NRU reactor, its shutdown will have impacts on nuclear research and development in Canada. The NRU is used to test and develop fuel, produce medical and industrial isotopes, and enable materials research, including through the Canadian

Neutron Beam Centre. As these capabilities cannot be fully replicated at other facilities in Canada, researchers will inevitably lose access to a high-flux neutron source in Canada with NRU's closure.

The nuclear community in Canada has called for a long-term solution to enable access to a high-flux neutron source, and is mobilizing to respond to the immediate loss of NRU. The Government believes that the full range of options for charting a way forward should be considered:

1. **Access high-flux neutrons at foreign facilities:** In the short term, access could be maintained by securing agreements for Canadian researchers to access to high-flux neutrons sources at foreign facilities.
2. **Develop a domestic source of medium-flux neutrons:** In the medium term, a portion of the research community's needs could be met by developing a domestic source of medium-flux neutrons through expansion of neutron beamlines and operations at McMaster's Nuclear Research Reactor, which will be Canada's largest research reactor following closure of NRU, recognizing that, this would not fully replicate the capabilities of a high-flux neutron source in Canada, the balance of the community's needs could be met through access to foreign facilities.
3. **Build a new domestic source of high-flux neutrons:** In the longer-term, domestic access to a source of high-flux neutrons could be restored with the construction of a multi-purpose nuclear research reactor or a non-reactor, accelerator-based source.
4. **Focus in other areas:** The resources needed to secure access to a high-flux neutron source could be used to build Canadian expertise in other areas of nuclear science and materials science research.

Accordingly, the Government is engaging with stakeholders in nuclear R&D, the broader user community of neutron beams in Canada, and potential partners to explore the full range of possible options and models for access to high flux neutrons. Through these discussions, the Government will seek to identify possible solutions based on partnerships that bring together federal and provincial governments, academia, industry, and international partners to support scientific research by Canadians for the benefit of Canadians.

b) The Government recognizes that access to research and development services and infrastructure is essential in enabling the Canadian nuclear industry to remain on the cutting edge of research and innovation. The Chalk River Laboratories—Canada's largest science and technology complex—are integral to Canada's science and technology landscape. Scientists who have worked and trained at the Chalk River Laboratories have had significant impact in Canada's scientific and innovation achievement—including two Nobel Prize winners whose work was started and enabled by the Chalk River Laboratories. For decades, CNL has provided research and development services to the nuclear industry.

The Government recognizes that the model for, and cost structure of, access to facilities at Chalk River Laboratories has changed. Starting in 2009, the Government undertook a restructuring of AECL with a view to reducing risks and costs to Canadian taxpayers while leveraging AECL's capabilities for the benefit of Canadians and industry. The restructuring was undertaken with the objective of implementing a Government-owned, Contractor-operated model to bring private-sector rigour and efficiency while leveraging the significant expertise and facilities at the laboratories.

Under the new structure, AECL's mandate is to enable nuclear science and technology in order to sustain and develop Canada's capabilities in a cost-effective manner. To deliver on this mandate CNL provides technical services and research and development products for third parties on a commercial basis. The objective is to leverage the assets and capabilities of CNL to undertake commercial work on at least a full cost-recovery basis.

To ensure Chalk River Laboratories have the facilities and infrastructure needed to continue to be a hub for nuclear innovation in Canada, the Government is investing $1.2 billion over ten years, starting in 2014-2015, in the revitalization of the laboratories. These investments are intended to create a "big science" infrastructure for the broad benefit of all those in Canada wishing to leverage its capabilities, accessible to academics, industry experts, and others—including small companies.

The Government recognizes that industry also leverages a range of services and infrastructure at universities, research organizations, private laboratories, and other facilities beyond the national laboratories at Chalk River—in Canada and worldwide. Through the Nuclear Leadership Forum convened by the Canadian Nuclear Association, industry has mapped the nuclear science and technology landscape in Canada and its contributions to Canadian research and development networks across the country.

