

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

**"DE-RISKING THE ADOPTION OF CLEAN TECHNOLOGY IN CANADA'S NATURAL RESOURCES
SECTOR"**

INTRODUCTION

The Government of Canada has carefully reviewed the report issued on June 9, 2017 by the Standing Committee on Natural Resources. The Government thanks the committee members for their efforts to develop it and also thanks the witnesses to the Committee who provided expert testimony and shared a diversity of perspectives on how to de-risk the adoption of clean technology in the natural resources sector.

Canada's natural resources sector provides a source of economic prosperity and critical, well-paying, middle-class jobs for Canadians. The natural resources sector (energy, forests, minerals and metals) accounts for 16% of Canada's nominal gross domestic product (in 2016) and is an economic base of communities across the country. With a foundation of strong environmental regulations, a highly-educated workforce, and a history of innovation, this sector is well-positioned to lead the transition to a clean growth economy.

However, some natural resource sectors are facing challenges. Overall, these sectors directly contribute 58% of national greenhouse gas emissions and create significant environmental impacts. Market failures, such as the lack of carbon pollution pricing, have contributed to persistent underinvestment in innovation and clean technologies by the natural resources sector. Risk barriers, such as low-operating margins and a focus on commodity production, are also higher in this sector. In addition, government analysis indicates that women are underrepresented in the natural resources and clean technology sectors, including in leadership positions.

As identified in the Committee's report, clean technology provides opportunities for the natural resources sector and across the economy to reduce environmental impacts, decrease the costs associated with greenhouse gas mitigation and enhance their competitiveness and access global markets. Advancing the use of clean technologies in the natural resources sector also stimulates growth for Canada's clean technology producers, which tend to be smaller, innovation-driven, export-oriented enterprises. Natural resources operations can serve as a launching pad for Canadian clean technologies to succeed globally. The Committee's report noted the significant global market opportunity for Canadian clean technology, and the importance of domestic partnerships in de-risking clean technology innovation and adoption and enabling new trade opportunities.

The Government of Canada recognizes that economic development and environmental sustainability must go hand-in-hand to enable prosperity for Canadians in the clean growth economy. Through the Pan-Canadian Framework on Clean Growth and Climate Change, the

Government is working with provincial and territorial governments to put in place measures to encourage innovation and the development of clean technologies to help reduce emissions across all sectors of the economy, accelerate clean economic growth, and build resilience to the impacts of climate change.

Budget 2017 enables this vision by allocating significant federal resources for clean technology research and development, demonstration, commercialization and market development, including in the natural resources sector. These new measures emphasize the need for inclusive growth and collaboration with industry, provincial and territorial governments and Indigenous Peoples.

The Government's response to each of the specific recommendations made by the Committee are outlined in detail below. We outline our collaboration with governments and partners at home and abroad to reduce the risks of clean technology adoption in Canada's natural resources sector.

RECOMMENDATION 1:

The Committee recommends that the Government of Canada work with provincial and territorial governments to develop market-based, technology-neutral policies that create a market value for the environmental and social benefits of clean technology, while allowing companies to choose the most suitable innovations for their respective industries, according to their own expertise and market research.

The Pan-Canadian Framework on Clean Growth and Climate Change is a comprehensive plan that lays the path to a stable policy and regulatory environment that will create certainty for markets and foster investment in clean innovation. Partnerships with Indigenous Peoples are critical to success in this area.

Central to the plan is pricing carbon pollution to internalize the cost of greenhouse gas emissions, create incentives to reduce emissions, and stimulate investments in clean growth. The benchmark will build on existing provincial pricing systems and ensure that all jurisdictions in Canada have a carbon pricing system in place by 2018. Carbon pollution pricing will help influence investment and purchase decisions of industry and consumers towards lower carbon-intensive options. This will in turn foster innovation and help grow Canada's clean technology sector and create jobs.

The Framework also includes a number of complementary measures that will support the research, development, demonstration and adoption of clean technologies (outlined in detail in Recommendation 3). These initiatives include a focus on mission-oriented innovation aimed at accelerating solutions to public challenges and providing environmental and economic outcomes for Canadians.

