ONTARIO SOCIETY OF PROFESSIONAL ENGINEERS

OSPE's Policy Recommendations for Ontario 2025

Executive Summary

Ontario is at a pivotal moment, where the decisions made today will shape a future that is dynamic, inclusive, and resilient. Engineers play a crucial role in driving progress, leveraging innovation, sustainability, and equity to build a stronger province. The Ontario Society of Professional Engineers (OSPE) urges all political parties to incorporate the following key recommendations into their platforms to ensure Ontario remains a leader in economic growth, infrastructure development, and environmental sustainability.

- **Investing in education** and workforce development is essential to preparing the next generation for an evolving job market. Strengthening Science, Technology, Engineering, and Mathematics (STEM) education will equip students with future-ready skills while supporting postsecondary institutions in alignment with the Blue-Ribbon Panel's vision. This will ultimately enhance accessibility and innovation.

- **Expanding professional development opportunities** will ensure that engineers remain at the forefront of technological advancements.

- Targeted **initiatives for Indigenous youth and internationally trained professionals** will foster greater diversity in the engineering workforce.

- Accessibility and inclusion must be prioritized by **fully implementing the Accessibility for Ontarians with Disabilities Act (AODA)** to remove barriers for aspiring engineers. Equity-focused policies should also be promoted to ensure that all Ontarians can participate in and benefit from the engineering profession.

- **Implementing Qualifications-Based Selection (QBS)** for engineering services will prioritize quality and expertise over cost alone, ensuring long-term value and durability in infrastructure projects. This procurement model will lead to more resilient, high-quality developments that serve the province's needs efficiently.

- Ontario's energy and sustainability future depends on **expanding investment in renewable energy sources**, including small modular reactors and decentralized energy systems. Smart grids, thermal storage systems, and district energy networks will increase energy efficiency and strengthen resilience. Supporting cleantech innovation will further solidify Ontario's leadership in sustainable solutions.

- Infrastructure and the built environment must evolve to meet modern challenges. **Implementing circular economy principles in construction** will reduce waste and enhance sustainability while developing climate-resilient infrastructure will mitigate the risks associated with flooding, fires, and other extreme weather events. Incentivizing energy-efficient building practices and materials will further reduce carbon footprints and create a more sustainable province.

- Transportation systems must also be transformed to meet the needs of Ontario's growing population. **Expanding electric and low-emission public transit options** will reduce congestion and emissions, while improvements in active transportation infrastructure, such as bike lanes and pedestrian-friendly urban planning, will promote healthier communities. Investing in equitable, affordable, and efficient transit systems tailored to community needs will ensure that all Ontarians benefit from accessible mobility options.

- Housing and urban development strategies should focus on promoting affordable, energy-efficient housing solutions with an emphasis on inclusivity. **Preserving culturally significant buildings while integrating modern sustainable development** will create a balance between heritage and progress. Expanding green spaces and community-oriented urban planning will contribute to the well-being of residents and foster more livable cities.

- With the increasing reliance on digital infrastructure, **strengthening cybersecurity and promoting digital innovation** is crucial. Establishing strong cybersecurity measures will protect Ontario's digital systems, while ethical AI policies will enhance responsible decision-making. Supporting emerging technologies such as decentralized wastewater treatment and wind energy solutions will help address environmental challenges and ensure a more sustainable future.

- Public health and air quality must also be a priority. **Introducing a Clean Indoor Air Act** will enhance air quality in homes, schools, and workplaces, reducing health risks associated with poor ventilation. Investing in advanced ventilation systems and public awareness campaigns will further mitigate airborne health threats.

Ontario's potential is boundless, but progress must be defined by action. OSPE urges all political parties to adopt these recommendations in their platforms to drive innovation, sustainability, and economic resilience. Together, we can create a province that thrives. One that champions engineering excellence, fosters inclusivity and leaves a legacy of prosperity and progress for future generations.