The Government of Canada is committed to engaging with industry to understand their innovation, research, and development goals, and to identify how the federal government can work in partnership with industry, provinces, and academia to ensure researchers, experts, and small businesses continue to have access to the services and infrastructure they need to excel in their pursuits.

c) The market for isotopes is global and integrated, with individual countries both contributing to and drawing from global, rather than national, supply chains for isotope products. This considered, the Government of Canada is committed to increasing the security of Canada's access to medical isotopes in the short, medium and long term. In 2010, in response to the prolonged, unplanned outage of the NRU, the Government of Canada announced a long-term strategy to help ensure the security of global medical isotope supplies. The strategy was three-pronged:

1. Maintain safe and reliable isotope production by the NRU until October 2016, allowing for a transition period towards a more diversified global supply chain. Routine NRU isotope production was discontinued at the end of October 2016 as scheduled, with international producers adjusting their output schedules to compensate.
2. Invest $60 million to support the research and development of non-reactor isotope production technologies in Canada (cyclotrons and linear accelerators). As of mid-2017, these alternative forms of Mo-99 and Tc-99m production have reached the clinical trial stage. These technologies will add new Canadian isotope production sources once they reach commercial production stage.
3. Engage the international community to encourage better coordination of global supply and more efficient use of medical isotopes.

Due in part to this strategy and ongoing Canadian efforts, the current global isotope supply situation has improved significantly. Indeed, isotope production at other facilities in the international supply chain have added capacity to compensate for the cessation of routine

production at the NRU. As a result, according to 2017 projections issued by the OECD's High-Level Group on the Security of Supply of Medical Radioisotopes suggest that, under normal conditions, global Mo-99 supply will remain sufficient to meet demand in 2017–2018 and beyond, with adequate excess supply to deal with some level of unplanned shortages. In addition, Canadian companies continue to make progress in the development of alternative, non-reactor methods of producing isotopes, which will further supplement Canada's supply with new domestic production capabilities.

The Government of Canada will continue to engage Canadian medical isotope stakeholders, including through the Multi-Stakeholder Working Group on Medical Isotopes, and will continue to participate in future international fora aimed at fostering communication, joint planning, and understanding of the Canadian and global isotopes markets.

RECOMMENDATION #3: ***The Committee recommends that the Government of Canada continue to support the development and commercialization of Canadian nuclear technologies in Canada and abroad by:***

- ***a) continuing to provide funding that applies to the full spectrum of the sector's operations, while allowing industry experts the flexibility to invest these funds according to their business needs and market research; and***
- ***b) providing financial support to help small businesses cover their capital expenditures for large projects (e.g., through the federal Scientific Research and Experimental Development program).***

GOVERNMENT RESPONSE:

The Government of Canada agrees with this recommendation, which aligns with the *What's Next for Nuclear* theme #1 that the Government of Canada is an important partner, essential for industry's success.

Government support for innovation in the nuclear sector provides benefits to Canadians, as it is a significant contributor to the economy, providing over 30,000 direct jobs and adding $6 billion annually to our GDP. Through leadership in nuclear science, Canada has made important contributions in medicine, agriculture, manufacturing, and natural resource use. It has also made possible world-class contributions over the years by Canadian scientists to fundamental science, particularly in the fields of physics and material science.

a) The Government of Canada provides funding through federal programs for technology development and industrial support that cover the full innovation spectrum, from research and development to commercialization and market development. Many of these programs do not establish industry-specific envelopes, but nuclear technologies and nuclear operations could play a role in their implementation, alongside other segments of Canadian industry. As a result, there are opportunities for funds to be applied to the nuclear sector within the suite of programs the Government provides across the innovation spectrum, leveraging additional support from industry and provincial partners.

In addition, to accelerate global clean energy innovation, Canada has joined Mission Innovation, a global initiative of 22 countries and the European Union. Mission Innovation members have agreed to double their federal investments in clean energy innovation over five years, while encouraging greater levels of private-sector investment and international collaboration in

transformative clean energy technologies. Canada is one of nine Mission Innovation countries that has identified nuclear energy as part of our clean energy portfolio.

