

Engineers Canada's Submission to the Standing Senate Committee on Energy, the Environment and Natural Resources

Study on Bill C-69: An Act to enact the Impact
Assessment Act and the Canadian Energy
Regulator Act, to amend the Navigation Act
and to make consequential amendments to
other Acts

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Overview

The Standing Senate Committee on Energy, the Environment and Natural Resources is seeking the views of Canadians regarding the scope of Bill C-69: An Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Act and to make consequential amendments to other Acts.

In Canada, individuals performing engineering work must hold an engineering licence from the provincial or territorial regulator in the jurisdiction in which the work is being performed. These professional engineers are the only ones who are legally allowed to use the term engineer—an ‘engineer’ and a ‘professional engineer’ are one and the same. This licensing process ensures that applicants meet requirements in academics, work experience, language, good character, and professionalism and ethics, and holds engineers accountable for their work not only by the engineering regulator, but also by their employers.

Engineers drive much of Canada’s economy. Natural resources, manufacturing, transportation infrastructure, technology, and other sectors rely on the capability of engineers. As one of the top five exporters of engineering services in the world, the expertise of Canada’s engineers contributes to both the Canadian and international economy. Engineers Canada believes that there is a strong need to improve federal impact assessments and regulatory processes in a manner that will enhance the participation of several groups across Canada, particularly the engineering profession, and therefore enhance the economy.

Engineers Canada understands the need to balance both economic activities with environmental protection practices. Engineers across Canada work to achieve this balance every day, all while holding public safety top of mind. Given the unique perspective of engineers in Canada, Engineers Canada recommends the following to improve upon and strengthen Bill C-69:

- that section 11 of the *Impact Assessment Act* be expanded to include consultation with engineers in Canada.
- that section 22(1) of the *Impact Assessment Act* be amended to include “considerations related to climate resiliency and public infrastructure risk assessments use Engineers Canada’s Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol with respect to the designated project” as a factor that must be considered by the Impact Assessment Agency of Canada while conducting an impact assessment.
- that section 22(1) of the *Impact Assessment Act* be amended to include “comments from a professional engineer in Canada involved in any portion of the designated project” as a factor that must be considered by the Impact Assessment Agency of Canada while conducting an impact assessment.
- that regulations made under paragraph 112(a) include that when engineering activities are part of the project, consultation with engineers are required for an initial project description that proponents must file with the Impact Assessment Agency of Canada

- that regulations made under paragraph 112(a) include a climate risk assessment process such as Engineers Canada’s PIEVC Protocol for an initial project description that proponents must file with the Impact Assessment Agency of Canada.
- that within the *Impact Assessment Act*, the federal government considers the need for impact considerations to be addressed by an engineer, specifically with regards to climate resiliency and public infrastructure risk assessments.
- that the *Impact Assessment Act*, the *Canadian Energy Regulator Act*, and the *National Energy Board Act* are amended to provide greater clarity to ensure that in each stage of the reporting requirements under the regulation, those undertaking engineering activities are licensed to practice in that jurisdiction where an impact assessment is conducted.
- that the *National Energy Board Act* be amended to provide greater clarity to ensure that engineers are specifically included in public consultations and in decisions related to Canada’s energy sector where engineering work is required.
- that under the *National Energy Board Act*, engineers in Canada be consulted at the subsequent Joint Panel Hearing project review when engineering activities are reviewed and discussed.
- that the Impact Assessment Agency of Canada provide greater flexibility when determining timelines for project environmental and regulatory reviews.
- that the Joint CETC-CEA Agency Panel hearings include engineering expertise provided by an engineer in Canada.

It is important that the government actively engage with and consult Engineers Canada to ensure that the perspectives of engineers are considered during the development and amendment of these regulatory frameworks.

Impact Assessment Act

Engineers Canada supports the proposed approach of having designated projects reviewed by the proposed Impact Assessment Agency of Canada and relevant federal regulators. With this approach, Engineers Canada recommends that the scope of assessments under the *Impact Assessment Act* include economic, environmental, and social considerations to support a deeper understanding of the impacts that designated projects may have on communities across Canada. To achieve this, Engineers Canada believes that legislative changes require the consideration of engineers in Canada.

Recommendation #1: That the *Impact Assessment Act* be expanded to include consultations with engineers

The proposed federal environmental review process will have a tremendous impact on major projects in Canada, both in the short and long term. It is Engineers Canada’s view that individuals performing impact assessments for designated projects under the *Impact Assessment Act* must do so with high levels of technical skills and ethics, and that they are held professionally accountable for their actions.