Combined, these measures support a market-based transition to a low carbon economy, leaving the specific choice of technology to the individual region, company or consumer.

RECOMMENDATION 2:

The Committee recommends that the Government of Canada work with industry and provincial/territorial governments to ensure that the forthcoming national price on carbon pollution is evidence-based and transparent, can drive innovation and productivity, and can support the competitiveness and profitability of Canada's natural resources sector.

The Government will continue to work closely with industry, provincial/territorial governments, and Indigenous Peoples on pricing carbon pollution to ensure transparency, drive innovation, and grow the overall competitiveness of the Canadian economy.

Pricing carbon pollution is one of the key actions being taken to meet Canada's 2030 target of at least a 30 percent reduction below 2005 levels of greenhouse gas emissions, in combination with other complementary clean growth measures.

The pan-Canadian approach to pricing carbon pollution, announced by the Government of Canada in October 2016, is based upon the findings, evidence and principles identified by the Federal-Provincial-Territorial Carbon Pricing Mechanisms Working Group (and published in their Final Report) through the collaborative process to develop the Pan-Canadian Framework on Clean Growth and Climate Change.

Based on the evidence from pricing systems put in place in Canada and other jurisdictions over the past decade and longer, pricing carbon pollution is widely recognized as the most efficient way to reduce GHG emissions and stimulate investments in low-carbon innovation and create a sustainable clean-growth economy. By internalizing the cost of pollution, carbon pollution pricing provides incentives to reduce energy use through conservation and efficiency measures, while also serving to drive fuel switching and technology advances. Predictable and rising carbon pricing sends an important signal to markets, informing consumer choices and investments in infrastructure and innovation.

The pan-Canadian approach recognizes that there are robust carbon pollution pricing systems already in place (in British Columbia, Alberta, Ontario and Québec) covering over 80% of the Canadian population. In order to extend this to the remaining jurisdictions by 2018, the approach gives provinces and territories the flexibility to implement a system that makes sense for their circumstances –either a direct pricing system such as those in place in British Columbia and Alberta, or a cap and trade such as in Québec and Ontario. The Government of Canada is providing ongoing technical support to provinces and territories as they consider carbon pollution pricing systems.

The Government of Canada is also developing a federal 'backstop' carbon pollution pricing system that will apply only in jurisdictions that do not have a system in place by 2018 that meets the minimum requirements of the federal benchmark, announced by the Government of Canada in October 2016 as part of the pan-Canadian approach to pricing carbon pollution. The federal system is being designed to provide an economy-wide price signal to incent reductions.

Putting a price on carbon pollution will maintain long-term competitiveness and position Canadian industries and businesses to prosper in the global low carbon economy. The Government will continue to engage with Canada's natural resource sectors and other emissions-intensive industries as it develops the system.

The Government released a technical paper outlining the proposed design of the federal system was released in May 2017. The proposed design has two components: 1) a carbon levy on fossil fuels and 2) a separate output-based pricing system designed to limit risks to competitiveness for industries with high levels of international trade and greenhouse gas emissions. This would price a portion of greenhouse gas emissions from these facilities above a specified threshold determined on the basis of emissions-intensity performance standards (emissions per unit of output). These standards and the resulting facility-specific thresholds would be developed through an evidence-based approach, taking into account national and international benchmarks and in consultation with potentially affected industries. In addition, pre-publication of proposed regulations establishing the standards, per the standard Canada Gazetting process, will further ensure transparency and provide additional opportunity for comment.

The Pan-Canadian Framework on Clean Growth and Climate Change indicated that an early deliverable of the review of carbon pricing will be an assessment of approaches and best practices in order to address the competitiveness of emissions-intensive trade-exposed sectors.

As committed to in the Pan-Canadian Framework, the federal government is working with the territories, as well as Indigenous Peoples, to find solutions that address their unique circumstances (including high costs of living and of energy, challenges with food security, and emerging economies) with regard to carbon pricing.

Federal, provincial and territorial governments will work together to establish the approach for the review of carbon pricing. This includes expert assessment of stringency and effectiveness that compares carbon pricing systems across Canada, which will be completed by early 2022 to provide certainty on the path forward. An interim report will be completed in 2020 that will be reviewed and assessed by First Ministers.