To help Canada reduce carbon pollution while creating good middle-class jobs, Budget 2017 announced a range of initiatives that expand on federal support for clean technologies. Although they are not exclusively targeted to the nuclear energy sector, these initiatives could support nuclear energy technologies at different points in the innovation spectrum, recognizing that nuclear energy is an important component of Canada's clean energy mix:

- To support the environmental performance and competitiveness of Canada's energy, mining, forest, agriculture, and fisheries sectors, Budget 2017 announced $200 million over four years to encourage the research, development, demonstration, and adoption of clean technology in the natural resource sectors.
- Budget 2017 also created a new initiative, the Impact Canada Fund, to introduce a new mission-oriented approach to accelerate efforts toward solving Canada's big challenges.
- To further reduce risks through the commercialization gap, Budget 2017 recapitalized Sustainable Development Technology Canada (SDTC)'s SD Tech Fund with $400 million in new funding over five years. This flagship program supports the development and pre-commercial demonstration of clean technologies that address environmental issues such as climate change, air quality, clean water, and clean soil. The SD Tech Fund targets a key funding gap at the pre-commercial technology development and demonstration stages of the innovation spectrum resulting from barriers such as the low level of maturity and financial risks associated with advancing new technologies emerging from the research stage.

The Government has also announced measures that seek to simplify and provide greater flexibility to federal innovation funding programs. Budget 2017 proposed to establish Innovation Canada, a new platform led by ISED that will coordinate and simplify the support available to Canada's innovators. The Clean Growth Hub, within Innovation Canada, with provide focused support to clean technology stakeholders—including small companies—connecting them with available resources and export supports to help grow their businesses.

In addition, Budget 2017 consolidated several existing business innovation programs—the Strategic Aerospace and Defence Initiative, Technology Demonstration Program, Automotive Innovation Fund, and Automotive Supplier Innovation Program—under a single, streamlined Strategic Innovation Fund, and with expanded eligibility.

The Government is also committed to the creation of a $35 billion Canada Infrastructure Bank that will invest in projects that contribute to Canada's long-term economic development, that support the creation of good middle-class jobs, and which help Canada achieve its goals of lowering greenhouse gas emissions and building communities that are socially inclusive. The Bank is intended to amplify federal support by bringing in private sector and institutional investors to invest in transformational infrastructure projects.

b) The Government recognizes the challenges that small businesses, in particular, face in covering capital expenditures for large projects. These challenges are acute in high technology and capital-intensive industries such as the nuclear energy sector.

The Government provides support for research and development activities through the Scientific Research and Experimental Development (SR&ED) tax incentive program. The SR&ED program is intended to provide broad-based support for research and development performed in every industrial sector in Canada, with enhanced support for small businesses. It is one of the most generous research and development tax incentives in the industrialized world and is projected to have provided about $2.7 billion in assistance in 2016. In general, three broad categories of activity are eligible: basic research, applied research, and experimental development. Most current expenditures, including wages and salaries, in respect of research and development in Canada may be eligible for the SR&ED tax incentives. Capital expenditures made after 2013 do not qualify for the SR&ED tax incentives.

The Government is also providing support to help small businesses access financing, investment, and funding to cover capital expenditures needed to support their growth. To attract private capital and help promising clean technology firms grow and expand, Budget 2017 made an additional $1.4 billion in new financing on a cash basis available through the Business Development Bank of Canada and Export Development Canada. This financing support, which is already available to proponents, takes the form of: equity financing; working capital to support investments in assets, inventory, talent and market expansion; and project financing to enable first-of-its-kind, high-capital-intensive, early commercial-scale technology deployment.

To increase late-stage venture capital available to Canadian entrepreneurs, Budget 2017 proposed to make available through the Business Development Bank of Canada up to $400 million for a new Venture Capital Catalyst Initiative. The Government is actively working with these Crown corporations to deliver these important initiatives to further increase support to promising clean technology firms, in particular, small and medium-sized enterprises.

Budget 2017 also proposed to invest up to $950 million over five years in support of a small number of business-led innovation “superclusters” that have the greatest potential to accelerate economic growth. The initiative will offer contributions to not-for-profit entities representing industry-led consortia that include large firms, innovative small and medium-sized enterprises (SMEs), and industry-relevant research institutions. Capital expenditures clearly linked to research, development, demonstration, or commercialization project objectives are eligible for funding. The solicitation of Letters of Intent for this initiative closed in July 2017.