Advancing Education and Employment Initiatives for Engineers

Implementation of Qualifications-Based Selection (QBS)

OSPE strongly advocates for adopting Qualifications-Based Selection as the standard method for procuring engineering services across Ontario. QBS emphasizes quality, expertise, and long-term value over cost alone, ensuring that projects achieve superior outcomes for both public and private sectors. Furthermore, QBS provides the flexibility to incorporate criteria such as equity, diversity, inclusion, and environmental sustainability, aligning procurement practices with broader societal goals. Implementing QBS will position Ontario in line with global best practices and enhance the overall standard of engineering services in the province.

Ontario's next government should commit to strategic investments that will:

1. **Develop a Policy Framework:** Establish QBS as the mandated standard for engineering procurement in public sector projects.
2. **Educate Stakeholders:** Provide training and resources for public sector entities to implement QBS effectively, including integrating equity, diversity, and inclusion goals as well as sustainability goals.
3. **Pilot Projects**: Launch QBS pilot initiatives to demonstrate its effectiveness and gather data to refine the policy framework.

Strengthening Science, Technology, Engineering, and Mathematics (STEM) Education

A robust STEM education system is essential to developing a highly skilled workforce capable of meeting Ontario's growing engineering and technology needs. Increased investment in STEM programs will enhance the quality of education and prepare future generations to drive innovation and solve complex challenges.

Implementing Blue-Ribbon Panel Recommendations for Postsecondary Education

Ontario's political leaders must prioritize policies that advance engineering education by enhancing academic quality, supporting student success, and ensuring accessibility. Consistent with the Blue-Ribbon Panel's recommendations, platforms should include commitments to strengthening industry-academic collaboration to align education with workforce needs and maintain Ontario's leadership in engineering excellence.

Support for Continuous Professional Development

Political parties should prioritize policies that support continuous professional development opportunities for engineers, ensuring they stay up to date with industry advancements and evolving technologies. Platforms should include commitments to expanding access to workshops, training programs, and certifications, allowing engineers to maintain the skills necessary for a rapidly

changing sector. Strengthening Ontario's engineering workforce through lifelong learning will enhance the province's capacity for innovation and economic growth.

Fostering Diversity and Inclusion in Engineering

Political platforms should commit to policies that create a more equitable and inclusive engineering profession by promoting diversity-focused initiatives across the industry. Including measures that expand opportunities for individuals from underrepresented groups, ensuring a workforce that reflects Ontario's diverse population. Strengthening inclusion in engineering will contribute to a more competitive economy while advancing social equity.

To achieve this, political parties should support and adopt policies that:

- Establish comprehensive data collection and analysis on diversity metrics within the engineering profession, including gender identity, sexual identity, Indigenous identity, race, disability, and other underrepresented demographics, to inform evidence-based policies and programs.

- Encourage and sustain Employee Resource Groups (ERGs) within engineering organizations to foster mentorship, peer support, and inclusion in the workplace.

- Promote industry-wide diversity and inclusion training programs focused on unconscious bias, accessibility, and cultural competency to create a more inclusive engineering sector.

Implementing the Recommendations from the Fourth Review of the Accessibility for Ontarians with Disabilities Act (AODA)

Political platforms should include commitments to implementing the recommendations from the Independent Fourth Review of the AODA. Ensuring accessibility in education, employment, and workplaces will unlock the potential of millions of Ontarians, including those pursuing engineering careers.

Key policy commitments should include:

- Strengthening accessibility in engineering education by ensuring post-secondary institutions provide adaptive technologies and support services for students with disabilities.

- Supporting engineering employers in creating inclusive and accessible workplaces by encouraging accessibility audits and workplace accommodations.

- Expanding programs that empower engineering professionals with disabilities, including mentorship initiatives and accessibility tools that promote career success.

Bridging Program for Internationally Trained Engineers

To address Ontario's skills gap and fully leverage the expertise of internationally trained engineers, OSPE recommends that platforms should commit to establishing comprehensive programs that facilitate their integration into the workforce. Policies should focus on addressing challenges such as skills recognition, language barriers, and industry adaptation, ensuring internationally trained engineers can successfully transition into Ontario's engineering sector.

Recognizing the valuable contributions of internationally trained engineers, including measures that support their role in bridging workforce shortages and driving innovation in Ontario's engineering sector.