RECOMMENDATION 3:

The Committee recommends that the Government of Canada work in collaboration with industry, provincial/territorial governments, and the financial sector to de-risk the development of clean technology through the commercialization gap, by:

- a. continuing to fund the full clean technology innovation cycle with more emphasis on commercialization activities;**
- b. supporting programs, such as the Scientific Research and Experimental Development (SR&ED) and flow-through programs to include commercialization incentives;**
- c. supporting existing and new financial and policy instruments with the explicit purpose of mitigating the financial risk of new clean technologies—for example, through project development programs designed to help firms, especially SMEs, attract private**

- capital to demonstrate and/or scale up their new innovations, or by covering the performance risk of new technologies; and**
- d. stimulating clean technology markets through government procurement, especially for SMEs, and ensuring transparency and accountability of public investment and project life-cycle performance reviews based on measurable performance targets.**

Consistent with the Committee's recommendation, Budget 2017 announced several new initiatives to support the development of clean technology through the commercialization gap.

To attract private capital and help promising clean technology firms grow and expand, Budget 2017 made nearly \$1.4 billion in new financing available, on a cash basis, through the Business Development Bank of Canada and Export Development Canada. This financing support 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 overall late-stage venture capital available to Canadian entrepreneurs, Budget 2017 also proposes to make available through the Business Development Bank of Canada up to \$400 million on a cash basis over three years 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.

The Government also recognizes that innovation occurs along a spectrum of interrelated activities that span from early stage research and development through to demonstration, commercialization, and market development activities. The Government has been consulting closely with partners in the innovation ecosystem to identify and address gaps that are constraining clean technology in Canada. In addition to the above-mentioned support for commercialization, Budget 2017 announced a range of initiatives that continue and expand on federal support for clean technology across the innovation ecosystem.

To address the need for additional support for early stage research and development, Budget 2017 announced \$229 million over four years for Natural Resources Canada and Transport Canada to continue clean energy and clean transportation research and development. This investment will support research and development in federal laboratories, targeted funding for industry driven research and development projects and collaborative projects between federal and external researchers. These activities will help to drive economic competitiveness and contribute to lowering greenhouse gas emissions from the energy and transportation sectors in support of Canada's climate change mitigation objectives as outlined under the Pan-Canadian Framework on Clean Growth and Climate Change.

The Government also provides support for research activities through the Scientific Research and Experimental Development (SR&ED) tax incentive program. It is one of the most generous systems in the industrialized world for supporting business research and development, providing approximately \$2.7 billion in tax assistance in 2016. The SR&ED program is available to businesses conducting eligible activities in all sectors of the economy, including clean

technology. The general SR&ED investment tax credit is non-refundable and is available at a rate of 15 per cent, whereas small Canadian-controlled private corporations (CCPCs) have access to a 35 per cent refundable tax credit. Small CCPCs are eligible to claim the enhanced investment tax credit at the rate of 35 per cent on up to \$3 million of qualified SR&ED expenditures annually. Activities eligible for the SR&ED tax incentives involve systematic investigation or search carried out in a field of science or technology by means of experiment or analysis. In general, three broad categories of activity are eligible: basic research, applied research, and experimental development.

To provide natural resource firms and clean technology producers with support specific to their business context, Budget 2017 announced \$200 million over four years to support clean technology in the natural resource sectors. This funding will help natural resource firms to bridge the gaps between research, development and commercialization. This investment will focus on outcomes for the competitiveness of resource development and use in Canada. Technologies at varying stages of maturity will be eligible, and eligible recipients will include industry, academia, federal laboratories and other research organizations. A portion of this investment will also be dedicated to supporting the innovation and adoption of clean technologies by producers and operators in the agriculture and fisheries and aquaculture sectors.

