

January 29, 2026

Hon. Peter Bethlenfalvy
Ontario Minister of Finance
Frost Building South, 7th Floor
7 Queen's Park Crescent
Toronto, ON M7A 1Y7

Reference: OSPE Pre-Budget Submission 2026

Submitted via email to MOFconsultations@ontario.ca

Dear Minister Bethlenfalvy,

On behalf of the Ontario Society of Professional Engineers (OSPE), I am pleased to submit our **2026 Pre-Budget Submission**, outlining evidence-based recommendations to strengthen Ontario's economic competitiveness, ensure responsible long-term planning, and support a more resilient and prosperous future for all Ontarians.

Ontario is entering a pivotal period in time. Rapid population growth, historic housing targets, rising energy demand, climate pressures, and accelerating technological change are reshaping our province's infrastructure, workforce, and economy. At the same time, emerging global tariff regimes and supply-chain volatility are increasing costs for critical materials, clean energy components, and infrastructure technologies. These pressures underline the urgent need for strategic, engineering-driven solutions that safeguard affordability and ensure the timely delivery of major provincial priorities. Engineers are driving innovation and designing solutions in every strategic industry in Ontario's economy, from manufacturing, energy, infrastructure, life sciences, agriculture and AI, just to name a few. As such, Ontario's Engineers are fundamental to meeting these challenges and unlocking the opportunities they present.

As the voice of Ontario's Engineers, after careful consultation with our members, we have prepared this submission to provide practical, cost-effective, and forward-looking measures grounded in engineering expertise and aligned with the government's priorities in affordability, competitiveness, innovation, and long-term value.

Our recommendations focus on several key areas:

- **Building a future-ready engineering workforce** to meet the growing demand for engineering practitioners through strengthened STEM pathways, modernized postsecondary education, bridging programs for internationally trained engineers, and EDIA initiatives that expand participation in engineering and construction.
- **Delivering a reliable, affordable, and sustainable energy system** by advancing an Integrated Energy Strategy, expanding renewables, storage and district energy, modernizing grid infrastructure, supporting distributed SMRs, and promoting smart, electrification-ready buildings.
- **Modernizing transportation networks** with investments in rapid transit expansion, regional integration, active transportation, and intelligent mobility systems that respond to Ontario's growth and housing needs. Improve road safety with evidence-based road design engineered to encourage safe driving behaviours.
- **Advancing sustainable construction and climate-resilient infrastructure**, including lifecycle-based standards, low-carbon materials, circular construction practices, and major enhancements to stormwater, water, and critical infrastructure systems.
- **Accelerating the deployment of innovative green technologies**, including decentralized water and energy systems, wastewater heat recovery, advanced wind technologies, and Ontario's globally competitive water innovation sector.
- **Improving public health** through a Clean Indoor Air Act, ventilation and filtration upgrades, and modernized legislation aligned with ASHRAE standards.
- **Securing Ontario's digital future** with investments in cybersecurity infrastructure, responsible AI governance, and strong data protection frameworks.
- **Increasing Private Sector investments in research and development** by introducing the use of flow-through shares in investment, similar to what exists in the mining sector.

These recommendations are not aspirational; they are practical, feasible, and grounded in engineering and economic evidence. They focus on achieving long-term savings, strengthening resilience, reducing regulatory and capital cost pressures, and ensuring that Ontario remains competitive and attractive for residents, businesses, and emerging industries.

Engineers are essential partners in delivering the government's priorities, from building 1.5 million homes to modernizing energy systems, accelerating transit construction, improving public safety, and driving innovation in critical sectors. OSPE stands ready to support the Ministry of Finance with data, analysis, and technical expertise as you develop the 2026 Budget.

We would welcome the opportunity to meet with you or your staff to discuss our recommendations and explore how engineering solutions can continue to support Ontario's economic growth and long-term prosperity.

Thank you for your consideration, and for your continued commitment to building a stronger, more resilient Ontario.

Sincerely,

A handwritten signature in black ink that reads "Sandro Perruzza". The signature is written in a cursive, flowing style with a large initial 'S'.

Sandro Perruzza
Chief Executive Officer
Ontario Society of Professional Engineers

ONTARIO PRE-BUDGET SUBMISSION 2026

Executive Summary

Ontario is entering a decade of profound transformation. The province is experiencing unprecedented population growth, accelerating housing demand, a rapidly evolving energy system, and an economy increasingly shaped by digital technologies, climate pressures, global competition, and escalating tariff pressures. Engineers are at the center of every one of these challenges, and every solution.

New global tariff regimes and supply-chain disruptions are significantly increasing the cost of construction materials, critical technologies, and industrial inputs. Making evidence-based engineering solutions and long-term planning more essential than ever.

In this 2026 Pre-Budget Submission, the Ontario Society of Professional Engineers (OSPE) outlines a comprehensive vision for how Ontario can strengthen its economy, protect communities, and build long-term resilience by investing in engineering expertise, advanced technologies, and evidence-based infrastructure planning.

A Future-Ready Engineering Workforce

Ontario's prosperity depends on a robust, skilled, and diverse engineering workforce. Building on the significant STEM investments made in 2025, OSPE recommends continued investment across the talent pipeline - from K-12 STEM programs to postsecondary education, professional development, and bridging supports for internationally educated engineers. Ontario must modernize engineering curricula, expand co-op and experiential learning, and strengthen training in legacy sectors like manufacturing, as well as emerging fields such as AI, electrification, climate adaptation, and digital engineering.

Only about 25% of Ontario Engineering graduates pursue a career in traditional engineering work, as most of these graduates work in other key fields that drive Ontario's economy, such as in the banking, financial management, logistics, and other advance technology industries. That leaves a shortfall for qualified engineering practitioners in traditional engineering fields related to infrastructure, energy, mining and manufacturing fields. Without readily available engineering talent, fewer foreign organizations will come to Ontario to establish operations, and there will not be capacity to deliver on Ontario's infrastructure, energy, and natural resource development needs.

A thriving engineering workforce must also be inclusive. Targeted programs to support women, Indigenous peoples, racialized communities, and newcomers in engineering and construction will ensure Ontario has the talent to meet its climate, housing, and

infrastructure objectives. Indigenous engagement in critical minerals, mining, and northern infrastructure projects must be supported through culturally informed education, mentorship, and partnership initiatives.

As Ontario competes for highly skilled professionals, flexible and hybrid working models have become essential tools for attracting and retaining engineering talent. These models support productivity, reduce absenteeism, and expand workforce participation for women, caregivers, persons with disabilities, and internationally trained engineers. OSPE encourages the government to adopt an evidence-based approach to flexible work and reconsider the 2026 in-person mandate to ensure Ontario remains competitive in today's labour market.

A Reliable, Affordable, and Integrated Energy System

Ontario's energy system is under pressure from electrification, industrial growth, and new housing development. A coordinated and integrated long-term energy strategy is essential. OSPE recommends developing a province-wide framework that aligns electricity, lower-carbon emitting fuels, thermal energy, and storage systems, while improving transparency around total system costs and ratepayer impacts.

