

# Engineers Canada Federal Budget 2017 Highlights and Analysis

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## Background information

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The Honourable Bill Morneau, Canada's finance minister, tabled *Budget 2017: Building a Strong Middle Class* ("Budget 2017") in the House of Commons on March 22, 2017. You can view the full budget and obtain additional information at <http://www.budget.gc.ca>.

Immediately following Minister Morneau's tabling of the budget on March 22, Engineers Canada issued a press release with its initial reaction to the budget and its contents. That press release can be found on the [Engineers Canada website](#).

In brief, the Liberal government's second budget builds on the work of their first fiscal plan, with a wide range of targeted and often relatively small measures.

The 2017 budget highlights key initiatives that affect the engineering profession in Canada, call upon the professionalism and expertise of professionally licensed engineers and align with many priorities championed by Engineers Canada. These include funding for the following initiatives;

- Green infrastructure
- Adaptation and climate resilience
- Indigenous community infrastructure
- Drinking water and wastewater
- Innovation, research and development
- Clean technology
- Science, technology, engineering and mathematics education
- Gender equality
- Mobility and foreign credentials

## Green infrastructure

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First announced in the 2016 Fall Economic Statement, Budget 2017 includes \$21.9 billion of federal government investment over a span of 11 years towards green infrastructure initiatives, which includes initiatives that will support the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change.

In order for Canada to transition to a green economy, the 2017 budget has outlined that investments will come from three distinct areas: bilateral agreements, the Canadian Infrastructure Bank and national programs.

### Promises

Investments to support Canada's transition to a clean economy will be funded through three streams:

- **Bilateral agreements:** \$9.2 billion will be provided to provinces and territories over the next 11 years, on a base plus per capita allocation basis, to support priority projects, namely those aimed at reducing greenhouse gas emissions, providing clean water to Canadians, managing wastewater treatment systems and helping communities with assistance to prepare for challenges resulting from climate change.

- The Canada Infrastructure Bank: A minimum of \$5 billion will be available over the next 11 years for green infrastructure projects. These projects can include, but are not limited to, projects that work towards reducing greenhouse gas emissions and delivering safe, clean water systems.
- An additional \$2.8 billion will be invested over the next 11 years through a series of national programs to support green infrastructure projects and initiatives.

## Adaptation and climate resilience

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In order to protect communities and the public's safety from the risks associated with climate change, Budget 2017 proposes:

- \$11.4 million over four years to support the accelerated replacement of coal-fired electricity by 2030.
- \$21.4 million over four years to Indigenous and Northern Affairs Canada to continue the Northern Responsible Energy Approach for Community Heat and Electricity Program.
- \$17.2 million over five years to Environment and Climate Change Canada and Transport Canada to develop a clean fuel standard to reduce emissions from fuels used in transportation, building and industrial sectors.
- \$67.5 million over four years to review existing energy efficiency programs.
- \$73.5 million over five years, beginning in 2017-2018, to Environment and Climate Change Canada and Natural Resources Canada to establish a Canadian Centre for Climate Services and build regional adaptation capacity and expertise.
- \$16.4 million over five years to Transport Canada to ensure Canada's federally managed bridges, rail systems and roads are able to withstand the effects of natural disasters, climate change and extreme weather circumstances.
- \$2 billion to develop a Disaster Mitigation and Adaptation Fund.
- \$39.8 million over four years to Natural Resources Canada to support projects and activities that increase the use of wood as a substitute material in infrastructure projects.
- \$182 million to develop and implement new building codes to retrofit existing buildings and build new net-zero energy consumption buildings.

### Analysis and opportunities

Engineers Canada is pleased to see that the federal government has made a commitment towards green infrastructure initiatives, specifically in relation to adaptation, disaster mitigation and climate resilience proposals. Budget 2017 highlights the pressing need for more resilient infrastructure and adaptation measures in the face of Canada's changing climate. Engineers Canada looks forward to continuing to engage with the federal government on these important proposals.