In addition to these commitments, the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP) provides a comprehensive suite of innovation services and funding to SMEs. Through expert technical and business advice, financial assistance, access to business information, contacts, and national and international networks, the program provides customized solutions to some 10,000 SMEs annually.

RECOMMENDATION #4: ***The Committee recommends that the Government of Canada continue to work with industry, Indigenous governments and communities, provincial/territorial governments, as well as international partners to promote and advance Canadian leadership in nuclear power generation technologies at home and abroad by:***

- ***a) addressing any knowledge gaps or misinformation pertaining to Canadian nuclear products and technologies;***
- ***b) providing industry with the necessary regulatory and/or diplomatic resources to support their international exports and operations; and***
- ***c) considering the expansion of export credits to include the full scope of Canadian nuclear exports.***

GOVERNMENT RESPONSE:

The Government of Canada agrees with this recommendation, which aligns with the *What's Next for Nuclear* theme #2 that public education to demystify the sector is important for building and maintaining public confidence in nuclear energy. It also aligns with theme #1 that the Government of Canada is an important partner in providing certainty to improve investor confidence and to deepen relationships with partner governments.

a) The Government of Canada recognizes the importance of informed understanding of nuclear products and technologies in advancing the efforts of the nuclear sector. Nuclear energy is an important part of Canada's clean energy and climate change initiatives, and beyond energy, the nuclear sector contributes to a wide range of other scientific and economic activities, including in medicine, human health and safety, material testing, food safety, even space exploration. Despite this, Canada's contributions and leadership in nuclear science and technology are not broadly known by the public. To address these gaps, the Government is committed to creating partnerships with non-government actors to directly engage the public—including youth and Indigenous communities—on energy and other applications of nuclear science and technology.

This commitment will leverage existing Government activities and engagement on nuclear energy issues. In April 2017, Natural Resources Canada launched *Generation Energy*, a national dialogue on Canada's path to an affordable, lower-carbon future. The goal of *Generation Energy* is to engage Canadians on energy issues to raise awareness of the current energy landscape in Canada and to listen to youth, Indigenous peoples, academics, industry and interested Canadians about their vision of Canada's energy future. Nuclear energy was a part of the discussion, and was featured in a workshop at Queen's University on the role of nuclear and renewables in a low-carbon future.

To facilitate Canadians' understanding of nuclear safety and science and deliver on its mandate to provide objective, scientific, technical, and regulatory information to the public, the CNSC has strengthened its consultation, communication, and outreach efforts. In 2014-2015, CNSC participated in over 160 outreach activities, including open houses, activities in communities who have nuclear related operations in or close to their boundaries, youth-related activities, and activities aimed at informing medical practitioners and licensees. The CNSC 101 program is designed to build public understanding of Canada's nuclear regulatory regime. Over the past three years, the CNSC has held 36 sessions at 24 different locations across the country with over 880 participants.

Ingenium, Canada's museums of science and innovation, is a willing partner in communicating Canada's leadership in nuclear science and technology. The Museum of Science and Technology is the repository of a national nuclear science and technology collection that includes the Zero Energy Experimental Pile, or ZEEP, reactor—the first operational nuclear reactor outside of the United States—and early nuclear medicine technology. Ingenium is communicating Canada's nuclear story through new galleries in the renewed Canada Science and Technology Museum and Let's Talk Energy, a national program that aims to enhance energy awareness and literacy among Canadians to contribute to a sustainable energy future.

Industry is also developing initiatives to advance public knowledge and mitigate knowledge gaps and misinformation. For example, the Canadian Nuclear Association (CNA) has established a website to serve students and teachers to learn and/or teach about nuclear energy on which you can find information on a broad spectrum of subjects from Canada's Nuclear History to Radiation.

Alongside this engagement, the Government is also committed to addressing knowledge gaps related to Canadian nuclear products and technologies. Within the Canadian clean technology sector, there is currently a lack of comprehensive economic information on sales, investment, jobs, and exports. Budget 2017 announced the Government's intent to establish a Clean Technology Data Strategy, led by NRCan and ISED, with collaboration from Statistics Canada. Nuclear energy technologies will be included in the strategy, the data from which will support innovation, improve knowledge in the private sector and stakeholder communities, and help inform future government decision-making related to clean technology growth and opportunities in Canada.

b) The Government recognizes that nuclear energy provides Canada with a unique asset in forging and deepening global relationships that go beyond trade. Further, industry's nuclear expertise, competence, and experience give Canada status and weight at the global diplomatic table on issues of nuclear security, non-proliferation, and related matters. It is in the country's and the Government's interest to develop and use this asset.