Promoting Indigenous Participation in Ontario's Mining and Critical Minerals Sector

Expanding Indigenous participation in engineering careers within the mining and critical minerals sector should be a priority. Ensuring equitable opportunities in this growing industry will strengthen Indigenous engagement and workforce representation in a key pillar of Ontario's economy.

Political platforms should commit to:

- Expanding outreach programs to recruit Indigenous students into engineering through scholarships, bursaries, and partnerships with postsecondary institutions.

- Establishing mentorship programs that connect Indigenous students and professionals with experienced engineers, fostering career development and long-term success.

- Strengthening partnerships between engineering organizations, Indigenous communities, and the mining sector to promote meaningful collaboration and knowledge-sharing.

- Supporting STEM education programs in Indigenous communities that address gaps in engineering education and provide pathways for Indigenous students to pursue engineering careers.

Enhancing Regulatory Efficiency

To streamline regulatory processes, reduce regulatory burden, and support innovation, it is imperative to review and modernize the Professional Engineers Act to improve efficiency and reduce unnecessary bureaucratic barriers. Policies should focus on fostering collaboration between the government and the engineering sector to ensure Ontario remains at the forefront of technological advancement and infrastructure development.

Review of Professional Engineers Ontario (PEO) Operations

Ontario's political leaders should advocate for an operational review of Professional Engineers Ontario (PEO) to ensure it functions effectively as a self-regulating body. This review should focus on identifying areas for improvement in professional standards, accountability, and ethical oversight.

Additionally, commitments to updating regulatory frameworks to address the emergence of disruptive technologies, ensuring professional engineers have clear guidelines to integrate new innovations responsibly while maintaining public safety should be of the utmost importance.

Ensuring Mandatory Professional Liability Insurance for Engineering Entities

Strengthening protections for clients and public safety by ensuring that all engineering entities maintain professional liability insurance should be prioritized. Current regulations allow engineering entities to operate without insurance if they obtain client authorization, yet this process does not require full disclosure of potential risks. To uphold public confidence and maintain the integrity of the profession, political parties should support eliminating this exception, ensuring all engineering entities carry appropriate coverage.

Collaboration with Professional Organizations

Establishing regular collaboration between the government and professional organizations, such as the Ontario Society of Professional Engineers, to integrate engineering expertise into Ontario's decision-making processes is paramount. Policies should ensure that engineers contribute directly to shaping critical areas such as energy policy, green building initiatives, and infrastructure development, ensuring evidence-based approaches that benefit Ontario's economy and sustainability goals.

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Strengthening Ontario's Electricity System

Committing to policies that ensure a reliable, sustainable, and cost-effective system is imperative to continue to strengthen Ontario's current electricity system. A comprehensive, integrated energy strategy is essential to balancing supply and demand while minimizing financial impacts on ratepayers. Prioritizing measures that enhance energy efficiency, expand renewable energy adoption, and support innovative storage solutions is key.

Developing a Comprehensive Energy Plan with Cost Considerations

To ensure long-term affordability and reliability, political platforms need to support the development of an integrated energy plan that accounts for the full cost impact of energy supply and demand policies on ratepayers. Current decisions often overlook interconnected factors such as connection and environmental costs, leading to unintended financial and operational consequences. A collaborative approach with energy agencies and industry stakeholders will help create a more resilient and cost-effective electricity system.

Promoting Energy-Efficient Building Strategies

To reduce energy consumption and support sustainable building practices, the next Ontario government should prioritize policies that incentivize the adoption of smart heating, ventilation, and air conditioning (HVAC) systems, LED lighting, and advanced insulation technologies. Measures such as accelerated permitting, tax incentives, and rebates will encourage the widespread adoption of energy-efficient technologies across Ontario's residential and commercial sectors.

Mandating Renewable Energy Integration in New Construction

Including commitments to enforce renewable energy integration in new developments and ensuring optimal use of technologies such as passive solar design, solar thermal, solar photovoltaic, and wind turbines should be prioritized by all political platforms. By promoting the use of renewable energy in the built environment, Ontario can reduce its reliance on carbon-intensive energy sources while enhancing long-term energy security.

Supporting Community Renewable Energy Programs

Expanding and supporting community-based renewable energy projects, fostering local engagement, and enabling sustainable energy solutions for both new and existing buildings are essential. Strengthening community energy initiatives will help drive local economic benefits while advancing Ontario's transition to clean energy.

