

# Submission to the Standing Committee on Finance: Pre-Budget Consultations in Advance of Budget 2025

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**Recommendation 1: As the Government of Canada ties federal infrastructure funding to housing construction, ensure that principles of resiliency, climate change mitigation and adaptation, and energy efficiency are foundational.**

**Recommendation 2: Expand existing programs supporting Indigenous post-secondary students with a focus on STEM education.**

**Recommendation 3: Leverage federal funding and policy tools to improve equity, diversity, inclusion, and accessibility in engineering.**

**Recommendation 4: Review the existing qualification standards for engineers in the public service to ensure the licensure of public servants where required by provincial legislation.**

## **Recommendation 1: As the Government of Canada ties federal infrastructure funding to housing construction, ensure that principles of resiliency, climate change mitigation and adaptation, and energy efficiency are foundational.**

All levels of government have a responsibility to provide predictable funding for the design, construction, and maintenance of safe and resilient public infrastructure throughout its full life cycle. This necessitates adopting a long-term perspective and conducting comprehensive life cycle analyses, recognizing that investing in infrastructure today will yield benefits for future generations.

Engineers Canada continues to urge the federal government to increase infrastructure investments through successor funding to the Investing in Canada Infrastructure Program, particularly maintenance of existing infrastructure. Much of Canada's core infrastructure requires significant investment to ensure its sustainability for its complete life and service cycle.

As the government implements the new Canada Housing Infrastructure Fund announced in Budget 2024, it is essential to recognize [the important role engineers play](#) in the building process.

Engineers are responsible for developing and updating building codes. They also ensure that various development scenarios align with those codes, meet local infrastructure requirements, and accommodate user- and site-specific engineering needs. Provincial and territorial engineering regulators hold engineers accountable in this work to keep Canadians safe. In areas that may fall outside of provincial jurisdiction, like federal housing initiatives, housing on federal lands, and conversion of federally owned buildings, engineers are equally important. With that in mind, Engineers Canada offers the following considerations for future infrastructure investment that will directly enable new housing construction:

- Work with provinces and territories to ensure the adoption of new resiliency and climate change adaptation objectives by [incorporating these objectives](#) into the National Building Code.
- Ensure that federal funding through the Canada Housing Infrastructure Fund enhances the [resiliency of the built environment](#), including flood-proofing, protection against extreme heat and cold, air quality protection, wind-resistant design, storm protections, efficient water and wastewater systems, and other necessary factors for resiliency.
- Focus significant resources on modernizing Canada's ability to produce and transmit energy to support goals related to GHG emissions in the building sector and to safeguard against risks to public health and safety. This is particularly important to prevent blackouts in emergency scenarios and to avoid exacerbating energy poverty.

By encouraging the adoption of resiliency and climate change adaptation objectives into building codes, ensuring that federal infrastructure funding support resilient building practices, and focusing investment on modernizing Canada's energy transmission capacity, the federal government can help achieve a prosperous and sustainable future.

## **Recommendation 2: Expand existing programs to support Indigenous post-secondary students with a focus on STEM education.**

In 2021, Engineers Canada commissioned [a report](#) that revealed that Indigenous representation in the engineering profession stands at a mere 0.73 per cent, while around 5% of people in Canada identify as Indigenous. This severe underrepresentation of Indigenous engineers in the profession is, in part, a result of inadequate educational opportunities for Indigenous people in Canada.

Engineers Canada strongly supports federal initiatives to provide sustainable, predictable, and robust funding for Indigenous education, including post-secondary education. This funding must also include additional supports to ensure that students are given the tools they need to succeed in their education.

Among engineering programs, targeted, culturally relevant supports for Indigenous students interested in engineering that cater to their academic, social, and cultural needs have demonstrated success in increasing Indigenous undergraduate enrolment in engineering. Programs like the University of Manitoba's [Engineering Access Program](#) (ENGAP), Queen's University's [Indigenous Futures in Engineering program](#), and the University of Saskatchewan's [Indigenous Engineering Access Program](#) are holistic initiatives that pave the way for Indigenous learners in engineering.

These kinds of programs need to be developed at a scale that can reach more students and have a deeper impact, including through new educational models and institutions. For example, the Assembly of First Nations has proposed regional post-secondary educational models that are designed to meet the specific needs of First Nations Students.

Engineers Canada offers the following recommendations to support Indigenous postsecondary students broadly and within engineering:

- Consult with Indigenous engineers, including [AISES in Canada](#), to create and fully fund communities of Indigenous engineering training and practice in the post-secondary sector, such as those highlighted above
- Support targeted initiatives to expand access to post-secondary engineering education for First Nations, Inuit and Métis students.
- Provide continued funding for the Post-Secondary Student Support Program (PSSSP) and the Post-Secondary Partnerships Program (PSPP) to support First Nations students and institutions while negotiating post-secondary models with First Nations.

The federal government must continue its efforts to close the education gap between Indigenous and non-Indigenous populations, advance reconciliation through education and labour market opportunities, and collaborate with Indigenous leaders, communities, and the engineering profession to develop an effective and comprehensive strategy that supports Indigenous peoples' access to post-secondary engineering education. By sustaining networks of Indigenous engineering academics to innovate and strengthen engineering education for Indigenous students,

the government can ensure the integration of efforts to address gaps in engineering education into new Indigenous post-secondary funding and delivery models.