Strategic investments in renewable energy, co-located storage, smart building systems, grid modernization, and district energy networks will improve reliability and affordability. Ontario also has an opportunity to lead in distributed small modular reactors, which can supply both electricity and industrial or community-scale heat. These technologies combined with incentives for electrification-ready buildings will strengthen resilience and lower long-term energy costs.

A Modern, Connected, and Sustainable Transportation System

Ontario's transportation network is the foundation of mobility, economic development, and housing access. To ensure the system meets future demand, OSPE recommends continued investment in rapid transit expansions, regional integration, and active transportation networks.

Transit-oriented development must be prioritized to support compact, connected, and affordable communities. Investments in digital mobility tools, intelligent transportation systems, electric vehicle charging infrastructure, and equity-centered transit planning will enhance accessibility, safety, and sustainability for all Ontarians.

A total transportation system solution must also integrate other modes of transportation, including bicycles, scooters, and pedestrian traffic.

Sustainable Construction and Climate-Resilient Infrastructure

Climate change is already reshaping Ontario's infrastructure needs. Flooding, wildfires, extreme heat, and severe storms are becoming more frequent, increasing pressure on bridges, roads, water systems, and the built environment. OSPE recommends adopting lifecycle-based construction standards, embodied carbon disclosure, circular construction practices, and incentives for low-carbon materials.

Ontario must invest heavily in climate-resilient infrastructure like upgraded stormwater systems, modernized flood management, upgraded water treatment facilities, and enhance the resilience of critical assets. Advanced materials, eco-friendly concrete, and electrified construction equipment will reduce the carbon footprint of new development while enhancing durability and long-term value.

Innovation in Green and Decentralized Technologies

Ontario is poised to become a global leader in innovative green technologies. Investments in smart buildings, distributed energy systems, advanced wind technologies, and green IT infrastructure will strengthen sustainability and productivity.

At the same time, Ontario should revitalize its leadership in water technology innovation. Decentralized water and wastewater systems, wastewater heat recovery, and circular water-resource recovery systems offer powerful solutions to support housing growth, reduce infrastructure costs, and improve resilience in urban, rural, and northern communities. A provincial framework for adopting these technologies would accelerate deployment and support economic growth.

Public Health Through Clean Indoor Air

Indoor air quality is an essential component of public health resilience. Poor indoor air increases the burden of respiratory diseases, contributes to long-COVID risk, and affects learning and productivity. OSPE proposes the creation of a Clean Indoor Air Act, supported by investments in ventilation upgrades, high-efficiency filtration, continuous air quality monitoring, and public education. Aligning Ontario's building legislation with the latest ASHRAE standards will ensure that schools, workplaces, homes, and public buildings provide safe, healthy environments for all Ontarians.

A Secure Digital and Technological Future

As digital systems become more central to Ontario's economy, cybersecurity and responsible AI deployment are increasingly urgent priorities. OSPE recommends major investments in cybersecurity infrastructure, research, and workforce development, alongside ethical AI frameworks and clear provincial data governance standards. These

investments will protect critical infrastructure, enhance public trust, and establish Ontario as a leader in secure, responsible innovation.

Use of Flow-Through Shares to Spur Research and Development

The Government of Ontario should work with the Canadian Government to introduce a flow-through share mechanism applicable to investments in product research and development. This measure would parallel the proven structure long utilized in Canada's mining and energy sectors, whereby companies without sufficient taxable income may transfer tax deductions to investors. Extending this model to R&D activities would mobilize greater private-sector capital, reduce financial risk for early-stage innovators, and accelerate the advancement and commercialization of new technologies. Such a policy would enhance national and provincial innovation capacity, strengthen competitiveness in strategic industries, and support the sustained growth of a knowledge-based economy.

Conclusion

Ontario stands at a moment of opportunity. With strategic investments guided by engineering expertise, the province can build a cleaner, more resilient energy system; a modern transportation network; sustainable and inclusive communities; safe and healthy indoor environments; advanced water and wastewater systems; and a digital ecosystem protected from emerging threats.

OSPE's 2026 recommendations offer a roadmap for a more affordable, competitive, and sustainable Ontario—where engineering innovation drives economic growth, strengthens public health, and enhances quality of life for every resident.

Advancing Ontario's Engineering Workforce, Innovation Capacity, and Economic Competitiveness

Building on the Government of Ontario's significant 2025 investments in STEM education and talent development, the Ontario Society of Professional Engineers (OSPE) recommends targeted measures in the 2026 Budget to strengthen Ontario's engineering pipeline, modernize regulatory frameworks, improve infrastructure delivery, and support inclusive economic growth. These recommendations align with provincial priorities in housing, energy, critical minerals, advanced manufacturing, and climate resilience.

1. Implement Qualifications-Based Selection (QBS) for Engineering Procurement

OSPE recommends that the government adopt Qualifications-Based Selection (QBS) as the standard for procuring engineering services across the public sector. QBS prioritizes technical excellence, safety, lifecycle value, and innovation, while enabling procurement processes that incorporate equity, sustainability, and accessibility objectives.

Budget Requests:

- Establish a **provincial QBS policy framework** mandating its use for public-sector engineering procurement.
- Provide **training and resources** for ministries, municipalities, and agencies to implement QBS effectively.
- Fund **pilot projects** to evaluate outcomes, measure efficiencies, and refine implementation guidance.

2. Strengthen Ontario's STEM Talent Pipeline (Continuation of 2025 Investment)

The 2025 STEM investment was essential, but continued support is required to meet the rapid growth in engineering demand driven by infrastructure expansion, electrification, AI adoption, climate mitigation, and advanced manufacturing.

Budget Requests:

- Sustained **funding for STEM programs**, particularly engineering-aligned curriculum and pathways.
- Expansion of **experiential learning opportunities** (co-ops, applied research, WIL) across post-secondary institutions.
- Targeted initiatives to support **underrepresented groups** entering STEM and engineering programs.

3. Implement Blue Ribbon Panel Recommendations for Postsecondary Engineering Education

Ontario's engineering programs face enrolment pressures and resource challenges. Implementing the Blue Ribbon Panel recommendations will ensure the province can continue to graduate world-class engineers.

Budget Requests:

- Targeted funding to modernize labs, equipment, and digital infrastructure for engineering programs.
- Student support measures, including bursaries and tuition stabilization.
- Funding to expand **industry-aligned partnerships** that strengthen workforce readiness.

4. Strengthen Ontario's Manufacturing Workforce

To build a strong industrial and manufacturing base in Ontario and improve employment for engineering graduates, education funding and programs must be aligned to workplace needs.

Budget Requests

a. Support Relevant STEM Education

- Provide funding to post-secondary institutions that develop programs with specialized manufacturing education for engineering students

5. Expand Continuous Professional Development (CPD) for Engineers

Emerging technologies are reshaping every sector of Ontario's economy. Engineers require accessible and up-to-date training to support innovation and ensure public safety.