The integration of climate change vulnerability assessments, such as Engineers Canada's [Public Infrastructure Engineering Vulnerability Committee Protocol \(PIEVC\)](#), into building codes and standards would be an excellent step forward in helping better protect the environment, the economy and Canadians from the risks associated with climate change. Engineers Canada can work directly with the federal government to connect individuals to over 290,000 professionally licensed engineers in Canada that are ready to volunteer to help build a better, safer and more resilient Canada.

# Indigenous community infrastructure

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## Promises

In Budget 2016, \$8.4 billion over five years was directed towards Indigenous communities. Budget 2017 has proposed an additional \$3.4 billion towards Indigenous communities, over a period of 10 years, to focus on both green and social infrastructure initiatives, specifically for areas in “critical need.”

Budget 2017 includes the following proposals to support Indigenous communities:

- \$5 billion towards National Housing Fund to address critical housing issues. Priority is placed on support for vulnerable citizens, including seniors, Indigenous Peoples and persons with disabilities.
- \$300 million towards northern housing support.
- \$225 million over 11 years to housing providers serving Indigenous Peoples not living on-reserve.
- \$83.8 million to Indigenous and Northern Affairs Canada to improve the design and construction of northern infrastructure.
- Integration of Indigenous traditional ways of knowing to guide adaptation measures towards infrastructure projects and initiatives.
- Enhance planning and emergency management processes where flooding risks are increasing, specifically within Indigenous communities, in order to increase resilience.
- \$5 million per year for five years to Inspire, a charitable organization to help Indigenous students attend post-secondary school.

## Analysis and opportunities

Engineers Canada is encouraged to see the government make large-scale investments in Indigenous communities. We have long believed that essential infrastructure on First Nations Reserves and in remote communities must be properly funded, built to industry standards and constructed with climate resilience in mind as ageing and inadequate infrastructure can have significant negative effects on the social and economic outcomes of Indigenous communities.

Engineers are well positioned to assist Indigenous communities in building capacity to achieve the communities’ desired outcomes for the planning, design, construction and operation of infrastructure. The profession is committed to learn by working alongside and collaborating with Indigenous groups and leaders to build a better Canada. The engineering profession is ready and dedicated to share its expertise.

## Drinking water and wastewater

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### Promises

Budget 2017 articulates a strong proposal for clean water initiatives promising “[c]lean drinking water for every Canadian, no matter where they live.” The federal government acknowledged that many water systems across Canada need urgent improvements to ensure that Canadian families continue to have access to clean water. There are also high-risk wastewater facilities across the country that will require upgrades by 2020 in order to meet new, stronger federal environmental regulations. Budget 2017 highlights that over 200 water and wastewater projects are currently underway.

Portions of the proposed \$9.2 billion that will be provided to green infrastructure under bilateral agreements will be targeted towards the delivery of clean water, as well as the safe management of wastewater.

### Analysis and opportunities

Safe drinking water and proper wastewater management systems are extremely important to Canadians' health and security. New or renovated water distribution and treatment facilities must be constructed or renovated with climate resilience in mind. Engineers Canada's PIEVC Protocol has been applied several times to drinking water and wastewater management facilities across the country, examples of which can be found [on the PIEVC website](#). Engineers Canada looks forward to working with government departments and important stakeholders to help deliver safer and more resilient water resources to communities across the country.

## Innovation, research and development

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### Promises

Budget 2017 brings to light the federal government's commitment towards innovation, stating that “Canada must do more to encourage innovation. The future success of all Canadians relies on it.”

In this rapidly changing and highly competitive world, improvements to innovation and productivity must be a national priority. Budget 2017 highlights many innovative initiatives that support the growth of incubators, accelerators and emerging national networks for business and engineering innovation.

Budget 2017 includes the following proposals to support innovation, research and development:

- \$950 million over five years to be provided on a competitive basis to support “superclusters;” people inside and outside government working on innovating Canada.
- Renewed funding of \$59.5 million in 2017-2018 to the National Research Council.
- \$229 million over four years to Natural Resources Canada and Transport Canada to continue R&D activities.
- \$50 million to launch a new procurement program – “Innovation Solutions Canada.”
- \$200 million over four years to Natural Resources Canada for the encouragement of clean technology use within Natural Resources sectors.
- \$395.5 million over three years to focus on skills development for vulnerable youth – connecting them to the labour force.