Countries pursuing nuclear energy regard it as having a particular strategic nature due to its complexity, the difficulty and cost of acquiring it, its affordable and reliable power-generating potential, and its many applications throughout the economy. Nuclear cooperation and trade between countries is built on trusting, long-term government-to-government relationships that require political-diplomatic investment to achieve and maintain. These are often formalized through Nuclear Cooperation Agreements signed by the Government of Canada and other nations, which are a prerequisite to enable nuclear collaboration and trade.

In recent years, Canada has established partnerships for collaboration in strategic areas with the United States, the United Kingdom, India and China, each with annual action plans of concrete activities promoting collaboration between governments, regulators, laboratories, and businesses. Further, Canada is active multilaterally, with strong representation at the IAEA and the OECD Nuclear Energy Agency (NEA), among other institutions. Since 2015, Canada's nuclear industry has been supported on international visits by the Prime Minister, the Minister of Natural Resources, and the Parliamentary Secretary to the Minister of Natural Resources.

Additionally, Global Affairs Canada (GAC)'s Trade Commissioner Service, present in 161 cities worldwide, provides a wide variety of services to industry. The Trade Commissioner Service

provides on-the-ground intelligence and practical advice on foreign markets to help industry make timelier and cost-effective decisions in order to achieve international success. The work of the Trade Commissioner Service is achieved through four key services which consist of helping Canadian companies prepare for international markets, providing market potential assessment for companies venturing into foreign markets, providing qualified contacts, and problem solving in complex situations. The Trade Commissioner Service has worked extensively with the nuclear industry to advance projects in China, Argentina, Romania, and the United Kingdom, among others. Global Affairs Canada's Global Opportunities for Associations (GOA) funding program has also supported a number of industry trade missions in recent years with the objective of assisting the Canadian nuclear supply chain foster international business opportunities.

c) Export Development Canada (EDC) supports Canada's export trade by helping Canadian companies respond to international business opportunities, including through the provision of export credits or other financial services, bonding products, and small business support. EDC is active in the nuclear energy sector and will consider support for nuclear energy projects or their affiliated components. All EDC transactions, regardless of sector, are assessed against a due diligence framework that takes into account the alignment with EDC's mandate, corporate social responsibility risk, commercial risk, and credit risk of the transaction. EDC is also party-to the Nuclear Sector Understanding of the OECD, which sets standards for international export credit agencies, like EDC.

RECOMMENDATION #5: ***The Committee recommends that the Government of Canada work in collaboration with industry, the academic community, Indigenous governments and communities, and provincial/territorial governments to sustain and improve Canadian expertise in the nuclear sector by:***

- ***a) supporting efforts by Canadian universities and research/training organizations to build new facilities and equipment and/or to advance education and research in areas that benefit the sector's development;***
- ***b) supporting programs that can train the high-skilled professionals needed to operate the full spectrum of the sector's activities, including nuclear fuel development and transport; reactor construction, operation, maintenance, refurbishment and inspection; as well as waste management and decommissioning operations; and***
- ***c) supporting programs that can train the high-skilled professionals needed to develop future nuclear technologies and industries, namely spin-off Candu technologies and advanced nuclear reactors.***

GOVERNMENT RESPONSE:

The Government agrees with this recommendation and recognizes its relevance to a parallel theme (#4), which emerged from *What's Next for Nuclear* that next-generation nuclear workers are diverse and have a passion for environmentalism and global citizenship.

The nuclear sector is already making significant investments in education, training, and professional enrichment to develop highly skilled professionals. Canadian industry supports research and training organizations that enhance the nuclear sector's ability to promote diversity and develop the necessary capabilities and expertise.