Budget Requests:

- Funding for sector-wide CPD programs, micro-credentials, and technical training in areas such as AI, clean energy, climate adaptation, cyber security, and advanced manufacturing.
- Support for partnerships between government, post-secondary institutions, and professional organizations to scale CPD opportunities.

6. Invest in Diversity, Equity, Inclusion, and Accessibility (EDIA) in Engineering

A competitive and resilient engineering workforce must also be representative. Data-driven investments are needed to improve participation, retention, and advancement of underrepresented groups.

Budget Requests:

- A provincial **engineering workforce demographic study** to inform evidence-based policies.

- Support for **Employee Resource Groups (ERGs)** across engineering employers.
- Funding for province-wide EDIA training on unconscious bias, accessibility, and cultural competency.

7. Implement Recommendations from the 4th Independent Review of the AODA

Enhanced accessibility in education and workplaces benefits all Ontarians and improves economic productivity.

Budget Requests:

- Grants to post-secondary institutions to enhance accessibility in engineering programs, including adaptive technologies and specialized student supports.
- Funding for engineering employers to conduct accessibility audits, training, and workplace improvements.
- Support programs and mentorship initiatives for engineers with disabilities.

8. Support Flexible and Modern Working Models

A modern, resilient, and competitive engineering workforce requires flexible working arrangements that reflect current labour market realities. Flexible and hybrid work models have proven to increase productivity, reduce absenteeism, improve employee well-being, and expand access to employment—particularly for women, caregivers, persons with disabilities, newcomers, and internationally trained professionals.

As Ontario seeks to address labour shortages in engineering, accelerate major infrastructure and housing initiatives, and strengthen EDIA outcomes, flexible work policies must be viewed as a strategic economic tool. OSPE encourages the Government of Ontario to reconsider its 2026 in-person work mandate and adopt an evidence-based approach to flexible work that strengthens talent attraction and retention across both the public and private sectors.

Budget Requests:

- **Support Research and Labour Market Analysis:**
Allocate funding to study the productivity, economic, and workforce impacts of flexible and hybrid work models in engineering-intensive sectors. This evidence will guide future labour policy and ensure Ontario remains competitive in a global talent market.

- **Modernize Public Sector Workplace Standards:**
Provide resources for ministries and agencies to update workplace policies, digital infrastructure, and management training to support effective hybrid work models across the Ontario Public Service (OPS).
- **Invest in Digital Collaboration Infrastructure:**
Fund secure, high-quality digital collaboration tools and cybersecurity systems across public-facing agencies to enable efficient hybrid work and reduce operational disruptions.
- **Expand EDIA and Accessibility Supports:**
Allocate funding to ensure hybrid work policies are accessible and inclusive, including assistive technologies, ergonomic equipment, and accommodations that support persons with disabilities and caregivers in remote or hybrid settings.
- **Support Employer Training and Best Practices:**
Provide grants or resources for organizations—including engineering firms and municipalities—to adopt best practices in hybrid work management, digital transformation, employee engagement, and performance measurement.

9. Promote Indigenous Participation in Ontario's Mining and Critical Minerals Sector

Indigenous participation is essential to the long-term success of Ontario's clean-energy and critical-minerals strategy.

Budget Requests:

- Outreach programming, scholarships, and bursaries to encourage Indigenous youth to pursue engineering careers.
- Funding for mentorship networks connecting Indigenous students and early-career professionals with engineers.
- Support for partnerships between Indigenous communities, engineering organizations, and the mining sector.
- Community-led STEM and engineering-readiness programs in Indigenous communities.

10. Modernize the Professional Engineers Act

Regulatory modernization is necessary to support innovation, protect the public, and align with emerging technologies.

Budget Requests:

- Funding for a comprehensive review of the Professional Engineers Act to ensure clarity, efficiency, and relevance in the context of AI, digital engineering, climate-related risk, and advanced technologies.
- Development of updated practice guidelines that ensure safe integration of disruptive technologies.

11. Enhance Oversight of Professional Engineers Ontario (PEO)

A high-performing regulator is essential to public safety and public trust.

Budget Requests:

- An operational review of PEO to ensure regulatory efficiency, transparency, and responsiveness.
- Legislative changes to **eliminate the insurance exemption** that allows engineering entities to operate without professional liability insurance, thereby ensuring all clients receive adequate protection.

12. Strengthen Government Collaboration with Engineering Experts

Major provincial priorities, including energy planning, resilient infrastructure, green housing, mining development, and advanced manufacturing, require technical expertise from the engineering community.

Budget Requests:

- Dedicated funding to support structured collaboration between OSPE and the Government of Ontario to inform evidence-based decision-making and support the success of government priorities.

13. Create a Public, High-Resolution Land Classification Dataset

A standardized, publicly accessible Land Classification Cover Mapping dataset derived from existing aerial imagery and elevation data would boost engineering capacity by enabling engineers and other practitioners to deliver more accurate and efficient work.

Budget Requests:

- Dedicated funding to develop and maintain a standardized, publicly accessible Land Classification Cover Mapping dataset using aerial imagery and elevation data.

Strengthening Ontario's Electricity System for Reliability, Affordability, and Net-Zero Growth

Ontario's electricity system is entering a defining decade. The province is experiencing unprecedented demand growth driven by electrification, digital infrastructure, housing expansion, industrial reshoring, and the development of the critical minerals supply chain. The 2026 Budget presents an opportunity to modernize the grid, lower long-term costs for ratepayers, and ensure Ontario remains a competitive, reliable, and innovation-ready jurisdiction. However, Ontario's ability to expand renewable energy, EV infrastructure, and grid modernization is increasingly constrained by tariffs on solar components, battery systems, and advanced electronic equipment. Strategic investment in domestic production, cleantech innovation, and diversified supply chains will be essential to keep costs manageable and maintain project timelines.

OSPE recommends the following strategic investments to build a resilient and affordable electricity system that supports Ontario's economic and climate objectives.

1. Develop a Fully Integrated, Cost-Transparent Long-Term Energy Strategy

Ontario requires a coordinated, long-term electricity and energy strategy that considers **total system costs**, including transmission upgrades, distribution investments, environmental impacts, lifecycle costs, and affordability for households and businesses.

Budget Requests:

- Fund a cross-ministry, cross-agency initiative to deliver an **Integrated Energy Strategy** that incorporates electricity, thermal energy, fossil fuels, nuclear, hydrogen, renewables, storage, and demand-side management.
- Support better **cost transparency** to ensure ratepayer impacts are fully understood before decisions are implemented.
- Enable collaboration with municipalities, system planners, utilities, and professional engineering organizations to ensure evidence-based planning.
- Fund studies of the application of Artificial Intelligence to improve the planning, operations, cost and energy efficiency, reliability, resilience, and security of the electricity grid.

2. Accelerate Energy-Efficient and Electrification-Ready Building Upgrades

Ontario's building stock represents one of the largest opportunities for both load management and emissions reductions. Strategic incentives will reduce demand pressures and lower energy bills for consumers.