Budget 2017 also created a new initiative, Impact Canada, to introduce a new mission-oriented approach to accelerate solutions to Canada's big challenges. Impact Canada includes a clean technology stream supported by up to \$75 million to address challenges such as helping Canada's rural and remote communities reduce their reliance on diesel as a power source. This initiative will use innovative financing mechanisms and focus on unlocking breakthrough solutions to complex and persistent problems in the clean technology sector. Breakthrough solutions are transformative, high-impact improvements that "break" fundamentally new pathways in clean technology and can take the form of new disruptive technologies, alternative business or funding models to generate better outcomes, and/or capacity building activities to facilitate adoption.

To further reduce risks through the commercialization gap, the Government has 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 across all sectors. Eligible projects include those that address environmental issues such as climate change, air quality, clean water, and clean soil. Funding provided under the SD Tech Fund helps address a key funding gap that occurs at the pre-commercial technology development and demonstration stages of the innovation spectrum and is a consequence of market barriers, such as the low level of maturity of new technologies emerging from the research stage coupled with the risk aversion of the financial sector. Since its launch in 2001, SDTC has invested \$928 million in 320 clean technology projects, and leveraged more than \$2.45 billion from other project partners, with more than 80 per cent of investments coming from the private sector. Collectively, these investments have created more

than 9,200 jobs and are responsible for reducing carbon dioxide emissions by an estimated 6.3 megatonnes per year.

To support Canadian firms in gaining access to global markets, the Government is investing \$15 million over four years to deliver an *International Business Development Strategy for Clean Technology*. This strategy will enhance the Trade Commissioner Service to support Canadian clean technology firms' efforts to capitalize on rapidly growing international business development opportunities, including those generated by global climate finance, so they can become world leaders in the export of clean technology.

Finally, companies investing in clean energy and energy efficiency equipment are already able to renounce eligible Canadian Renewable and Conservation Expenses to flow-through share investors. This facilitates the raising of equity by small companies, by enabling them to sell their shares at a premium.

With respect to the Committee's recommendation to stimulate clean technology through procurement, the Government is actively working to better use federal procurement as a tool to support the growth of Canadian innovations.

Budget 2017 provides up to \$50 million to launch Innovative Solutions Canada, a new procurement program to support the growth of Canadian innovations, including clean technologies. Under this new initiative, a portion of funding from federal departments and agencies will be allocated towards early-stage research and development, late-stage prototypes, and other goods and services from Canadian small businesses. Acting as a first customer, the Government of Canada can test and validate Canadian clean technologies, as well as help promising clean technology providers scale up their businesses. In return, the Government procures from Canadian companies the most innovative products and services that help to solve public challenges, reduce costs, and improve results.

The Government of Canada is also investing \$21.9 billion over 11 years in green infrastructure, including initiatives that will support the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change. This support for infrastructure provides opportunities for technology demonstration and deployment and complements the Government's suite of innovation programming by providing sufficient investment to see technologies pulled into and replicated across markets. A portion of this investment is dedicated to a series of national programs that include: smart-grid, storage and electricity demonstration; renewable energy technology deployment; reducing reliance of diesel fuel by rural and remote communities; electric vehicle infrastructure; and, new building codes and net-zero energy buildings.

To ensure transparency and accountability of public investments, Budget 2017 underscored the importance of tracking results. With regard to clean technology initiatives, progress and results are being tracked closely through federal reporting under the Pan-Canadian Framework for Clean Growth and Climate Change and Canada's Innovation and Skills Plan. The establishment of the Clean Growth Hub and the federal review of business innovation and clean technology

programs (discussed in detail under Recommendation 4) will help to ensure that government-wide funding is delivered effectively and efficiently. Tracking results will also be made more effective by improvements underway to federal collection of clean technology data (discussed in detail under Recommendation 7).

RECOMMENDATION 4:

The Committee recommends that the Government of Canada improve the efficiency, accessibility and transparency of clean technology funding and taxation incentives, by:

- a. establishing a navigation support system to help clean technology firms, especially SMEs, make the best use of the resources and services available to them; and**
- b. ensuring that grant applications are simple, accessible, and adaptable to the practical needs of different businesses and technology developers.**

The Government is working to further simplify and streamline federal support for clean technology in line with the Committee's recommendation.