Advancing Energy Storage Solutions

To ensure energy reliability and efficiency, policies that encourage the deployment of both electrical and thermal energy storage technologies. These systems will allow Ontario to store excess renewable energy, recover and store waste heat, and maintain a consistent energy supply during peak demand periods.

Encouraging Green Roof and Wall Adoption

Ontario should strengthen its commitment to energy efficiency by promoting green roofs and walls, as well as urban green spaces that enhance insulation and mitigate urban heat island effects. Platforms should include measures to encourage their widespread adoption as part of Ontario's broader energy conservation and sustainability goals.

Expanding District Energy Systems

Supporting the implementation of community-based heating plans, district energy systems, and thermal storage facilities that utilize waste heat and renewable sources. These solutions provide cost-effective heating and cooling, reducing overall energy demand and promoting sustainability at the community level.

Accelerating the Adoption of Smart Building Technologies

To optimize energy use in residential and commercial properties, platforms should support policies that expand the adoption of smart building technologies, including advanced energy management systems and Internet of Things (IoT) devices. Encouraging the integration of these technologies will enable real-time energy optimization and enhance efficiency across Ontario's building sector.

Strengthening Collaboration with Utilities

Political platforms should emphasize collaboration between the government and utility companies to create programs that incentivize energy efficiency, renewable energy integration, and grid modernization. Establishing strong partnerships will help streamline the transition to a more sustainable and resilient electricity system.

Expanding Thermal and Seasonal Energy Storage

To reduce peak energy demand and minimize costly electricity system expansions, Ontario should promote the adoption of thermal storage technologies at both the building and community levels. Seasonal thermal storage presents a cost-effective alternative to battery storage for consumers reliant on thermal energy, supporting a more balanced and efficient energy system.

Ensuring Life-Critical Backup Generation

Political parties should include commitments to enhancing backup power systems to maintain critical services during outages. Supporting distributed natural gas turbines and other dependable backup generation technologies will ensure hospitals, community centers, and emergency services remain operational. Over time, transitioning these systems to renewable natural gas or other net-zero fuels will align with Ontario's long-term climate goals.

Integrating Inverter-Based Generation for Grid Stability

To maintain stability as renewable energy penetration increases, platforms should support policies that advance research and deployment of inverter-based systems such as solar and wind power. Ensuring the efficient integration of these technologies will enhance grid resilience while promoting Ontario's transition to a cleaner energy mix.

Strengthening Ontario's Transportation and Transit Systems

Enhancing Ontario's transit infrastructure to improve mobility and create a more sustainable and accessible transportation network is a priority. A forward-thinking transportation strategy must prioritize transit expansion, active transportation, digital integration, and equity-focused planning to support economic growth, environmental goals, and community well-being.

Expanding and Modernizing Transit Infrastructure

Ontario's growing population requires reliable and efficient transit systems. Supporting key projects such as subway expansions, light rail transit (LRT) systems, and high-frequency Bus Rapid Transit (BRT) services to reduce congestion and improve connectivity is imperative to foster a more efficient transit system. Investments in electrifying the GO Rail network and transit fleets will further support emissions reduction and long-term sustainability.

Improving Public Transit Accessibility and Experience

To increase transit adoption, Ontario should prioritize policies that enhance service reliability, safety, and convenience. This includes expanding real-time information systems, maintaining clean and well-designed transit stations, and strengthening security measures. Integrating first-mile/last-mile solutions such as on-demand transit, ridesharing, and bike-sharing programs will ensure greater accessibility, particularly in underserved communities.

Encouraging Sustainable and Inclusive Urban Development

A well-planned transit system must align with sustainable urban growth. Promotion of transit-oriented development (TOD) by integrating public transit with urban planning to reduce car dependency and urban sprawl should be encouraged. Policies should also support the expansion of active transportation networks, including protected bike lanes and pedestrian-friendly infrastructure, particularly in low-density and underserved areas.

