

July 30, 2020

Standing Committee on Finance and Economic Affairs
Amarjot Sandhu, MPP, Chair

RE: Study of the recommendations relating to the *Economic and Fiscal Update Act, 2020* and the impacts of the COVID-19 crisis on certain sectors of the economy (Infrastructure)

Dear Committee Members,

The Ontario Society of Professional Engineers (OSPE) is the voice of the engineering profession. We represent Ontario's 85,000 professional engineers and 250,000 engineering graduates. The engineering profession's commitment to safeguarding the public interest has always been extremely important, and in these uncertain times, there is no exception.

The simple truth is that Engineers generate wealth for the province, through the development and commercialization of new technologies and by designing innovative and sustainable solutions that benefit all Ontarians. Engineers also ensure safety and stability, by designing resilient infrastructure, reliable energy grids and clean water systems that Ontarians rely on daily.

During this pandemic, engineers have led the redesign of manufacturing processes to create much needed Personal Protective Equipment (PPE) and ventilators. They are in the med-tech industry working diligently to bio-engineer new medications and develop vaccines to combat COVID-19. OSPE also donated masks and sanitizer to front line workers to show support to our community.

The engineering community has been severely impacted by this pandemic, as thousands of engineering jobs were lost that were directly linked to the infrastructure, manufacturing, technology, research and innovation sectors. This talent will be needed in rebuilding the engine that drives not only Ontario, but the rest of the country. As such, the province must support the engineering community if it wishes to capitalize on their economic recovery efforts.

It is imperative that new funding allocations provide a sustainable benefit for diverse, future generations by ensuring a targeted focus on **sustainable infrastructure, talent development and retention, and fostering innovation.**

OSPE would like to provide you with specific recommendations, from an Infrastructure perspective, for consideration as part of the province's post COVID-19 economic recovery plan.

OSPE believes that the government must prioritize certain actions that will enable the most prosperous recovery for Ontario. COVID-19 has taught everyone the great importance of building a resilient economy that is better prepared to withstand unknown threats of this magnitude.

A resilient economy can be supported by:

- Leveraging Ontario's existing assets
- Building the assets that both businesses and workers of the future need to succeed

- Strengthening Ontario's competitive advantage

These actions should seek to build a sustainable, resilient, and innovative Ontario.

1. Invest in shovel worthy projects by developing a comprehensive project investment pipeline document. This must be informed by currently regulated municipal asset management plans.

OSPE believes that proper, smart, and prioritized investment in sustainable infrastructure will help alleviate the economic burden the province is facing, while decreasing unemployment rates in several critical sectors of the economy.

Recent studies by the University of Maryland and by CANCEA in Ontario have estimated that every dollar invested in infrastructure returns approximately \$3.70 in economic growth over 20 years.

Developing a comprehensive project investment pipeline document, which is informed by existing regulated municipal asset management plans will facilitate the prioritization of early works. These projects are not only 'shovel-ready', but 'shovel-worthy' and will provide a positive return on investment. By immediately utilizing these plans to select projects for investment, the province will be able to reduce application timelines and ensure a speedy and safe recovery.

2. Support small and medium sized engineering firms by tackling increasing liability insurance costs.

Engineers support the provincial and federal government's approach to focus immediately on "shovel-worthy" infrastructure projects that can deliver short- and long-term benefits for Ontarians.

However, to achieve this, engineering firms must be able to compete in the market. Currently, insurance providers consider Ontario a high-risk jurisdiction. This has impacted engineers greatly, causing an increase in insurance costs and implications on coverage. These changes have not only resulted in the rising cost of liability insurance (professional liability as well as commercial general liability/property) but have prevented engineers access to specific aspects of insurance coverage that were historically readily available.

This impacts the ability of small to medium sized engineering companies to operate in the province, which limits the amount of infrastructure that can be built, further debilitating economic growth. Further, this increases the costs of engineering projects, costs which are being downloaded to consumers. As the largest procurer of infrastructure projects, the government should be deeply concerned with these escalating costs, and the design talent shortage needed to build the infrastructure needed.

Several factors have caused these conditions:

- The regulatory body, Professional Engineers Ontario (PEO) does not currently make continuing professional development (CPD) mandatory in Ontario, despite the recommendation brought forward by the Elliot Lake Commission of Inquiry;
- There is no minimum required liability insurance for practicing engineers;
- Engineers are not regularly focused on projects within their specialization, and many lack micro-credentials.