Budget 2017 committed \$12 million over four years to establish a Clean Growth Hub within the new Innovation Canada single-window service. The Clean Growth Hub will streamline client services, improve federal program coordination, enable tracking and reporting on clean technology results across government, and connect stakeholders to international markets. The Hub responds directly to stakeholder indications that the federal landscape for clean technology can be difficult to navigate. The single-window service approach will see stakeholders directed to the appropriate government program or organization regardless of their initial point of contact.

The Government's *International Business Development Strategy for Clean Technology* will be linked to the Clean Growth Hub, and will augment efforts to connect stakeholders to international markets.

In addition to this, the Government has initiated a horizontal review of all business innovation and clean technology programs across all federal departments. The horizontal review will look to simplify programming and better align resources to improve the effectiveness of business innovation programs.

RECOMMENDATION 5:

The Committee recommends that the Government of Canada work with other governments and regulators across Canada to streamline regulatory approval processes and environmental assessments.

The Government of Canada is committed to delivering environmental assessment and regulatory processes that regain public trust, protect the environment, introduce modern safeguards, advance reconciliation with Indigenous peoples, and ensure good projects go ahead and resources get to market.

To support this commitment, the Government of Canada undertook a comprehensive review of environmental assessment and regulatory processes. Engagement and consultation was central to this review. Over the past year, the Government has consulted and received input from Indigenous Peoples, the public, provinces and territories, industry, and environmental groups. From June 29 to August 28, 2017, the Government invited public comments on a Discussion Paper outlining the changes the Government is considering for Canada's environmental assessments and regulatory processes.

The input received from these consultations will be taken into consideration as the Government moves forward. The Government will continue to work closely with provinces and territories, Indigenous Peoples, industry, environmental groups and the public to support a new approach to environmental assessment and regulatory processes.

RECOMMENDATION 6:

The Committee recommends that the Government of Canada work with industry, scientists and research institutions to ensure that all policy decisions and environmental assessments are based on scientific evidence and reflect state-of-the-art technologies and practices.

The Government is committed to making decisions based on science and the best available evidence. The Government recognizes the important value of science and Indigenous traditional knowledge to decision-making and to informing the environmental, social and economic dimensions of natural resource development.

As outlined under Recommendation 5, above, the Government is undertaking a comprehensive and consultative review of environmental assessment and regulatory processes. One of the guiding principles to help shape the Government's approach to strengthening environmental assessment and regulatory processes is to ensure timely, evidence-based decisions reflecting the best available science and Indigenous knowledge.

More broadly, the Government is advancing its commitment to evidence-based decision-making through the appointment of a Chief Science Advisor. The Chief Science Advisor will champion the consideration of science in government decision-making and will ensure that government science is fully available to the public and that scientists can speak freely about their work. The Chief Science Advisor will also be responsible for providing scientific advice to the Prime Minister, the Minister of Science and members of Cabinet and for helping ensure science is effectively communicated across government. The office will be supported by a team of scientists and policy experts. The Government is allocating \$2 million annually (as announced in Budget 2017) to support the work of the Chief Science Advisor and related secretariat.

The Government is also committed to strengthening Canada's research ecosystem and knowledge infrastructure. In Budget 2016, our government announced \$2.3 billion over 2 years to strengthen science and research. Budget 2017 proposes additional investments in federal government departments to ensure an effective and reliable food safety system; clean energy, state of the art technology and growth; climate change adaptation and resilience; space

innovation, public health, and improved data collection. Budget 2017 also commits to developing a new federal science infrastructure strategy.

The Government of Canada also continues to provide federal science expertise to support environmental assessments and policy decisions. Scientific evidence and state-of-the-art technologies are generated through collaborative work between government departments and their national and international science partners. As an example, Natural Resources Canada has leading geo-science capacity and operates the Federal Geospatial Platform, the Canadian Geospatial Data Infrastructure, and “Open Maps” (a public data site to access, analyze and visualize the Government’s geo-spatial data). These are state-of-the-art initiatives in data management and provide authoritative open geo-spatial data for environmental assessments and policy decisions.

To support the Pan-Canadian Framework on Clean Growth and Climate Change, Environment and Climate Change Canada is leading the development of a targeted federal climate change science plan in collaboration with other government departments and agencies. This plan will accelerate the delivery of federal climate change science to inform evidence-based decision-making and will better coordinate federal science capacity.