For example, the University Network of Excellence in Nuclear Engineering (UNENE) is an alliance of Canadian universities, nuclear power utilities, research groups, and regulatory agencies that supports nuclear education and research and development programs in Canadian universities. Its purpose is to develop a sustainable supply of qualified nuclear engineers and scientists to meet the current and future needs of the national nuclear sector. UNENE accomplishes this through university education—including a Master of Nuclear Engineering degree program delivered jointly by participating universities—and by encouraging young people to choose a career in the nuclear sector.

The nuclear sector has also made progress in engaging, recruiting, and training Indigenous persons. The uranium industry is the largest industrial employer of Indigenous persons in Canada, and Indigenous people represent 48 percent of the roughly 3,300 employees working at uranium mine sites. Cameco, a Canadian uranium company, has collaboration agreements with the indigenous communities in which it works that include commitments to community investment, business and workforce development. Bruce Power, a private nuclear power plant operator in Ontario, similarly has an Aboriginal Policy that seeks to develop strategies in several key areas including employment, business development, education, training and community sponsorship that appropriately reflect the interests of Indigenous groups.

The sector has also been active in addressing the gender gap between women and men in the nuclear and electricity sector workforce. Women in Nuclear (WiN) Canada is working to emphasize and support the role of women in the nuclear sector, and Electricity Human Resources Canada has launched several initiatives to promote diversity and equality in the workforce. These include a Leadership Accord on Gender Diversity in the Canadian Electricity Industry—a public commitment by employers and others to promote diversity and inclusion—and the Connected Women Mentorship Program.

The Government of Canada is committed to working with the sector to sustain and improve Canadian expertise in nuclear science and technology, in collaboration with provinces and territories, Indigenous governments, and communities.

a) The Government of Canada is committed to supporting post-secondary research and research training at universities and research organizations. Canada is a world leader when it comes to investing in research at postsecondary institutions, ranking first among G7 nations and eighth among OECD nations.

To this end, the Government provides support through a number of different programs and institutions, such as the Natural Sciences and Engineering Research Council (NSERC), the Canada Research Chairs Program, and the Canada Foundation for Innovation, that researchers and industry can leverage to advance research for the nuclear sector’s benefit.

In addition to the support provided to Canadian universities and research organizations, the Government is investing heavily in the revitalization of the Chalk River Laboratories, which is owned by AECL and managed by CNL through a Government-owned, Contractor-operated model. For almost six decades, the Chalk River Laboratories have been at the centre of scientific advancements in Canada, from the development of Canada's nuclear power reactor technology, to research leading to the use of medical isotopes in the detection and treatment of various types of cancer. Today, the Chalk River Laboratories are Canada’s largest science and technology

complex and support work in areas as varied as energy, health, environment, and safety and security.

The Government has committed $1.2 billion over ten years to new and renewed science infrastructure and site support services at Chalk River Laboratories. The result will be a world-class science campus that is equipped to serve the needs of Canadians as well as industry. This investment will allow Canada to continue to be at the forefront of nuclear research and development for many decades to come.

By investing in renewing the laboratories' infrastructure, the government is leveraging the laboratories' unique capabilities with a goal of fostering innovation across the value chain. For instance, existing capabilities which support basic research for the benefit of the federal government are being leveraged to further support applied research for industry in areas such as life extension and asset management for CANDU operators, radiopharmaceutical development, and the development of small modular and advanced reactors.

b) and c) The Government of Canada is committed to maintaining highly skilled personnel and expertise in all areas of the nuclear sector's current and future activities. Retaining and building nuclear sector expertise is a chief goal for industry. The *Nuclear Safety and Control Act* provides the legislative basis for the qualification, training and examination of nuclear workers, and the General Nuclear Safety and Control Regulations specify that the licensee must ensure the presence of a sufficient number of trained, qualified workers.

The next generation nuclear workforce is diverse and has a strong passion for environmentalism and global citizenship. This is a source of strength for the industry. To create opportunities to engage youth and develop the next generation of leaders, Canada is joining as a founding member in a new Nuclear Education, Skills, and Technology (NEST) initiative under the Nuclear Energy Agency, with a seat on the Management Board. NEST will marshal researchers from around the world to work on focused projects that generate useful innovation breakthroughs to real-world problems. The initiative will support education and enrichment activities to attract top talent and build lasting networks among next generation leaders in the nuclear sector worldwide.