Ensuring Equitable Access to Transit

Public transit should be affordable and accessible to all Ontarians. Prioritizing policies that provide subsidized transit options for low-income individuals, families, and vulnerable populations is essential. Flexible pass structures, such as multi-journey and off-peak options, can encourage broader transit use, while targeted subsidies for seniors and individuals with disabilities should be prioritized based on financial need rather than universal coverage.

Advancing Smart and Efficient Transportation Planning

Ontario's political leaders should support the integration of digital innovation in transit planning through big data analytics and demand-prediction tools to optimize routes and schedules.

Strengthening collaboration with utilities and transit operators can improve energy efficiency, reduce operational costs, and enhance overall system performance. Intelligent Transportation Systems (ITS), including Vehicle-to-Infrastructure (V2I) technology, should also be prioritized to improve traffic flow, safety, and congestion management.

Securing Long-Term Transit Funding

To maintain and expand Ontario's transportation network, exploring sustainable funding models, such as transit-oriented development revenue and infrastructure-based taxes, rather than relying solely on government subsidies should be encouraged. Ensuring regional transit integration and connectivity will further promote economic and social mobility by bridging gaps between urban centers and remote communities.

By prioritizing transit expansion, accessibility, sustainability, and smart planning, Ontario can create a transportation system that is efficient, equitable, and resilient for future generations.

Sustainable Construction for Ontario

Promoting sustainability in the province's construction sector by integrating lifecycle assessment standards, advancing low-carbon materials, and encouraging circular economy practices should be a key policy initiative. A more sustainable approach to building will reduce environmental impact, enhance resource efficiency, and strengthen Ontario's resilience to climate change.

Establishing Lifecycle Assessment (LCA) Standards

To ensure a more sustainable construction industry it is key to support the development and enforcement of mandatory lifecycle assessment standards for construction materials. These standards should evaluate environmental, social, and economic impacts across the entire lifecycle of building materials, guiding more responsible decision-making in the sector.

Implementing Embodied Carbon Disclosure and Green Material Certification

To ensure more sustainable construction practices a labeling system that discloses the embodied carbon content of construction materials, enabling builders and consumers to select lower-carbon options should be implemented. Expanding certification programs for green building materials will further verify their environmental attributes, encouraging market demand for sustainable alternatives.

Mandating Recycled Content and Circular Economy Practices

To reduce reliance on virgin resources, policies requiring a minimum percentage of recycled content in construction materials should be undertaken. Additionally, encouraging circular economy practices such as material reuse, recycling, and repurposing, will minimize construction waste and improve resource efficiency across the sector.

Advancing Low-Impact Alternative Materials and Eco-Friendly Concrete

Ontario's construction industry should embrace innovative materials that reduce environmental impact. Therefore, supporting research and adoption of low-impact alternatives, including bamboo, recycled plastics, and sustainable composites. Promoting eco-friendly concrete options, such as fly ash and slag-based concrete will further reduce emissions and reliance on high-carbon materials.

Strengthening Waste Reduction Strategies

Platforms should include commitments to reducing construction waste through deconstruction, salvage, and recycling programs. Encouraging waste reduction strategies will help lower landfill contributions and support more responsible construction practices.

Enhancing Energy Efficiency in Building Materials

To improve long-term building performance, the use of energy-efficient insulation materials, particularly those made from recycled or bio-based products should be promoted and encouraged. Widespread adoption of these materials will support energy savings and lower heating and cooling demands.

Reinforcing Ontario's Critical Infrastructure

It is imperative to modernize Ontario's critical infrastructure such as roads, bridges, and water treatment facilities to withstand the increasing impacts of climate change. Strengthening flood management systems, upgrading stormwater infrastructure (including separating stormwater and sewage systems), and integrating climate-resilient designs will be essential to protecting urban areas from extreme weather events.

Supporting the Transition to Electric Construction Equipment

Encouraging the adoption of electric construction equipment to accelerate decarbonization in the construction sector should be a key initiative in encouraging sustainable construction practices. Incentives, grants, or subsidies for battery-operated power tools, electric construction vehicles, and battery storage systems can help reduce greenhouse gas emissions and improve overall energy efficiency on construction sites.