RECOMMENDATION 7:

The Committee recommends that the Government of Canada work with industry, scientists and research institutions to more clearly define clean technology and to ensure that Canada is a global leader in championing holistic evidence-based measurement and adoption of clean technology.

The Government shares the Committee’s view of the importance of rigorous, authoritative data to support clean growth and evidence-based decision-making in Canada’s clean technology and natural resources industries. To further advance Canada’s leadership in this area, Budget 2017 provides \$14.5 million over four years to Natural Resources Canada and Innovation, Science and Economic Development Canada to establish a Clean Technology Data Strategy. This strategy will foster innovation, improve knowledge in the private sector and stakeholder communities, and help inform future government decision-making. This work directly supports the Pan-Canadian Framework on Clean Growth and Climate Change, which stressed the importance of building better data and called for the establishment of a pan-Canadian Clean Technology Data Strategy.

Building on initial investments made through Budget 2016, this work is being done in close collaboration with Statistics Canada to support the expansion and continued collection of data on the clean technology sector. At present, while there are multiple sources of data on clean technology, they lack common standards and guidelines and fail to present a comprehensive picture of clean technology activity in Canada. As such, a fundamental principle of the strategy focuses on the importance of aligning the various sources of clean technology data, such that program outcomes can be monitored and analyzed consistently throughout Canada.

The federal government's working definition of clean technology is: Any process, product or service that reduces environmental impacts.

Development of the Clean Technology Data Strategy has been a consultative and collaborative effort. In addition to ongoing consultations with the provincial and territorial governments, a number of public and private stakeholders have been engaged to provide feedback on their data needs, including industry associations, academia and other leading thinkers on this matter. These consultations are helping to shape a clean technology data framework, which, when implemented, will enhance the capacity for robust evidence-based decision-making by all partners involved in the development and use of clean technologies. Engagement and consultation on the Government's work will continue through the implementation of the Clean Technology Data Strategy.

RECOMMENDATION 8:

Finally, the Committee recommends that the Government of Canada work with industry, Indigenous governments and communities, provincial/territorial governments, and international governments/organizations to foster stronger cross-sectorial and international clean technology partnerships and clusters.

The Government is committed to building an economy that is both innovative and inclusive. The Government has been actively engaging with a wide range of partners to support clean technology and the natural resource sectors.

In developing the Pan-Canadian Framework on Clean Growth and Climate Change, the Government of Canada worked jointly with the provincial and territorial governments, with the National Indigenous Organizations and engaged extensively with Canadians. Individuals, businesses, non-governmental organizations, and local governments provided input through an interactive website (which received nearly 14,000 ideas and comments), in-person engagement sessions and town halls, and written submissions (numbering approximately 2000). Development of the clean technology aspects of the Framework were led by a federal-provincial-territorial working group on clean technology, innovation and jobs, one of four working groups established by First Ministers. This working group involved active participation from all jurisdictions in Canada and integrated the significant input obtained through consultations with Canadians into their final report to First Ministers.

Targeted engagement was also conducted specifically about clean technology and the natural resources sector. To support the development of measures announced in Budget 2017, Natural Resources Canada directly engaged more than 300 natural resource and clean technology stakeholders, including through eleven multi-sectoral Ministerial roundtables with intergovernmental partners, industry, think tanks, funders, Indigenous representatives, and academia. Broader public feedback was obtained via an interactive online engagement portal, which resulted in input from 315 participants and more than 35,000 unique webpage views.