### **Recommendation 3: Leverage federal funding and policy tools to improve equity, diversity, inclusion, and accessibility in engineering.**

Engineers Canada spearheads a nationwide initiative aimed at fostering greater gender equity within the field of engineering. At the forefront of our efforts is the [“30 by 30” initiative](#). Together with engineering regulators, post-secondary institutions and other engineering organizations, our goal is to ensure that by 2030, women represent 30 per cent of newly licensed engineers. In 2022, around [20.2 per cent of newly licensed engineers were women](#), and 21.7 per cent of engineers in training (EITs) were women. Engineers Canada and the 12 provincial and territorial engineering regulators are committed to strengthening and expanding this work.

Achieving gender diversity is crucial for the engineering profession to better understand and safeguard the public interest, as it should be representative of the demographics it serves. Our recent research on the experiences of women in engineering has highlighted persistent barriers, such as gender-based discrimination and harassment. Women and gender-diverse engineers continue to face systemic obstacles and toxic work environments that are not experienced by their male counterparts. This culture of exclusion also affects Indigenous peoples, Black individuals, people of colour, 2SLGBTQ+ persons, and individuals with disabilities, who encounter similar barriers due to systemic discrimination and marginalization.

In addition to combating a culture of exclusion, Engineers Canada has learned through our efforts to advance equity, diversity, inclusion, and accessibility in engineering how important it is to open STEM education opportunities earlier in life for underrepresented groups. The federal government is an important partner to the K-12, post-secondary and supporting sectors in providing tutoring, mentoring, bursaries, and scholarships and work-integrated learning opportunities for students. Engineers Canada asks the federal government to consider the following recommendations to leverage federal programming to increase equity, diversity, inclusion, and accessibility in engineering:

- Address cultures of exclusion by implementing the recommendations included in the *Employment Equity Act* Task Force Report.
- Support efforts by professions, including engineers, to catalyze culture change in workplaces by funding training and accountability initiatives, including by using federal regulatory tools, procurement practices, grant funding and other policy levers.
- Provide a long-term and sustainable funding model for youth programming, including the [Support for Student Learning Program](#) and the [Student Work Placement Program](#).
- Create additional funding streams under these programs to support girls and women, Indigenous people, Black people, people of colour, 2SLGBTQ+ persons and people with disabilities to access early STEM educational opportunities.

Individuals from marginalized communities deserve an engineering profession that celebrates and safeguards their well-being, and the engineering profession requires diverse problem-solvers to tackle the challenges in the public interest. By providing sustainable funding for initiatives that expand opportunities for marginalized people in engineering education, the federal government can support its vision for an inclusive Canada.

#### **Recommendation 4: Review the existing qualification standards for engineers in the public service to ensure the licensure of public servants where required by provincial legislation.**

For many years federal departments and agencies have filled engineering positions in the public service, particularly those categorized as EN-ENG, without requiring engineering licensure as a condition of employment. This lack of licensure requirement for performing engineering work poses potential risks to public safety. The guidelines issued by the Treasury Board of Canada Secretariat (TBS) do not universally mandate occupational certification for all EN-ENG positions across federal departments, leading to inconsistent criteria for EN-ENG job postings throughout the federal public service.

In cases where certification is required, the minimum standard merely refers to eligibility for professional engineering certification in Canada without specifying how eligibility is determined. Eligibility can only be determined by the provincial and territorial regulators. The current TBS guidelines do not mandate applicants to have applied for licensure or be registered with any of these engineering regulators.

Furthermore, all engineering regulators have provisions in their provincial and territorial acts that prohibit non-licensed individuals from using the title 'engineer.' When positions within the federal public service include the term 'engineer' in their titles, it is crucial that only licensed engineers fill these roles. Disregarding the regulated use of the title 'engineer' confuses the public perception of an individual's qualifications and undermines the high level of trust the public places in the engineering profession. Each engineering regulator strives to ensure that only licensed individuals can rightfully use the title 'engineer.'

Engineers Canada urges the TBS to undertake a swift review of the current qualification standards to ensure the licensure of engineers in the public service. This can be achieved by making "certification as a professional engineer in Canada" a mandatory occupational certification requirement for all new positions at EN-ENG-03 level and above.

It is vital that individuals practising engineering and using the title 'engineer' (or any similar variation) hold a licence from the engineering regulator in the province or territory where the title is being used. This minimizes risks to public safety and ensures that these activities are carried out by licensed engineers who are bound by stringent professional and ethical standards, working in the best interest of the public.

## About Engineers Canada

Engineers Canada is the national organization that represents the 12 provincial and territorial engineering regulators that license the more than 300,000 members of the engineering profession in Canada. As the only national voice for the engineering profession, our organization has a long-standing history of working and collaborating with the federal government to help inform and develop legislation, regulations, and policies. In making these recommendations for Budget 2025, Engineers Canada commits to this engagement to shape a positive future for engineering in Canada and is ready to work with the federal government to achieve this.