In Canada, engineering is regulated under provincial and territorial law by the 12 provincial and territorial engineering regulators. The 12 engineering regulators are entrusted to hold engineers accountable for practising in a professional, ethical, and competent manner and in compliance with the applicable provincial or territorial engineering act, code of ethics, and legal framework in place. The first detailed item in the codes of ethics delineates that licensees must hold paramount the safety, health, and welfare of the Canadian public and the protection of the environment. Technical and professional standards of conduct are set, revised, maintained, and enforced by the regulators for all engineers under their jurisdiction.

By designating that only engineers undertake assessments of engineering work under the *Impact Assessment Act*, the federal government can provide assurance to the public that decisions will be made appropriately and in the public interest. These levels of accountability will provide the best risk management process going forward.

With the proposed amendments in Bill C-69, Engineers Canada recommends the following amendments:

- that section 11 of the *Impact Assessment Act* be expanded to include consultation with engineers in Canada.
- that section 22(1) of the *Impact Assessment Act* be amended to include “comments from a professional engineer in Canada involved in any portion of the designated project” as a factor that must be considered by the Impact Assessment Agency of Canada while conducting an impact assessment.

Engineers Canada requests that evidence or assessments dealing with engineering matters be given consideration only if the presenters are licensed to practice in that jurisdiction. This applies to evidence provided to a panel or committee whether by representatives of government, industry, academia, or the public. Currently, there is no reference to the requirement of engineers to take responsibility for activities requiring engineering knowledge within the *Canadian Environmental Assessment Act*.

Only experienced engineers should have their evidence given expert weight within a testimony or consultation to federal boards or review panels where engineering work is concerned. This information should be made clear to those participating in these current processes. When non-engineers comment on engineering matters, they should be required to declare whether they are licensed as relying on the testimony of someone who is not licensed may present a significant risk to public safety.

Engineers Canada recommends that regulations made under paragraph 112(a) include that when engineering activities are part of the project, consultation with engineers are required for an initial project description that proponents must file with the Impact Assessment Agency of Canada

Recommendation #2: That the *Impact Assessment Act* incorporate climate risk and resilience objectives into federal impact assessment processes

Resilient infrastructure is required to support productive societies, stable sectors, competitiveness and increased public confidence in civil infrastructure. The Canadian Infrastructure Report Card outlines that

much of Canada's current infrastructure is vulnerable to the effects of extreme weather. Extreme weather on vulnerable infrastructure can have devastating and immediate effects on communities, crucial sectors of the global supply chain, and public safety. To promote public confidence in impact assessments, the federal government must ensure that climate risk assessments are consistently applied throughout the life-cycle of a federal project.

Risk is calculated as the product of likelihood of a climate event happening and its consequence or impacts to the project or its subcomponents. It is standard practice in risk assessment to highlight both, the most likely impacts and low likelihood high impact scenarios. Assessed risks are dealt with by exploring the adaptation options available.

A coherent, comprehensive, and planning-based approach to impact assessments is required within the *Impact Assessment Act*. Impact assessments and associated decisions should be based on the best information, analysis, and tools available to adequately address and mitigate climate impacts on Canada's vulnerable infrastructure. With the transition from an environmental assessment regime to an impact assessment regime, decisions must have accountability attached to them, and assessment criteria must be clearly outlined. Bill C-69 requires amendments to ensure that project approvals are based on their ability to support Canada's climate targets while simultaneously upholding public safety.

It is Engineers Canada's view that section 22(1) of the *Impact Assessment Act* be amended to include "considerations related to climate resiliency and public infrastructure risk assessments use Engineers Canada's Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol with respect to the designated project" as a factor that must be considered by the Impact Assessment Agency of Canada while conducting an impact assessment.

The PIEVC Protocol systematically reviews historical climate information and projects the nature, severity, and probability of future climate changes and events. It also established the adaptive capacity of an individual infrastructure as determined by its design, operation, and maintenance. It includes an estimate of the severity of climate impacts on the components of the infrastructure to enable the identification of higher risk components and the nature of the threat from the climate change impact. This information can be used to make informed engineering decisions on what components require adaptation as well as how to adapt them; specifically, through design adjustments, changes to operational or maintenance procedures. The Protocol has been used 45 times across Canada and twice internationally.

The Government of Canada announced in June 2018 that as part of the *Investing in Canada Plan*, new major infrastructure projects that are seeking federal funding will be required to undertake an assessment of how their projects will contribute to or reduce carbon pollution, and to consider climate change risks in the location, design, and planned operation of a project. The Climate Lens lists Engineers Canada's PIEVC Protocol as one of the methodologies for climate change resilience that is consistent with ISO 31000.