The Government will continue to work closely with partners to implement the Framework, address its commitments on clean growth, and foster stronger cross-sectorial and international clean technology partnerships and clusters. Some specific ways it is doing so include:

- The Clean Growth Hub, within the new Innovation Canada single-window platform, to streamline client services, improve federal program coordination, enable tracking and reporting on clean technology results across government, and connect stakeholders to international markets.
- A renewed federal-provincial-territorial Clean Growth Working Group, reporting to Ministers of Innovation and Economic Development, focused on implementing Canada's clean growth strategy.
- Economic Strategy Tables to identify innovation opportunities in clean technology and clean resources. The Economic Strategy Tables will set ambitious growth targets for Canadian innovators, identify sector-specific challenges and "bottlenecks" to innovation as well as barriers to greater participation across gender lines, and lay out specific strategies to help innovators achieve their targets.
- New investment of \$200 million for clean technology in the natural resource sectors, which emphasizes significant collaboration and will include industry, academia, government laboratories and other research organizations as eligible recipients. This program also supports close cooperation with provinces and territories and requires projects to include a contribution by provincial or territorial governments.
- The Prime Minister's commitment to implement the Pan-Canadian Framework on Clean Growth and Climate Change in a manner that supports Canada's broader commitments to Reconciliation, with a renewed nation-to-nation relationship between Canada and Indigenous Peoples. In this respect, the Government is establishing three distinct senior-level tables with First Nations, Inuit, and the Métis Nation to ensure Indigenous Peoples' participation in decision making and collaborative planning, and to benefit from their local and regional perspectives in the implementation of the Framework and its clean growth priorities.
- Other broad-based innovation initiatives announced in Budget 2017 that will support clean growth and encourage partnerships, including Impact Canada, the 'superclusters' initiative, and the Strategic Innovation Fund.

Internationally, the Government's Trade Commissioner Service (TCS) currently works with industry, provincial and territorial governments and international governments and organizations to foster research and development and commercial partnerships between Canadian firms and international stakeholders. Trade commissioners put significant work into assisting clean technology firms to capitalize on growing global market opportunities. The TCS offers various opportunities to Canadian clean technology firms looking to build international partnerships, such as Canexport, the Going Global Innovation program and the Canadian International Innovation Program. The TCS also delivers the Canadian Technology Accelerators, which are located in major tech hubs around the world to help Canadian companies to explore opportunities and partnerships in foreign markets. This program specifically targets Canadian

small-to-medium sized clean technology firms with the aim of coordinating mentorship and advice from industry leaders in the foreign market, access to potential investors, and connections and networking in the clean technology business community.

The Government also manages 13 Science, Technology and Innovation agreements with other governments, such as China, India, Brazil, and the European Union, among others. These international agreements facilitate collaboration between Canada and foreign partners to increase international science and technology capacity, undertake research and development and technology commercialization with the aim to grow our respective economies. Clean technology is an area of focus for many of these agreements. As announced in Budget 2017 and described in the recommendations above, the Government's enhanced *International Business Development Strategy for Clean Technology* will further support clean technology firms' connections to international networks.

Canada has also joined Mission Innovation, a global initiative of 22 countries and the European Union working together to accelerate clean energy innovation. Members have agreed to double their investments in clean energy innovation over five years, while enhancing international collaboration in clean energy research, development and demonstration. A key focus of Mission Innovation is encouraging private sector leadership, and Canada is engaging investors to discuss ways to support clean energy investments and the transition to a low-carbon economy. Through Mission Innovation, Canada is also supporting the advancement of seven Innovation Challenges designed to accelerate global clean energy innovation in specific technology areas, including: smart-grids, off-grid access to electricity, carbon capture, sustainable biofuels, converting sunlight to fuels, clean energy materials, and heating/cooling of buildings.

In addition to Mission Innovation, Canada is actively engaged in other key international fora to advance international clean technology partnerships and collaboration, including the Clean Energy Ministerial (CEM). The CEM is an initiative of 24 countries and the European Commission working together to facilitate international collaboration to promote policies and programs that advance clean energy and accelerate the transition to a global clean energy economy. The main feature of the CEM is its annual Ministerial meeting, which serves as a forum to drive momentum on collective clean energy goals. As well, the CEM consists of several initiatives, which enable sustained policy/best practices collaboration amongst member countries in a number of areas related to energy demand, energy supply, energy systems and integration, and cross-cutting policy support. Canada participates in a number of these initiatives, including on energy management (energy efficiency in industry), women in clean energy, electric vehicles, and smart grids. Canada will host the international Clean Energy Ministerial and Mission Innovation meetings in 2019, providing further opportunity to demonstrate its leadership on clean energy on the global stage.