More broadly, the Government is creating opportunities to enhance learning and foster collaboration with industry in ways that could benefit the nuclear sector:

- Budget 2016 provided $73 million over four years to create new co-op placements and work-integrated learning opportunities for post-secondary students enrolled in science, technology, engineering and mathematics (STEM) and business programs. This investment is expected to create up to 8,700 new work-integrated learning placements over the next four years, making more opportunities available to young women and men interested in STEM.
- Budget 2017 announced renewed and expanded funding of $221 million over five years, starting in 2017-18, for Mitacs, a not-for-profit organization that builds partnerships between industry and educational institutions. Mitacs has set an ambitious goal of nearly tripling the number of work-integrated learning placements for Canadian post-secondary students and graduates to 10,000 placements annually. Mitacs placements with industry have included projects focused on areas of interest to the nuclear industry, including: probabilistic safety analysis for nuclear technologies; safety assessment

methods for nuclear fuel waste; engineering analysis for CANDU 6 reactors; and analysis related to refurbishment and life extension of nuclear power plants. The nuclear industry could further take advantage of Mitacs to engage high quality graduate students and post-doctoral fellows to work on projects important to nuclear innovation.

- NSERC Industrial Research Chair Grants help industry and academia collaborate on research and training in areas where there is an important industrial need. Through organizations such as UNENE and NWMO, the sector has already successfully established Industrial Research Chairs in areas of nuclear safety, nuclear engineering, materials science, health physics and environmental safety, and waste disposal, among others.
- NSERC Collaborative Research and Development Grants help companies access unique knowledge, expertise, and educational resources available at Canadian postsecondary institutions and to train students in essential technical skills required by industry. Through organizations such as UNENE, the sector has established a number of collaborative grants in support of the nuclear industry's current operations in Canada.
- NSERC's College and Community Innovation Program provides Innovation Enhancement grants that enable Canadian colleges to increase their capacity to work with local companies, particularly small and medium-sized enterprises (SMEs). The grants support the growth of applied research capacity, leading to increased business collaborations that facilitate commercialization, as well as technology transfer, adaptation and adoption of new technologies.
- Networks of Centres of Excellence (NCE) programs, supported by Canada's three federal research agencies, seek to focus research resources on social and economic challenges, commercialize research breakthroughs, increase private-sector research and development, and train highly qualified people. NCE programs include Business-Led Networks of Centres of Excellence (BL-NCE), which fund large-scale collaborative research networks that bring a wide range of research expertise to bear on specific challenges identified by an industrial sector.

Federal investments at Chalk River Laboratories are also a recognition that Canada needs to maintain and grow its number of highly qualified personnel in nuclear science, and further develop its knowledge and capabilities for advanced reactor designs. This includes investments in research and development through AECL's Federal Nuclear Science & Technology Work Plan and commercial revenues generated by the laboratories in support of nuclear industry and researchers. These efforts are aligned with the needs of Canada's nuclear industry, the Government's broader innovation priorities, and Canada's overall competitive advantage.

AECL, in partnership with nuclear power plant operators, the CANDU Owners Group, Canadian universities, and the Canadian Nuclear Society has also established the CANTEACH program, a repository of legacy technical materials relating to CANDU power plant technology. The aim of CANTEACH is to develop, maintain and electronically disseminate a comprehensive set of education and training documents. Other industry members and the CNSC also contribute information to the program.

RECOMMENDATION #6: ***The Committee recommends that the Government of Canada continue to support the development of small modular reactors (SMRs), recognizing the potential for SMRs to provide clean and reliable power to remote and northern communities and open new areas to economically valuable resource development.***

GOVERNMENT RESPONSE:

The Government of Canada agrees with this recommendation, understanding that SMRs are at an early stage of development in Canada, that many questions need to be answered before their potential can be realized, and that the views and needs of northern and remote communities will be central to decisions regarding northern and remote energy solutions. The Government sees this recommendation as directly linked to the *What's Next for Nuclear* theme #5: a Canadian nuclear strategy could help guide future partnerships and investments, which includes the area of emerging technologies such as SMRs. The *What's Next for Nuclear* theme #1—that the Government of Canada is an important partner, essential for industry's success—also applies.