Budget Requests:

- Incentives for **electrification-ready retrofits**, including smart HVAC systems, higher efficiency ground source heat pumps, advanced insulation, and LED upgrades.
- Support for **accelerated permitting**, tax incentives, and rebates that reward high-performance building upgrades.
- Funding for building-owner education and technical support to ensure successful deployment of new technologies.

3. Expand Low-Carbon and Renewable Energy Integration in New Construction

To reduce long-term system costs and support Ontario's competitiveness, new buildings should be designed for renewable integration from the start.

Budget Requests:

- Funding to develop and adopt **renewable-ready construction standards**, including solar PV, solar thermal, passive solar design, and wind integration where appropriate.
- Resources for municipalities and industry to support implementation and compliance.

4. Empower Communities Through Distributed and Community-Based Energy Projects

Community energy projects reduce local grid strain, improve resilience, and increase public buy-in for clean energy deployment.

Budget Requests:

- Support for **community-based renewable energy projects**, including solar, wind, bioenergy, and geothermal systems.
- Grants to municipalities to undertake building heating planning including recovery of waste heat.
- Grants for local energy planning, Indigenous-led clean energy development, and cooperative ownership models.
- Funding to expand community participation in Ontario's evolving energy landscape.

5. Prioritize Energy Storage Solutions to Improve Grid Flexibility and Reliability

Storage is essential for managing peak demand, integrating variable renewables, and improving energy resilience.

Budget Requests:

- Investments in both **electrical and thermal energy storage**, including waste-heat recovery systems.
- Support for industrial, commercial, institutional, and municipal storage demonstrations.
- Funding to accelerate Ontario's use of **seasonal storage**, which is significantly more cost-effective than short-duration battery systems for thermal loads.

6. Incentivize Green Roofs, Green Walls, and Urban Cooling Solutions

Ontario's growing cities need solutions to reduce heat stress, improve insulation performance, and reduce local energy demand.

Budget Requests:

- Rebates for **green roof and green wall installations** on residential, commercial, and municipal buildings.
- Grants to support municipalities adopting urban cooling and biodiversity-enhancing building strategies.

7. Support the Expansion of District Energy and Thermal Networks

Thermal energy systems—particularly when integrated with waste heat and renewable sources—offer cost-effective decarbonization and improved load management.

Budget Requests:

- Funding for **district energy planning and development**, especially in high-growth areas.
- Grants for **community-scale thermal storage** and thermal network retrofits.
- Support for integrating industrial waste heat and wastewater heat recovery into local systems.

8. Enable Smart Building Technologies and Real-Time Energy Management

Digital infrastructure is essential to drive efficiency and load flexibility.

Budget Requests:

- Incentives for **smart building automation**, IoT devices, and real-time metering systems that optimize energy use.
- Support for building-owner adoption of digital energy management platforms.

9. Strengthen Utility Partnerships for Affordable, Efficient Energy Solutions

Utilities are essential partners in enabling large-scale energy efficiency and reliability programs.

Budget Requests:

- Incentives for utility-led programs that support **demand response**, energy efficiency, renewable integration, and customer-facing innovation.
- Funding to scale utility–community partnerships that reduce peak demand and improve local energy resilience.

10. Support Life-Safety Backup Power for Critical Institutions

Uninterrupted power is essential for hospitals, long-term care facilities, emergency shelters, and community resilience hubs.

Budget Requests:

- Funding for **distributed natural gas turbines**, microgrids, and other dependable backup systems.
- Support for phased transition to **renewable natural gas (RNG)** or other net-zero fuels.
- Grants for critical facilities to develop resilience plans and upgrade emergency power systems.

11. Expand Research and Deployment of Inverter-Based and Distributed Generation Technologies

Ontario must prepare for increased penetration of inverter-based renewables and distributed energy resources (DERs).

Budget Requests:

- Investments in **grid modernization research**, particularly on inverter-based resource stability and integration.
- Funding for pilot projects that test grid-forming inverters, microgrids, and hybrid renewable-storage systems.

- Support for grid modelling and engineering expertise to ensure safe and cost-effective integration.
- The Application of Artificial Intelligence to improve grid efficiency.

Modernizing Ontario's Transportation System for Growth, Affordability, and Mobility

Ontario's transportation network is a backbone of economic competitiveness, housing development, labour mobility, and climate resilience. With rapid population growth, expanding employment hubs, and increasing demand for reliable and affordable travel, the 2026 Budget offers an opportunity to deliver the next generation of smart, sustainable, and inclusive transportation infrastructure.

Rising tariffs on steel, electrical components, and transit technologies are increasing capital costs for major infrastructure projects. Long-term planning and diversified procurement strategies are needed to ensure transit expansion remains cost-effective and on schedule.

The Ontario Society of Professional Engineers (OSPE) recommends the following investments to support a modern, efficient, and equitable transportation system.

1. Invest in Critical Transit Infrastructure Across Ontario

To meet the province's projected growth, Ontario must accelerate delivery of major transit projects that reduce congestion and support new housing supply.

Budget Requests:

- Funding for **subway extensions, light rail transit (LRT), and high-frequency Bus Rapid Transit (BRT)** corridors.
- Prioritize transit in fast-growing regions to support densification, economic development, and improved travel times.
- Allocate resources to ensure engineered solutions optimize long-term costs, reliability, and safety.

2. Enhance the Transit User Experience to Increase Ridership

Transit must be safe, reliable, and attractive to reverse ridership declines and reduce car dependency.

Budget Requests:

- Investments in **real-time service information**, improved station lighting, cleanliness, and customer service enhancements.
- Support for **active safety measures**, including trained personnel and system-wide monitoring.
- Implementation of reliability-focused engineering upgrades to reduce service interruptions.

3. Support Sustainable Transit-Oriented Development (TOD)

Growth must align with transit to reduce congestion and support Ontario's housing goals.

Budget Requests:

- Funding for municipal and regional **transit-oriented development strategies** that integrate land-use planning, zoning, and infrastructure delivery.
- Support for car-light and car-free neighborhood models that enable walkable, compact communities.
- Incentives for housing development near rapid transit corridors.

4. Expand Active Transportation Networks

Active transportation is an essential component of healthy, affordable, and low-carbon mobility.

Budget Requests:

- Provincial investment in **protected bike lanes**, pedestrian infrastructure, and regional trail connections.
- Expansion of **bike-sharing programs**, including deployment in suburban and low-density neighbourhoods.
- Grants for municipalities to integrate active transportation into their transportation master plans.

5. Support First-Mile/Last-Mile Connectivity

Reliable first-mile/last-mile options improve accessibility and increase transit uptake.

Budget Requests:

- Introduce and expand **on-demand shuttles**, microtransit pilots, and municipally supported ride-sharing programs.

- Incentives for **bike-share and e-bike integration** at transit hubs.
- Partnerships with communities and employers to improve station-area access.