- Engineering firms are not required to train and develop their own talent

3. Accelerate the electrification of the transportation system, including EV adoption.

Ontario should work towards a safe, green, innovative, and integrated transportation system that is able to support a clean environment, while boosting trade, economic growth, and public safety. Policies should seek to develop and foster a transportation system that works for current and future generations.

Electric motors are about 3 times more energy efficient than the internal combustion engine under ideal operating conditions. Electric vehicles also reduce greenhouse gas emissions and take advantage of the province's largely low carbon electricity grid. Transit use will likely decline because of the pandemic, so adoption of EVs may limit the resulting increase in GHG emissions from the transportation sector. Investing in EVs provides the opportunity of achieving short-term results, while allowing clean sectors to grow sustainably over time.

By increasing the uptake of EVs in Ontario and encouraging recharging during evenings, EVs will in effect store Ontario's surplus energy supply, which will significantly reduce the amount of surplus energy that is sold for a loss to external jurisdictions and/or curtailed, which is currently costing Ontario energy ratepayers approximately \$1 billion per year.

According to the Windfall Centre, if EVs were to reach a 10% share of the total vehicle population by 2025, Ontario would experience a GDP increase of over \$3.6 billion. Ontario would benefit from a growing industry that would be modern, efficient, and create new employment opportunities across the province.

The government also has the opportunity of electrifying its public bus fleet. Investments in electric public transport have an amplified positive impact since the vehicles run several hours per day. For individual consumers, EVs cost a quarter of the price to drive than gas vehicles. This means, the average Canadian driver, who travels 20,000km per year, would save as much as \$2,000 per year on fuel alone. Further to this, Ontario still has access to skilled talent despite closures of automotive manufacturing plants over the last few years. As Ontario historically has been a leader in automotive manufacturing, now is the time to ensure that we leverage our engineering and manufacturing expertise to supply the next generation of electric vehicles.

Despite all these benefits, the Ontario Government cancelled the EV incentive program, which resulted in a 53% decrease of EV purchases in the first half of 2019. Ontario is the only province in Canada not experiencing an increase in EV sales. With the current pandemic, the government has the opportunity of rectifying this decision, and supporting a clean growing sector right here in our province.

Some of the uptake barriers encountered with EVs, such as a shorter range, longer recharge times, and a higher upfront cost, can be addressed by smart government action. Some jurisdictions, like California, have committed to achieving a "tipping point" of electric vehicle adoption by enacting EV sale mandates requiring automakers to sell a specified number of EVs per year, as percentage of sales. In Quebec, such action has resulted in a 131% percent increase in one year.

To ensure Ontario accelerates the electrification of its transportation system, the province should:

- a) **Work with the federal and municipal governments to allocate specific resources to the electrification of the public transportation system.**
- b) **Develop and implement an incentive program for electric vehicles, until mass adoption “tipping point” is achieved.**
- c) **Enact an EV sales mandate like the ones established in Quebec and California, requiring automakers to sell a minimum percentage of electric vehicles.**
- d) **Permit free or discounted access for EVs to all tolled highways in Ontario.**
- e) **Establish a robust network of electric vehicle charging stations across Ontario.**
- f) **Amend the Building Code to ensure that there is a minimum percentage of electric vehicle supply equipment (EVSE) in residential and non-residential buildings, including condo and apartment buildings.**

4. Modernize Ontario’s Building Code.

The construction and renovation industries employ hundreds of thousands of Ontario workers, which have been greatly impacted by COVID-19. The National Building Code (NBC 2020) and the National Energy Code for Buildings (NECB 2020) contain new guidelines for energy efficiency in homes, small buildings, and commercial and institutional buildings. NBC 2020 section 9.36 focuses on energy efficiency and reducing greenhouse gas emissions to support a long-term goal of a net zero energy ready (NZER) model building code by 2030. Provinces have the option to adopt these provisions. **Ontario should adopt these sections of the NBC 2020 into the Ontario Building Code O.Reg. 332/12 and define clear steps and deadlines to achieve a NZER code by 2030.**

By doing so, not only would Ontario decrease its carbon footprint, but would also create jobs moving forward, especially under the lens of more energy efficient buildings and retrofits. This would also provide opportunity to lower life cycle costs to building owners and retrain workers in particularly hard-hit sectors. Ontario could learn from other jurisdictions, like British Columbia, who in 2017 became the first North American jurisdiction to create a regulated pathway for net-zero energy-ready buildings, through its *BC Energy Step Code*.