While this investment is an important first step, Engineers Canada recommends that regulations made under paragraph 112(a) include a climate risk assessment process such as Engineers Canada's PIEVC Protocol for an initial project description that proponents must file with the Impact Assessment Agency of Canada.

For project impact assessments and considerations to be appropriately reviewed, it is Engineers Canada's view that the Impact Assessment Agency of Canada provide greater flexibility when determining timelines for project assessments. Timelines for environmental and impact assessments are necessary; however, time limits for project reviews should be determined on a project-by-project basis to allow for adequate data collection and analysis, proper consultation with engineers, project complexities to be discovered and adequately addressed, and for potential impacts on Canada's natural environment, economy, and public safety to be properly considered.

Building on the other amendments proposed in Bill C-69, Engineers Canada recommends the following amendments:

- that within the *Impact Assessment Act*, the federal government considers the need for impact considerations to be addressed by an engineer, specifically with regards to climate resiliency and public infrastructure risk assessments.
- that section 112(a) be amended to include consultations with engineers in Canada as a requirement for an initial project description and that proponents file with the Impact Assessment Agency of Canada.
- that the Impact Assessment Agency of Canada provide greater flexibility when determining timelines for project environmental and regulatory reviews.

National Energy Board Act

Engineers interact with existing National Energy Board-regulated pipelines and transmission lines and are directly involved in emergency response planning, as well as the development, construction, maintenance, rehabilitation, and decommissioning of public infrastructure across Canada. Engineers Canada was pleased to see that the final report from the Expert Panel on National Energy Board Modernization recognized the critical role that engineering ideas and activities have on Canada's energy sector. As previously mentioned in this submission, engineers have accountability that is regulated under provincial and territorial law by the 12 provincial and territorial engineering regulators. These levels of accountability are required within Canada's energy sector.

Although Engineers Canada was encouraged by the National Energy Board Modernization's Expert Panel's report regarding the need for engineering expertise in Canada's energy sector and acknowledges that it is an important first step to include engineering expertise in this regard, there are important details within the bill that must be appropriately addressed and amended.

First, the Expert Panel's report on National Energy Board Modernization, specifically section four entitled "*Public Participation*", recognized several stakeholders with whom to consult regarding today's energy infrastructure regulatory system. It is Engineers Canada's view that as it currently stands, the outline of "who has a say" is broad and requires specificity to adequately incorporate the ideas, perspectives, and

unbiased expertise of engineers in Canada. Engineers Canada therefore proposes the following amendment:

- that the *National Energy Board Act* be amended to provide greater clarity to ensure that engineers are specifically included in public consultations and decisions related to Canada's energy sector where engineering work is required.

Second, the Expert Panel's report, specifically the section entitled: "*Project Review: Determination of Alignment with National Interest*," clearly states that "[t]his phase of a major project review is not intended to be a detailed review of things like the specific engineering details of a project...these factors would be assessed in the subsequent Joint Panel Hearing project review."¹

In this context, to ensure that specific engineering details of a project are adequately addressed, it becomes imperative for engineers in Canada to be consulted at the Joint Panel Hearing project review where engineering activities are to be reviewed and discussed. It is imperative that the professional, unbiased expertise of engineers are included in the decision-making process.

For the potential second, more detailed regulatory approval process, under the authority of a new Canadian Energy Transmission Commission (CETC) and the Canadian Environmental Assessment Agency (CEA), engineers in Canada must also be consulted to provide a more detailed analysis of engineering activities to avoid potential risks of a project relating to the natural environment, Canadian economy, and public safety.

In addition, building on what is currently proposed in Bill C-69, Engineers Canada recommends the following amendments:

- that the *Impact Assessment Act*, the *Canadian Energy Regulator Act*, and the *National Energy Board Act* are amended to provide greater clarity to ensure that in each stage of the reporting requirements under the regulation, those undertaking engineering activities are licensed to practice in that jurisdiction where an impact assessment is conducted.
- that the Joint CETC-CEA Agency Panel hearings include engineering expertise provided by an engineer in Canada.

Who we are

Engineers Canada is the national organization of the 12 provincial and territorial associations that regulate the practice of engineering in Canada and license the country's 290,000 professional engineers. Together, we work to advance the profession in the public interest.

¹ Expert Panel on the Modernization of the National Energy Board. (2017). "Forward, together: Enabling Canada's Clean, Safe, and Secure Energy Future." Retrieved June 20 2018, from: <https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/pdf/NEB-Modernization-Report-EN-WebReady.pdf>.