6. Advance Clean, Electrified, and Climate-Resilient Transit Systems

Ontario's climate targets and long-term cost savings depend on the transition to low-carbon transit.

Budget Requests:

- Continued investment in **GO Rail electrification**, bus fleet electrification, and charging infrastructure.
- Funding for **closer station spacing** where justified to improve accessibility and reduce auto dependency.
- Support for climate-resilient engineering upgrades across transit infrastructure to protect against extreme heat, flooding, and severe weather events.

7. Leverage Digital Integration and Smart Mobility Tools

Data-driven mobility improves service quality, reduces operating costs, and supports system reliability.

Budget Requests:

- Investment in **real-time analytics**, predictive modeling, and demand forecasting tools for system optimization.
- Funding for integrated digital platforms that consolidate schedules, fares, and multimodal trip planning.
- Support for advanced traffic management systems that reduce delays and support emergency responsiveness.

8. Explore Sustainable and Innovative Funding Mechanisms

Long-term transit expansion requires stable, predictable funding.

Budget Requests:

- Exploration of **value-capture models**, including transit-oriented development revenue tools.
- Incentives for public-private partnerships that align engineering and financial performance outcomes.

- Consideration of infrastructure-based levies that support affordable capital expansion.

10. Improve Regional Connectivity and Service Expansion

Many communities still lack reliable transit links essential for economic participation.

Budget Requests:

- Expansion of transit routes and frequency in **underserved neighbourhoods and rural communities**.
- Investment in **regional integration**, ensuring seamless service across municipal boundaries.
- Support for employer-linked transit routes to improve access to key job clusters.

11. Advance Equity-Centered Transportation Planning

Transportation decisions must reflect socio-economic realities across Ontario.

Budget Requests:

- Funding for **transportation equity data collection**, spatial analysis, and demographic modelling.
- Grants for municipalities to conduct **equity impact assessments** for major transit and road projects.
- Support for community engagement processes that include historically underserved groups.

12. Improve Road Safety Using a Safe System Model

Transitioning from a warrant-based framework to address unsafe driving to a Safe System model uses engineering judgement, data, and foresight to prevent harm.

Budget Requests:

- Provide funding for a Safe System OTM Overhaul Committee
- Embed self-enforcing road geometry, protected intersections, and context-appropriate speeds. Apply these standards to rural and suburban environments where driving remains essential for access to jobs, family, and education.

13. Reduce Greenhouse Gas Emissions from Highway Trucks

The movement of goods and services by the freight trucking sector is a key component to a robust and sustainable supply chain for businesses; reducing sector emissions could attract financial investors and build a competitive Ontario.

Budget Requests:

- Invest in efficient intermodal freight terminals, better access to these intermodal terminals, and collaborate with the federal government to strengthen the freight rail network.

Accelerating Sustainable, Climate-Resilient, and Low-Carbon Construction in Ontario

Ontario's infrastructure and construction sectors are undergoing rapid transformation driven by climate pressures, supply-chain shifts, population growth, and the need for long-term cost efficiency. The 2026 Budget provides an opportunity to modernize construction practices, reduce lifecycle emissions, strengthen infrastructure resilience, and support Ontario's transition to a competitive, sustainable, and innovation-oriented built environment.

To advance these objectives, OSPE recommends the following strategic investments.

1. Establish Province-Wide Lifecycle Assessment (LCA) Standards

To ensure transparent, evidence-based and cost-effective decision-making, Ontario needs standardized approaches for assessing the environmental, social, and economic impacts of building materials across their entire lifecycle.

Budget Requests:

- Funding to develop **mandatory provincial LCA standards**, aligned with best practices and international benchmarks.
- Technical support and training for industry, municipalities, and builders to enable consistent implementation.
- Modernization of procurement frameworks so that lifecycle performance — not just upfront material cost — informs public-sector construction decisions.

2. Introduce Embodied Carbon Disclosure Requirements

Embodied carbon is a critical but under-measured component of Ontario's construction footprint. A transparent disclosure framework will drive innovation and adoption of low-carbon materials.

Budget Requests:

- Development of a **provincial embodied carbon labeling system** for key construction materials such as concrete, steel, insulation, and glazing.

- Funding for industry transition, including data collection tools and standardized reporting methodologies.

3. Expand Green Building Material Certification Programs

Certification systems help verify environmental performance, de-risk procurement decisions, and stimulate innovation in sustainable materials.

Budget Requests:

- Investments to scale **green material certification programs** that verify circularity, durability, embodied carbon, and non-toxic material attributes.
- Support for local manufacturers to achieve certification, strengthening Ontario's clean construction supply chain.

4. Mandate Minimum Recycled Content Requirements

A circular economy approach reduces waste, lowers emissions, and strengthens Ontario's domestic materials market.

Budget Requests:

- Development of **minimum recycled content regulations** for construction materials in public-sector projects.
- Grants or incentives to help manufacturers integrate recycled feedstock into their production lines.

5. Advance Circular Construction and Material Reuse

Circular construction minimizes waste and maximizes resource efficiency, lowering both costs and environmental impact.

Budget Requests:

- Incentives for **material reuse, deconstruction practices, salvage programs, and recycling hubs** for construction materials.
- Funding for pilot programs that demonstrate circular construction methods in housing, industrial, and public infrastructure projects.

6. Support Research and Deployment of Low-Impact Alternative Materials

Ontario can strengthen its competitiveness by diversifying its material supply with lower-carbon, innovative options.

Budget Requests:

- Funding for R&D and commercialization of **low-impact materials** such as bamboo-based products, recycled plastics, bio-based composites, and regenerative building materials.
- Support for market readiness and certification of emerging products.

7. Establish Carbon Offset and Emissions Reduction Programs for Building Material Production

Decarbonizing material production is essential to meeting Ontario's long-term emissions goals.

Budget Requests:

- Development of **carbon offset frameworks** tied to material production.
- Incentives for manufacturers to adopt low-carbon industrial processes, renewable energy, and clean technologies.

8. Enforce Construction Waste Reduction and Diversion Strategies

Construction waste remains one of Ontario's largest waste streams.

Budget Requests:

- Grants to municipalities for enforcement of **waste-reduction bylaws**, including deconstruction and recycling requirements.
- Funding to expand material recovery facilities and recycling technologies for construction waste streams.

9. Accelerate the Adoption of Low-Carbon Concrete and Cement Alternatives

Concrete is one of the highest contributors to infrastructure-related emissions. Ontario can accelerate the transition to cleaner alternatives.

Budget Requests:

- Support for **eco-friendly concrete formulations** using fly ash, slag, calcined clays, and other supplementary cementitious materials.
- Funding for demonstration projects that validate structural performance and lifecycle cost savings.

10. Expand Incentives for Energy-Efficient and Low-Carbon Insulation Materials

Improving building envelopes reduces long-term energy demand and operational costs.

Budget Requests:

- Incentives for **recycled, bio-based, and advanced insulation materials** with strong thermal performance.
- Support for builders implementing high-performance envelope standards.