British Columbia’s success rests on:

- **Prioritizing the Building Envelope.** An envelope-first approach designs a measurable level of performance into the very fabric of the building, permanently wedding energy efficiency to the structure.
- **Prescribing outcomes, not processes** by defining a target, and working backwards with fixed interim deadlines and requirements.
- **Providing a baseline and working towards capacity building** by allowing local governments to adopt higher energy-efficiency requirements at a pace that works for them.
- **Consulting appropriately** with municipalities and local governments, professional associations, and utilities

These measures will help stimulate the COVID-19 economy, as greener buildings have been proven to lead to lower utility bills, and higher property value. Having these provisions in the Ontario Building Code will significantly increase the number of green homes and buildings being

built. This is a unique opportunity to both create jobs and increase consumer spending as well as contribute to Canada's transition to a low-carbon future.

The recovery from COVID-19 also provides the Ontario government with the opportunity to further support companies in the retrofitting of existing buildings with energy-efficient and low-carbon options. The goal should be to have existing buildings consume at least 30% less energy than 2005 levels by 2030. This could be achieved through energy labelling or EnerGuide. This requires assessing the energy efficiency of existing buildings on renovating or selling and should also be included in the Ontario Building Code. There needs to be additional financial support to make these cost-efficient, until the retrofit industry is more mature, such as reductions to HST/PST and enhancements to the current SaveONEnergy program.

These are strategic steps towards the development of sustainable communities for current and future generations. Green buildings provide some of the most effective means to achieving a range of goals, such as addressing climate change, creating sustainable and thriving communities, and driving economic growth.

5. Invest in talent development, knowledge training, and supports for engineers across the province.

Ontario must invest in engineering talent across the province. One of the primary barriers to innovation and growth is the access to a talent pool that possesses the skills needed to adapt to the future economy. Prior to COVID-19, some of Ontario's most strategic sectors, such as infrastructure and transportation were already facing a talent-gap in their engineering departments. Engineering jobs were being given to international firms because Ontario did not have the right talent to get the job done. This is deeply concerning to the economic recovery of the province as the success of the economy depends on the ability to match talent with job vacancies and to ensure that this talent can adapt to market demands. This concern has become magnified by immediate demands for more technologically equipped engineers due to changes caused by the current crisis.

The government should create incentives to support a strong culture of lifelong learning across Ontario, where employers and employees are provided with the tools and resources to upskill and retrain local talent. This year, OSPE is launching the [Ontario Engineering Academy](#) (OEA) to up-skill/re-skill engineering graduates exclusively to meet industry needs in Ontario. Your support of this initiative by mandating companies be responsible for the upskilling of local employees is critical for engineering graduates to adequately support Ontario's economic recovery. There is an opportunity for the government to incentivize engineering companies to invest in the professional development of their employees, to ensure that they are equipped with the knowledge and know-how to design and execute based on new realities. Investing in engineering talent allows the economy to shift towards more innovative and efficient processes and systems, which in turn creates jobs for other professionals, stimulating job creation and growth.

6. Invest in Ontario's Mining Infrastructure

Mining is the backbone of the Ontario economy. The materials and products delivered help Ontarians stay safe, meet basic needs, and sustain northern communities. This industry produces

around \$10 billion in revenues for Ontario per year and employs over 75,000 Ontarians. Mining is also the largest private sector employer of Indigenous Ontarians.

Ontario is the largest producer in Canada of gold, platinum group metals and nickel, and the second largest producer of copper. The province is also a major producer of salt and structural materials. Mining produces key metals for the development of high-tech products, batteries, as well as medical devices, including ventilators and diagnostic COVID-19 test kits.

The Ring of Fire region of Northern Ontario is an immense and untapped economic opportunity. Research done by the Ontario Chamber of Commerce suggests that in the first 30 years of its development, this region could generate more than \$25 billion in economic activity across several different sectors in Ontario, including mining, financial services, retail trade, manufacturing, and utilities.

The development of this region will also provide enormous long-term benefits to northern communities through increased economic activity and job creation. To realize the full economic potential of The Ring of Fire, the government must prioritize key investments in core infrastructure, as well as ways to address the needs of the labour market and Indigenous communities.

The engineering community suggests that the Government:

- Develop a long-term infrastructure plan for Northern Ontario, based on direct input and consultations from northern and Indigenous communities and the mining sector.
- Ensure resource development is sustainable, by establishing guidelines and frameworks that ensure corporations respect economic, environmental, and social needs of the communities.
- Ensure Indigenous peoples are full partners in the development of the Ring of Fire, where consultations with Indigenous communities begin at the planning stage and continue throughout the mining exploration stages.
- Develop a Youth Training Program, in partnership with OSPE, to teach Indigenous youth the engineering expertise and skills that will allow them to co-develop the different mining sites.