- Creation of “Innovation Canada” through a joint effort within Innovation, Science, and Economic Development Canada.
  - Focus will work to coordinate and simplify available support to Canada’s many innovators.

## Analysis and opportunities

Engineers Canada is supportive of government investment in research, development and innovation in Canada, and strongly supports the cooperation between the engineering profession and the federal government. Federal government support for research, development and innovation helps to ensure adequate funds are available to support the procurement and retention of talent and to reinforce the Canada’s position as a good place to invest, as well as to develop our domestic intellectual property. Engineers Canada is encouraged to see that the federal government has explored avenues and initiatives in which Canada can improve its competitiveness and output, and the quality of life for all Canadians.

The engineering profession is often at the cutting edge of innovation and implementation of new technology. Engineers Canada believes the engineering profession is an important voice and perspective to have at the table when developing the government’s innovation agenda and we will continue to engage with the federal government to ensure that we are.

## Clean technology

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### Promises

The 2017 budget proposes to invest in Canada’s growing clean technology sector through the following commitments:

- \$12 million towards government departments to establish Clean Growth Hub.
- \$200 million for Natural Resources, Agriculture, Fisheries and Oceans departments to invest in clean technologies.
- \$14.5 million for the development of a Clean Technology Data Strategy.
  - Investments over four years, beginning in 2017-2018, to Natural Resources Canada and Innovation, Science and Economic Development Canada for the creation of such a strategy.
- \$570 million over three years in working capital to support clean tech firms.
- \$400 million over five years to the Sustainable Development Technology Canada (SDTC) for the SD Tech Fund.
  - Investments will support projects across Canada that work to develop technologies that encourage sustainable development.

## Analysis and opportunities

Budget 2017 demonstrates that the federal government will continue to make important investments within Canada’s growing clean technology sector, investments into technologies that promote clean growth and investment in innovative initiatives. Engineers Canada is encouraged that clean technology and innovation are core elements of the Pan-Canadian Framework on Clean Growth and Climate

Change. The engineering profession in Canada is ready to collaborate with the government to help maximize investments in this area in order to protect Canada's natural environment.

## STEM Education

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### Promises

Budget 2017 highlights the federal government's motivation to equip Canadians, specifically those who are within underrepresented groups in Canadian society, with necessary skills in science, technology, engineering, mathematics (STEM) and coding. The government acknowledges that gender imbalances continue to exist within STEM disciplines, including within universities and colleges across Canada.

The federal government also has an ambitious approach towards work-integrated learning. Budget 2017 outlines initiatives to create co-operative placements and work-integrated learning opportunities for post-secondary education students enrolled in STEM and business programs.

Budget 2017 includes the following proposals to support STEM initiatives:

- \$221 million over five years to achieve an ambitious goal of providing 10,000 work-integrated placements for post-secondary students each year—up from 3,750 placements currently—through the Mitacs Program.
- \$10.8 million investment over five years, starting in 2017-2018, to allow PromoScience to support more STEM learning activities for Canadian youth—in particular, underrepresented groups such as women and Indigenous peoples.
- Renewal of the government's support for Pathways to Education Canada by providing \$38 million over four years.
  - Will target vulnerable youth to support their need to succeed in school (includes tutoring, mentoring and financial assistance such as scholarships and internships).
- \$73 million over four years to create Post-Secondary Industry Partnership and Cooperative Placement.
  - Creating new co-op placements and work-integrated learning opportunities for post-secondary students enrolled in science, technology, engineering and mathematics (STEM) and business programs.

### Analysis and opportunities

Canada is moving rapidly towards a knowledge-based jobs economy and STEM education can help provide adequate graduates to address the current gap. Proactive and long-term education strategies must therefore include investments in building fundamental STEM skills. Government support of STEM education is crucial to ensuring that Canada remains a leader in the provision of intelligent capital to the global marketplace. STEM education will also place the country in a position to protect intellectual capital and strengthen its evidence-based decision making ability.