SMRs operate at a smaller scale than current nuclear power plants. Although not yet commercially proven in Canada, they may have future applications on the power grid in Canada as a replacement to fossil fuel power plants or as load-following units equipped with systems for storing excess electricity to complement larger shares of variable renewables. SMRs may also have applications in the production of heat and electricity at both on- and off-grid industrial sites, and to help off-grid northern and remote communities reduce their reliance on diesel. As such, they have the potential to support a range of Government priorities, including: enabling innovation, growth, and job creation; meeting Canada's greenhouse gas reduction targets and growing the economy; developing clean energy in northern and remote communities; and promoting clean technologies for Canada's natural resource sectors.

Developers are interested in developing and demonstrating SMRs in Canada in particular because of Canada's stable economy, nuclear expertise and existing supply chain, and a credible regulatory system that allows for innovation.

The Government has taken steps to understand the landscape for SMRs in Canada with a view to advancing Canadian priorities and supporting industry efforts to develop these innovative technologies. In 2016, Natural Resources Canada co-funded a study with the Ontario Ministry of Energy on the economics and technological readiness of SMRs for Ontario, which found that most of the technologies evaluated were compatible with the needs of remote mines and communities at prices competitive with diesel power. CNL is undertaking research on SMRs as part of AECL's Federal Nuclear Science and Technology Work Plan to better understand these technologies with respect to federal responsibilities and priorities. From June to August 2017, CNL opened a Request for Expressions of Interest to gather input regarding SMR technology in Canada and the role that the laboratories can play in bringing this technology to market.

The CNSC offers a pre-licensing Vendor Design Review (VDR) service to assess a nuclear power plant design based on a vendor's reactor technology. This service is available to SMR developers. These reviews are optional and do not certify a reactor design, but they do verify, at a high level, the acceptability of a design with respect to Canadian nuclear requirements and expectations, as well as Canadian codes and standards. They also identify fundamental barriers to licensing a new design in Canada and assure that a resolution path exists for any design issues identified in the review. Five VDRs were underway at the time the CNSC gave evidence to the

Standing Committee in November 2016; at the time of the Government's response, the number of VDRs has increased to at least seven.

The CNSC is also examining its licensing framework for SMRs. In 2016, the CNSC sought input on a discussion paper (DIS 16 04) on the appropriate regulatory measures for SMRs, which will help shape the regulatory framework for oversight in the future.

Starting with provinces, territories, and utilities, the Government of Canada will use its convening power to bring together a dialogue to develop a Canadian roadmap for SMRs. It will seek to build on the initiatives that have already been advanced by key stakeholders such as AECL, CNL, the Canadian Nuclear Association, and the CANDU Owners Group and explore options and a vision for SMRs in Canada.

STANDING COMMITTEE RECOMMENDATION #7: ***The Committee recommends that industry, along with academia and innovators, establish a nuclear innovation council with representatives from the federal and provincial governments to leverage non-power applications (e.g., for health care, agriculture, manufacturing, etc.) of the nuclear sector for national benefit.***

GOVERNMENT RESPONSE:

The Government of Canada agrees with this recommendation, which aligns with the *What's Next for Nuclear* theme #5 that the nuclear industry has a bright future—not only in power, but across the full spectrum of the industry—and that an overall strategy could help guide future partnerships and investments. It also aligns with an overarching theme of the importance of partnerships, bringing together industry, academia, Indigenous governments and communities, and provincial and territorial governments. Each has a role to play, and sharing a common vision for the future of nuclear in Canada would be of immense value in charting a path forward.

The Government is committed to working in partnership with the provinces, territories, Indigenous governments and communities, academia, and industry to further Canadian priorities and to bring a Canada-wide approach to the advancement of Canada's nuclear sector. To this end, an innovation council could enable collaboration and promote both power and non-power applications of nuclear expertise and technologies. It could also serve an advisory function, strengthening Government of Canada stakeholder consultations in the areas of nuclear innovation policy and programming.

If industry, along with academia and innovators, were to establish an innovation council with representatives from the federal and provincial governments, this could provide a useful forum for to continue our discussions on *What's Next for Nuclear* in Canada that took place under Generation Energy. In this way, an innovation council could serve as one of the vehicles for developing and advancing a common vision on the future of nuclear in Canada.