

THE ENGINEERING PROFESSION'S POSITION

- Canada's lower productivity relative to some of its peers and its slower growth in productivity jeopardizes the quality of life for Canadians and the Canadian economy.
- Engineers play a key role in enhancing overall growth, productivity, and innovation leading to development of a country's workforce and economy—important factors in maintaining and improving the quality of life for its citizens.
- Increasingly, the federal government must promote and invest in activities that accelerate increases in Canadian productivity in research and development (R&D, innovation, and technology). These investments lead to the creation of more productive goods and services and a growth in productivity. Engineers are key drivers of innovation and productivity growth and must be involved at all stages.

The challenge(s)

Productivity is the most important determinant of a country's per capita income over the long term. Productivity measures the efficiency with which an economy transforms inputs into outputs. The least complex are partial measures of productivity that consider a single input, such as labour or capital. More complex measures consider more than one input simultaneously; for example, labour and capital taken together.¹ Countries that are increasingly productive are surpassing Canada on measures such as income per capita, innovation, supply chain logistics, and the quality of social programs. Falling behind on these and other matters greatly stunts Canada's overall productivity growth and productivity levels, which consequently impacts Canada's competitive workforce and national economy. In 2021, The Conference Board of Canada highlighted how Canada's labour productivity growth has been lower than that of top countries for many decades, which has hurt Canada's overall global competitiveness.² Not only does Canada have a lower overall productivity than many of its peers, but its annual growth in productivity is also less than most of its peers. Based on this, Canada will fall behind at a faster rate if current trends do not change.

Maximizing productivity across Canadian industries and public infrastructure is a critical factor in ensuring sustained economic growth, enhanced living standards, and improved international competitiveness. Falling behind our peer countries at a faster rate will eventually erode our current living standards. Statistics Canada outlined that in the second half of 2020, five key industries provided significant value-add to the national economy through their high rate of labour productivity³. They

included mining, quarrying, oil and gas extraction, manufacturing, and transportation, all of which are dependent on the unbiased advice and expertise of the engineering profession in Canada. We must take the successes of these sectors and apply them to other sectors of our economy. Engineers play a key role in enhancing the overall growth, productivity, and development of a country's workforce and economy, as well as improving the quality of life for citizens. There is an important connection between a country's engineering capacity and its overall productivity and economic development. One key area for increased productivity across Canada comes from investing in public infrastructure projects that substantially increase productivity to spark economic stimulus. For example, through a well-developed transportation infrastructure system, countries are better able to get goods and services to market and to increase job creation. Likewise, sustainable digital infrastructure allows for the free flow of information, ensuring that businesses and essential services can communicate effectively and make timely decisions.⁴ With public infrastructure and technological advancements being a cornerstone of effective economic stimulus and productivity, it becomes vital that the federal government engage licensed professionals, including engineers, as economic recovery plans, which include plans for accelerating productivity, are implemented.

How Engineers Canada has contributed

Engineers have and will continue to play an important role in the immediate, short-, and long-term economic recovery and accelerating productivity in Canada.

Cooperation and collaboration between the engineering profession and the federal government is invaluable in accomplishing increased productivity and economic stimulus across Canada. Some of Engineers Canada's work that supports accelerating productivity includes:

- Informing the federal government of the role of the engineering profession in Canada's long-term economic recovery post-COVID-19.
- Through its accreditation standards, ensuring that new Canadian engineering graduates have the modern skills that enable leading edge productivity enhancements in the many aspects of Canadian society where engineering plays important roles.
- Advancing the attraction, retention, and equitable participation of women and Indigenous Peoples, in Canada's high-productivity sectors through our 30 by 30 and other equity, diversity, and inclusion initiatives. Increased diversity within the engineering profession provides significant benefits to Canadians by delivering a solution to overcoming skills shortages, increased innovation capacity, and a greater return on human resource investment.
- Commitment to increasing diversity in leadership positions through the federal government's 50-30 Challenge.
- Providing key recommendations to various House of Commons and Senate standing committees.

Recommendations to the federal government

The federal government should:

- Create a plan to increase Canada's productivity at a rate faster than Canada's peers. It must do so if it is to at least maintain its citizens' current standard of living.
- Change Canada's regulatory framework to promote innovation and accelerating productivity.
- Increase productivity through the acceleration of projects promised under the Investing in Canada Plan and other federal-provincial legacy programs. The acceleration of project approvals will result in job creation and productivity.

- Continued investment in research and development (R&D) and innovation in Canada. Research stimulates innovation, with improved innovation leading to the creation of new goods and services, and labour and growth productivity. The technology sector is a key driver of Canada's economic competitiveness on the global stage. Engineers are at the forefront of many technology companies and are key drivers of innovation and productivity growth.
- Continued collaboration with the engineering profession in supporting improvements in equity, diversity, and inclusion in the engineering profession.

How Engineers Canada will contribute

With its network of expert volunteers, Engineers Canada will:

- Provide advice on funding priorities for innovation and productivity in existing and emerging engineering disciplines.
- Continue to upgrade engineering accreditation standards that will enhance the ability of new engineering graduates to contribute to Canada improving productivity at a faster rate.
- Continue working with the provincial and territorial engineering regulators to improve equity, diversity, and inclusion in the engineering profession to increase innovation and accelerate productivity.
- Provide advice in the early stages and facilitate the development of legislation and federal regulatory frameworks that promote accelerating productivity.
- Participate in government forums, national roundtables, and appear before House of Commons and Senate committees to advance policies that support accelerating productivity.

1. Statistics Canada (2014). "What is Productivity?" Retrieved September 23, 2021 from: <https://www150.statcan.gc.ca/n1/pub/15-206-x/15-206-x2014038-eng.htm>.
2. The Conference Board of Canada. (2021). "Labour Productivity Growth." Retrieved July 27, 2021 from: <https://www.conferenceboard.ca/hcp/Details/Economy/measuring-productivity-canada.aspx>
3. Statistics Canada (2021). "Impacts of the COVID-19 Pandemic on Productivity Growth in Canada." Retrieved July 28, 2021 from: <https://www150.statcan.gc.ca/n1/pub/36-28-0001/2021005/article/00004-eng.htm>
4. Royal Academy of Engineering (2016). "Engineering and economic growth: a global view." Retrieved July 29, 2021 from: <https://www.raeng.org.uk/publications/reports/engineering-and-economic-growth-a-global-view>