11. Strengthen Ontario's Climate-Resilient Infrastructure Systems

Ontario must prepare for more frequent and severe climate events affecting public safety, economic productivity, and asset longevity.

Budget Requests:

- Significant funding to upgrade **roads, bridges, water treatment facilities, and stormwater systems** using climate-resilient engineering standards.
- Prioritize **stormwater-sewage system separation**, floodplain management, risk mapping, and green infrastructure solutions in high-risk urban areas.
- Support for engineering assessments and municipal climate adaptation planning.

12. Promote the Transition to Electric and Low-Emission Construction Equipment

Decarbonizing construction equipment reduces emissions, noise pollution, and operating costs, while improving jobsite air quality.

Budget Requests:

- Grants and rebates for contractors to adopt **electric construction vehicles, battery-powered equipment, and on-site storage systems**.
- Support for charging infrastructure at construction sites.
- Incentives for pilot projects demonstrating the cost-effectiveness of electric machinery in major infrastructure builds.

Integrating Innovative Green Technologies to Strengthen Ontario's Energy, Water, and Infrastructure Systems

Ontario has an unprecedented opportunity to lead in clean technology, decentralized infrastructure, and next-generation energy systems. Investments in innovative green

technologies will reduce long-term costs, unlock new economic opportunities, improve system resilience, and help Ontario meet its net-zero commitments while supporting housing growth and community wellbeing.

To capitalize on these opportunities, OSPE recommends the following initiatives for the 2026 Ontario Budget.

1. Expand the Adoption of Smart Building Technologies

Smart buildings reduce energy demand, improve operational performance, and support grid stability.

Budget Requests:

- Funding to scale **automated building controls**, real-time monitoring tools, and predictive analytics for energy management.
- Incentives for retrofits and new builds that implement **smart sensors, advanced HVAC controls, and integrated energy platforms**.
- Support for training to help building owners, operators, and engineers deploy and maintain these systems.

2. Enable Grid-Integrated Renewable Energy with Co-Located Storage

Distributed clean energy systems can reduce peak demand, strengthen reliability, and lower emissions.

Budget Requests:

- Grants for integrating **solar PV, wind systems, and electrical storage** into residential, commercial, and industrial buildings.
- Funding for interconnection upgrades and streamlined permitting to enable seamless integration with the provincial grid.
- Support for community-led renewable energy projects that pair generation with local storage.

3. Expand Electric Vehicle (EV) Charging Infrastructure

A robust EV network is essential to Ontario's electrification goals and economic competitiveness.

Budget Requests:

- Investments in **public fast chargers**, workplace charging, and multi-unit residential building (MURB) infrastructure.

- Incentives for engineering studies and grid upgrades required to support high-density EV adoption.
- Support for charging hubs co-located with transit, commercial centers, and new housing developments.

4. Advance Decentralized Energy Systems and Distributed SMR Deployment

Decentralized systems improve resilience, reduce line losses, and support local energy independence.

Budget Requests:

- Funding for community-scale **distributed energy resources (DERs)** that integrate generation, storage, and smart controls.
- Development of a plan to deploy Ontario's new **small modular reactors (SMRs)** in **distributed configurations** to supply both:
 - **Low-temperature waste heat** for residential and commercial buildings; and
 - **High-temperature heat** for industrial applications.
- Grants for municipalities and industrial partners to explore local distributed energy pilots.

5. Support Green IT, Low-Carbon Digital Infrastructure, and Efficient Cloud Practices

Ontario's digital footprint is expanding rapidly, and energy-efficient IT practices are essential to maintaining affordability and climate progress.

Budget Requests:

- Incentives for data centers to adopt **energy-efficient cloud systems, server virtualization, and heat-recovery technologies.**
- Funding for engineering assessments that optimize digital infrastructure energy use.
- Support for industry migration to greener hosting, storage, and processing solutions.

7. Build Decentralized Water & Wastewater Infrastructure to Support Growth

Decentralized water solutions can accelerate housing development, reduce infrastructure costs, and strengthen resilience—especially in rural, remote, and peri-urban communities.

Budget Requests:

- Funding to develop **decentralized water and wastewater systems** where extending centralized servicing is cost-prohibitive.
- Support for pilot projects that enable rapid deployment in growth areas.
- Investments in modular, scalable technologies suitable for both new developments and retrofits.

8. Establish a Provincial Framework for Decentralized Water and Wastewater Systems

Clear policy direction will accelerate adoption and ensure technical consistency.

Budget Requests:

- Development of a **provincial regulatory framework** with guidelines, approval pathways, and performance standards.
- Alignment with best practices from the U.S. and global jurisdictions with strong decentralized systems.
- Grants for municipalities to integrate decentralized systems into their infrastructure plans.

9. Revitalize Ontario's Water Technology Cluster

Ontario has a legacy as a global leader in water innovation. Renewed investment can restore the province's competitive advantage.

Budget Requests:

- Incentives to support Ontario-based water technology companies in research, commercialization, and export development.
- Funding for university-industry collaboration hubs focused on decentralized solutions, treatment technologies, and advanced diagnostics.
- Support for workforce development programs aligned with the water technology sector.

10. Promote Resource Recovery and Circular Economy Approaches in Water Management

Resource recovery reduces waste, improves energy efficiency, and supports climate goals.

Budget Requests:

- Funding for **water reuse, nutrient recovery, biosolids-to-energy systems**, and circular resource pathways.
- Grants for municipalities to integrate resource recovery into new and existing wastewater facilities.
- Support for engineering-led projects that demonstrate energy-neutral or energy-positive water treatment systems.

11. Position Ontario as an International Leader in Water Technology Innovation

Ontario can shape global markets by leveraging its engineering expertise and R&D capacity.

Budget Requests:

- Support for a **Provincial Water Innovation Strategy** to attract investment, develop export markets, and advance IP.
- Funding for demonstration sites, testbeds, and certification programs that accelerate commercialization.
- Partnerships with global water organizations to showcase Ontario innovations.

12. Enable Pilot Projects Through Cross-Sector Collaboration

Effective adoption of decentralized and green water technologies requires collaboration.

Budget Requests:

- Grants for **municipal-private-industry pilot projects**, with rigorous engineering evaluation.
- Funding to help municipalities reduce financial risk when implementing emerging technologies.
- Incentives for partnerships that bring together utilities, academia, technology companies, and engineering experts.

13. Support Heat Recovery from Wastewater and Integration into District Energy Systems

Recovering heat from wastewater reduces energy consumption and carbon emissions while providing a clean, reliable thermal resource.

Budget Requests:

- Funding to scale wastewater heat recovery systems, building on pilots such as York Region.
- Support for integration of recovered heat into **district heating systems**, mixed-use developments, and institutional facilities.
- Resources to update codes, standards, and engineering guidelines to support deployment at scale.

Building Climate-Resilient Infrastructure and Communities Across Ontario

Ontario is already experiencing the impacts of climate change—more frequent floods, extreme heat, wildfires, and severe storms. Strengthening climate resilience is not only essential for public safety and environmental protection but also for protecting infrastructure investments, safeguarding economic productivity, and reducing long-term recovery costs.