By integrating sustainable building practices, promoting low-carbon materials, and modernizing critical infrastructure, Ontario can lead in creating a resilient and environmentally responsible construction sector. Political parties should embed these commitments into their platforms to ensure long-term economic and environmental benefits.

Advancing Green Technologies and Sustainable Infrastructure

The next Ontario government should prioritize the integration of innovative green technologies to enhance energy efficiency, modernize infrastructure, and reduce environmental impact. A strategic approach to smart building systems, decentralized energy, and water management will position Ontario as a leader in sustainability and technological innovation.

Promoting Smart Building Systems

To optimize energy consumption and reduce waste, supporting the widespread adoption of smart building technologies, automated controls, real-time monitoring, and predictive analytics can significantly improve energy efficiency in residential, commercial, and industrial buildings across the province.

Integrating Renewable Energy into the Grid

Ontario must accelerate the integration of decentralized renewable energy systems, such as solar panels and wind turbines, with co-located electrical storage to enhance grid resilience. Facilitating the seamless connection of these systems to the provincial power grid will reduce reliance on non-renewable sources and strengthen Ontario's clean energy supply.

Expanding Electric Vehicle Charging Infrastructure

Taking decisive action to expand Ontario's electric vehicle (EV) charging network, ensuring widespread accessibility in this emerging sector. A robust charging infrastructure will encourage EV adoption, reduce transportation emissions, and support Ontario's transition to a clean energy economy.

Encouraging Decentralized Energy Systems

Ontario should develop policies that promote decentralized energy solutions, enabling communities and businesses to generate, store, and manage their own energy. A strategic plan should be created to deploy Ontario's new small modular reactors in a distributed manner, allowing their waste heat to be used for buildings and industrial processes, increasing efficiency and economic feasibility.

Advancing Green IT and Cloud Computing

To reduce the environmental impact of Ontario's digital infrastructure, the next government should promote the adoption of energy-efficient IT practices. Encouraging cloud computing solutions and other green IT strategies will help minimize the energy consumption of data centers and digital services.

Investing in Next-Generation Wind Energy

Ontario should invest in research and development of cutting-edge wind energy technologies, such as vertical-axis turbines and airborne wind energy systems to diversify the renewable energy portfolio. Innovation in wind energy will enhance efficiency, increase adoption, and ensure Ontario remains a leader in clean energy solutions.

Modernizing Water and Wastewater Infrastructure

Ontario's political leaders must ensure Ontario's water and wastewater systems are resilient, sustainable, and capable of meeting growing demand. Decentralized infrastructure solutions will be critical in addressing servicing challenges, particularly in rural and peri-urban areas where extending centralized systems is costly and time-intensive.

Developing a Provincial Framework for Decentralized Water Solutions

Ontario should establish clear policies and guidelines that encourage and fast-track the adoption of decentralized water and wastewater infrastructure. Drawing on successful models from the USA and other regions, the government should work with municipalities, industry leaders, and technology providers to accelerate implementation.

Revitalizing Ontario's Advanced Water Technology Sector

Ontario has historically been a global leader in decentralized water solutions. The next government should invest in revitalizing and expanding this sector by supporting research, providing incentives, and ensuring Ontario remains competitive in the global water technology market. Strengthening the province's expertise in this area will address local challenges and create export opportunities for Ontario-based innovations.

Promoting Resource Recovery and Sustainability

A modern water management strategy should integrate circular economy principles, prioritizing water security and environmental stewardship. The government should support projects that recover resources from wastewater, enhance sustainability, and improve freshwater resource management to support both economic growth and quality of life.

Positioning Ontario as a Global Leader in Water Innovation

To maintain its status as a hub for advanced water technologies, Ontario should invest in industry partnerships and academic research. Supporting innovation in water technology will create new economic opportunities while helping to solve pressing local and global water challenges.

Enhancing Collaboration for Infrastructure Solutions

Ontario's political leaders should facilitate stronger partnerships between municipalities, private industry, and provincial agencies to drive the adoption of innovative water and wastewater solutions. Grants and funding for pilot projects will help demonstrate the feasibility and long-term benefits of decentralized infrastructure systems.

Expanding Heat Recovery from Wastewater

Ontario should support the adoption of wastewater heat recovery technologies and their integration into district heating systems. Expanding successful pilot programs, such as those in York Region, will enhance energy efficiency, lower emissions, and contribute to broader sustainability goals.