Programs and initiatives that are dedicated to improving STEM education are critical in preparing youth of today for the jobs of tomorrow. Engineers Canada is encouraged to see that the federal government has supported STEM initiatives through Budget 2017; specifically through investments towards co-op and work placement opportunities.

# Gender equality

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## Promises

Public policies impact both men and women differently. To this end, Budget 2017 highlights key investments and initiatives that are dedicated towards equal opportunities for both men and women. The budget addresses the need for a more meaningful and transparent discussion around gender parity and highlights the need for the government to continue to make better and more inclusive decisions in the years ahead.

Budget 2017 proposes key investments towards areas in Canadian society where gender imbalances continue to exist, specifically within innovation and infrastructure-related sectors.

Budget 2017 includes the following proposals to support gender equality:

- \$11.2 billion towards a National Housing Strategy.
- Investments towards the PromoScience Program, which supports opportunities for young Canadians, specifically women, to foster their interest in STEM disciplines and programs.
- The right to request flexible work arrangements for federally regulated employees.
- Allowing women to claim Employment Insurance maternity benefits up to 12 weeks before their due date.
  - Expanded from the current standard of eight weeks, if they so choose.
- \$101 million over five years to support a National Strategy to Address Gender-Based Violence.
- Urban Indigenous Strategy to address the challenges faced by at-risk members of the community.
  - Specifically targeting Indigenous women.
- \$7 billion investment to support and create more high-quality and affordable child care spaces across Canada.
  - Includes programs targeted towards Indigenous children on-and off-reserves.

## Analysis and opportunities

Engineers Canada is encouraged to see that the federal government has recognized some of the challenges that women face in the workforce and that exacerbate the barriers women face within the engineering profession specifically. Budget 2017 addresses gender-based challenges by promoting initiatives and programs that work to close the gender wage gap, as well as expand maternity leave options.

Engineers Canada is dedicated to helping improve the diversity of the engineering profession. By developing a diverse workforce, ingenuity and creativity in engineering will thrive. Engineers Canada has developed initiatives such as [30 by 30](#), Engineers Canada's commitment to raising the percentage of newly licensed engineers that are women to 30 per cent by the year 2030. Engineers Canada has also published "[Managing Transitions: Before, During and After Leave](#)," which is intended to assist engineers and geoscientists who are considering maternity or parental leave, and is designed to also assist their employers. It provides extensive checklists and outlines steps that individuals, supervisors and companies can take to help smoothly off and on ramp employees taking a leave of absence.

Engineers Canada looks forward to working with the federal government, Status of Women Canada and other likeminded stakeholders to help encourage members of underrepresented groups to pursue careers in engineering.

## Mobility and Foreign Credentials

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### Promises

Budget 2017 contains a new initiative to help integrate internationally trained professionals into the Canadian workforce. The budget proposes to reallocate \$27.5 million over five years, starting in 2017–18, and \$5.5 million per year thereafter from Employment and Social Development Canada’s existing resources to support a Targeted Employment Strategy for Newcomers.

The Strategy will have three components:

- Improved pre-arrival supports, so that newcomers can begin the foreign credential recognition process before arriving in Canada.
- A loan program that will assist newcomers with the cost of having their foreign credentials recognized.
- Targeted measures to test innovative approaches to help skilled newcomers gain Canadian work experience in their profession.

### Analysis and opportunities

Engineers Canada supports international mobility for qualified engineers and a transparent and open process for admission into the engineering profession in Canada. All practicing engineers, whether educated in Canada or abroad, must meet the requirements for licensure by one of the 12 provincial and territorial regulators of the engineering profession. Engineers Canada provides information and advice to governments on how to integrate international engineering graduates into the Canadian engineering profession and into the workforce.

## About Engineers Canada

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Engineers Canada is the national organization of the 12 engineering regulators that license the country's 290,000 members of the profession. Together, we work to advance the profession in the public interest.

To learn more about Engineers Canada and its advocacy work, please visit [engineerscanada.ca](http://engineerscanada.ca)