OSPE recommends the following initiatives to enhance Ontario's climate resilience through engineering excellence and forward-looking policies.

1. Support Flood-Resilient Design and Construction

As flooding becomes more widespread and severe, Ontario must adopt modern engineering solutions to mitigate risks to homes, businesses, and critical assets.

Budget Requests:

- Funding for **flood-resistant construction practices**, including elevated structures, enhanced drainage, and waterproof materials.
- Grants for municipalities to update floodplain mapping, upgrade culverts, and modernize drainage networks.
- Support for builders and engineers to integrate flood-resilient design in new housing developments, especially in high-risk areas.

2. Expand the Use of Fire-Resistant Materials and Wildfire Mitigation Strategies

With increasing wildfire risks, Ontario needs durable materials and engineering standards that protect people, property, and critical infrastructure.

Budget Requests:

- Incentives for **fire-resistant building materials and assemblies**, particularly in regions prone to wildland-urban interface fires.
- Funding for research into **fireproof construction techniques** and high-temperature resistant materials.
- Support for community-level fire breaks, vegetation management, and wildfire-resilience planning.

3. Encourage Energy-Efficient and Climate-Adaptive HVAC Systems

Temperature extremes are placing increased strain on Ontario's energy grid and buildings.

Budget Requests:

- Incentives for **high-efficiency, climate-adaptive HVAC systems**, including heat pumps, smart controls, and high-performance ventilation.
- Support for engineering assessments that optimize building performance under extreme heat or cold conditions.
- Funding for retrofits that reduce peak load and improve occupant comfort.

4. Modernize Zoning and Land-Use Policies for Climate Adaptation

Planning systems must reflect Ontario's current and future climate risks.

Budget Requests:

- Provincial resources to support municipalities in revising **zoning bylaws** and **land-use plans** to incorporate climate hazard data.
- Guidance for climate-safe development in floodplains, fire-prone zones, and seismically sensitive areas.
- Support for adaptive land-use strategies that enable development without increasing climate exposure.

5. Expand Early Warning and Hazard Monitoring Systems

Effective early-warning systems save lives and reduce disaster impacts.

Budget Requests:

- Funding to modernize Ontario's **extreme weather alert systems**, including localized flood, storm, heat, and wildfire warnings.

- Investments in remote sensing, AI-backed prediction systems, and community-based alert technologies.
- Coordination with municipalities and emergency services to ensure alerts are actionable and accessible.

6. Advance Heat-Resilient Urban Planning and Cooling Strategies

Extreme heat threatens public health, especially in dense urban areas.

Budget Requests:

- Investments in **cool roofs, reflective pavements, tree canopy expansion, and urban shade structures.**
- Support for green infrastructure like parks, bioswales, and naturalized corridors.
- Grants for municipalities to develop heat-resilience strategies for vulnerable populations.

7. Strengthen the Climate Resilience of Critical Infrastructure

Ontario's infrastructure must be equipped to remain operational during climate-related disruptions.

Budget Requests:

- Funding to retrofit and upgrade **bridges, roads, power systems, water treatment plants, and wastewater networks.**
- Engineering assessments to identify vulnerabilities and prioritize climate-resilient retrofits.
- Integration of resilience standards into new provincial infrastructure projects.

8. Support Distributed Energy Resources for Grid Resilience

Distributed systems improve reliability during climate-related outages.

Budget Requests:

- Support for **community-scale renewable energy**, battery storage, and microgrids.
- Funding for **distributed small modular reactors (SMRs)** to provide reliable backup power and local heat supply.
- Incentives for resilient energy systems in critical facilities such as hospitals and emergency shelters.

9. Enhance Climate-Resilient Water Management Systems

Ontario must prepare its water systems for drought risk, extreme rainfall events, and contamination.

Budget Requests:

- Investments in **stormwater upgrades, water storage systems, flood mitigation structures, and enhanced distribution networks**.
- Support for nature-based solutions such as wetlands, permeable surfaces, and green stormwater infrastructure.
- Grants for municipal engineering plans that address both flooding and drought scenarios.
- Fund adaptive water management strategies focused on identifying the actions necessary to reduce or eliminate potential drinking water contaminants such as cyanotoxins from harmful algal blooms, or chemicals of emerging concern like per- and polyfluoroalkyl substances (PFAS).

10. Promote the Use of Climate-Resistant Building Materials

Materials must withstand the increasingly dynamic conditions created by climate change.

Budget Requests:

- Incentives for builders to adopt **impact-resistant, heat-resilient, flood-resistant, and fire-resilient materials**.
- Funding for R&D and commercialization of next-generation climate-resilient materials.
- Updates to provincial building codes to support broader adoption of high-performance materials.

Advancing Equitable, Sustainable, and Inclusive Housing Across Ontario

Ontario faces intersecting challenges: a housing affordability crisis, rapid population growth, and increasing climate-related risks. Meeting these challenges requires not only more housing, but **better housing**—homes and communities that are energy-efficient, accessible, culturally inclusive, and designed for all ages and abilities.

To achieve these goals, OSPE recommends the following investments in equitable, resilient, and inclusive housing systems.

1. Expand Access to Affordable, Low-Carbon, and Resilient Housing

Sustainable housing must be accessible to all residents—including those in marginalized and underserved communities.

Budget Requests:

- Funding for **affordable, energy-efficient, climate-resilient housing** that prioritizes equity in both design and delivery.
- Incentives for community housing providers and non-profit developers to adopt low-carbon building materials and high-performance energy standards.
- Partnerships with community-based organizations to ensure culturally informed, locally relevant housing solutions.

2. Strengthen Workforce Diversity in Construction and Engineering

Ontario's housing supply goals require a broader, more diverse workforce with the skills to deliver sustainable, modern homes.

Budget Requests:

- Programs that support **mentorship, apprenticeships, and upskilling** for women, newcomers, Indigenous peoples, youth, and racialized communities in construction and engineering.
- Funding for leadership development for underrepresented groups to build long-term capacity in the housing and infrastructure sectors.
- Support for employer-led diversity strategies that improve recruitment, retention, and career advancement.

3. Modernize Inclusive Design Standards for Housing and Infrastructure

Universal accessibility must be embedded into Ontario's infrastructure from the outset to ensure long-term usability for people of all ages and abilities.

Budget Requests:

- Investment to update and expand **inclusive design and universal accessibility standards** for housing, public spaces, and community infrastructure.
- Support for engineering and architectural guidance that incorporates cultural, demographic, and age-related considerations.
- Funding to help municipalities enforce and monitor compliance with inclusive design requirements.

4. Integrate Cultural Heritage Preservation into Sustainable Development

Preserving Ontario's cultural heritage must go hand in hand with modern, sustainable development.

Budget Requests:

- Policies and funding mechanisms that integrate **heritage preservation** into new housing developments and infrastructure upgrades.
- Resources for adaptive reuse of heritage buildings, enabling them to meet modern energy-efficiency and safety standards.
- Support for community-led heritage projects that celebrate Ontario's cultural diversity.

Harnessing Emerging Technologies to Drive Ontario's Future Growth and Security

Emerging technologies are transforming every sector of Ontario's economy—from manufacturing and clean energy to finance, health, infrastructure, and public services. To remain globally competitive and protect critical systems, Ontario must invest boldly in cybersecurity, artificial intelligence (AI), data governance, and cleantech innovation.

OSPE recommends the following strategic investments to strengthen Ontario's digital and technological resilience.

1. Strengthen Ontario's Cybersecurity Infrastructure and Innovation Capacity

As Ontario becomes increasingly reliant on digital infrastructure, cybersecurity represents both a national security imperative and an economic priority.

Budget Requests:

a. Modernize and Harden Cybersecurity Infrastructure

- Allocate funding to enhance cybersecurity across **critical infrastructure sectors** such as energy, water, transportation, healthcare, and public services.
- Support the deployment of **state-of-the-art security systems**, including real-time intrusion detection, advanced encryption, and secure cloud environments.

b. Accelerate Cybersecurity Research and Innovation

- Invest in R&D initiatives that develop **next-generation cybersecurity tools**, including quantum-resistant encryption, anomaly detection, and automated risk analysis.

- Support collaboration between universities, industry partners, and government to foster a strong cybersecurity innovation ecosystem.

c. Build Ontario's Cybersecurity Workforce

- Fund talent pipelines, certification programs, and upskilling initiatives to develop a **skilled cybersecurity workforce** ready to meet future threats.
- Support public education campaigns to promote secure digital practices among residents, businesses, and public agencies.

2. Advance Artificial Intelligence (AI) for Security, Productivity, and Responsible Innovation

AI will shape Ontario's competitiveness for decades—but only if deployed responsibly.

Budget Requests:

a. AI for Cyber Defense and Infrastructure Protection

- Invest in AI-driven threat detection platforms that enable **real-time monitoring, rapid incident response, and predictive analytics**.
- Support engineering-led projects that integrate AI into critical infrastructure management, emergency preparedness, and fraud prevention.

b. Responsible and Ethical AI Development

- Allocate funding to develop **ethical and regulatory frameworks** that ensure AI deployment is transparent, safe, and aligned with public interest.
- Support interdisciplinary research that assesses social, legal, and environmental impacts of AI technologies.

c. Expand AI Education and Literacy

- Fund curriculum development and training programs to build an **AI-literate workforce**, including engineers, technicians, policymakers, and regulators.
- Support micro-credentials and postsecondary programs focused on AI development, governance, and applied engineering.

3. Strengthen Data Governance, Privacy, and Digital Trust

Robust data governance is essential as Ontario expands its use of smart technologies, sensors, and connected systems.

Budget Requests:

- Support the development of **provincial data governance standards**, including frameworks for consent, data sharing, AI transparency, and cybersecurity.
- Fund the creation of **privacy-by-design guidelines** for municipalities, utilities, and provincial agencies deploying smart technologies.
- Invest in regulatory capacity to ensure compliance, safeguard public trust, and enable responsible innovation.

4. Invest in Cleantech to Build a Low-Carbon, Competitive Economy

Cleantech is critical to Ontario's transition to a sustainable, resilient, and globally competitive economy.

Budget Requests:

a. Support R&D and Deployment of High-Impact Cleantech Solutions

- Fund demonstration projects in clean industrial processes, alternative fuels, grid modernization technologies, and low-carbon materials.
- Support commercialization pathways that help Ontario cleantech companies scale domestically and internationally.

b. Accelerate Sustainable Water Innovation and Decentralized Wastewater Treatment

- Support engineering-led research and demonstration projects in **Decentralized Wastewater Treatment (DWWT)** systems to improve efficiency, resilience, and affordability.
- Fund municipal pilots to integrate DWWT technologies into high-growth and underserved areas.
- Position Ontario as a leader in sustainable water infrastructure—supporting housing growth, climate resilience, and export-ready technology development.

Strengthening Public Health Through Better Indoor Air Quality and Modernized Air Standards

Indoor air quality is a critical—but often overlooked—determinant of public health. Ontario's homes, workplaces, schools, and public institutions must be better equipped to reduce exposure to fine particulate matter (PM_{2.5}) and airborne pathogens. Engineering-based solutions offer immediate and long-term benefits, including reduced illness, improved productivity, and lower healthcare system burdens.

OSPE recommends the following investments to advance a healthier, safer, and more resilient Ontario.

1. Establish a Clean Indoor Air Act for Ontario

A Clean Indoor Air Act would position Ontario as a leader in public health resilience by setting clear standards, actions, and responsibilities for improving indoor air quality (IAQ) across the province.

Budget Requests:

a. Improve Indoor Air Quality in Public Buildings

- Investments in **high-efficiency filtration systems**, ventilation upgrades, and air purification technologies for schools, healthcare facilities, long-term care homes, government buildings, and workplaces.
- Funding for **real-time air quality monitoring systems** that allow institutions to detect and respond to elevated PM2.5 or airborne risks.

b. Province-Wide Indoor Air Quality Public Awareness Campaign

- Resources for targeted education on the health impacts of PM2.5 and airborne viruses.
- Campaigns promoting proper ventilation, filter maintenance, and best practices for reducing indoor pollution.

These investments will reduce exposure to pollutants that exacerbate asthma, cardiovascular disease, long-COVID risks, and other respiratory health impacts.

2. Modernize Air Quality Legislation Using ASHRAE Standards

To ensure consistently healthy indoor environments, Ontario requires updated legislation and performance-based standards grounded in globally recognized engineering best practices.

Budget Requests:

a. Development of a Comprehensive Legislative Framework

- Funding to draft and implement legislation that aligns ventilation, filtration, and indoor air quality requirements with **ASHRAE standards**.
- Integration of engineering guidance into Ontario's building codes and public health regulations.

b. Compliance, Certification, and Incentive Programs

- Support for certification programs that help building owners meet or exceed ASHRAE-aligned IAQ standards.
- Incentives for private sector and public sector organizations to upgrade HVAC systems, install MERV-13 or higher filters, and adopt continuous IAQ monitoring.

3. Enhance Public Health Through Engineering-Based Indoor Air Interventions

Improving IAQ is a high-impact, low-cost public health strategy with long-term benefits.

Budget Requests:

a. Reduce Exposure to Particulate Matter and Airborne Viruses

- Investments in clean-air technologies that reduce PM2.5 exposure, improve ventilation effectiveness, and mitigate airborne viral transmission.
- Targeted funding for dense urban areas and neighbourhoods with higher indoor air pollution burdens.

b. Strengthen Public Health System Resilience

- Support initiatives that reduce respiratory illness incidence, lowering pressure on Ontario's healthcare system.
- Investments that enhance safety in schools, workplaces, and public institutions, improving overall quality of life and reducing absenteeism.