By integrating innovative energy, water, and infrastructure solutions, the next Ontario government can position the province as a global leader in sustainable development. Prioritizing smart policies, green technologies, and decentralized systems will drive economic growth while ensuring environmental responsibility and long-term resilience.

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Building Climate Resilience in Ontario

The next Ontario government must take proactive measures to strengthen the province's resilience to climate change. With extreme weather events becoming more frequent, it is essential to integrate climate adaptation strategies into urban planning, construction, infrastructure, and emergency response systems. By prioritizing flood and fire-resistant design, distributed energy resources, and climate-resilient urban planning, Ontario can better protect communities and ensure long-term sustainability.

Enhancing Flood and Fire Resilience in Construction

Ontario must implement stronger building standards that protect against climate-related risks. Flood-resistant construction techniques, including elevating structures, using waterproof materials, and improving drainage systems, should be integrated into development policies, particularly in high-risk areas. Additionally, the adoption of fire-resistant building materials should be encouraged, particularly in wildfire-prone regions, to enhance structural resilience and minimize recovery costs.

Encouraging Climate-Responsive Infrastructure and Energy Systems

To adapt to changing climate conditions, the government should support the widespread adoption of energy-efficient HVAC systems that optimize energy use based on climate variations. Strengthening distributed energy resources—such as decentralized renewable systems and small modular nuclear reactors—will also ensure energy availability during extreme weather events and grid disruptions.

Updating Zoning and Land Use Policies

Zoning and land use policies must be revised to allow for climate-adaptive development. Future planning should integrate risk assessments for flooding, wildfires, and other climate hazards to ensure communities are built with resilience in mind. This approach will enable the construction of safer, more sustainable neighborhoods while reducing long-term infrastructure costs.

Strengthening Early Warning and Emergency Response Systems

Ontario's political leaders should enhance early warning systems for extreme weather events, ensuring communities receive timely alerts to prepare and respond effectively. Strengthening forecasting and emergency preparedness strategies will be critical in mitigating the impact of floods, storms, heat waves, and other climate-related disasters.

Advancing Heat-Resilient Urban Planning

With rising temperatures, Ontario must prioritize urban designs that help mitigate the urban heat island effect. Policies should promote the implementation of cool roofs, shade structures, and

expanded green spaces to keep cities livable during extreme heat events. Heat-resilient urban planning will contribute to public health and overall climate adaptation efforts.

Investing in Critical Infrastructure Resilience

Ontario's infrastructure must be modernized to withstand the impacts of climate change. The next government should support policies that strengthen bridges, power grids, and water treatment plants to ensure the continued functioning of essential services during extreme weather conditions. Retrofitting existing infrastructure will enhance reliability and reduce long-term recovery costs.

Improving Climate-Resilient Water Management

A comprehensive water management strategy should be developed to address the increasing risks of flooding and droughts. Ontario must enhance stormwater management, expand water storage solutions, and upgrade distribution systems to prevent climate-related disruptions. Adaptive water management will protect communities and ensure the long-term sustainability of the province's water resources.

Encouraging the Use of Climate-Resilient Building Materials

To enhance structural durability, the next government should promote the use of building materials specifically designed to withstand extreme weather conditions. Strengthening building codes and incentivizing the use of weather-resistant materials in new developments and retrofits will reduce long-term maintenance costs and improve climate resilience across the province.

By integrating climate adaptation strategies into infrastructure, planning, and emergency preparedness, the next government can ensure Ontario is prepared for the challenges posed by climate change. Proactive investments in resilience will not only protect communities but also reduce economic losses and create a more sustainable future.

Ensuring Equitable Access to Sustainable Housing and Inclusive Design

The next Ontario government must prioritize policies that make housing both sustainable and accessible for all residents. A commitment to inclusive development will ensure that communities are designed to reflect Ontario's diversity while promoting affordability, resilience, and environmental responsibility.

Expanding Equitable Access to Sustainable Housing

Ontario's political leaders must support the development of affordable, energy-efficient housing that meets the needs of marginalized communities. Policies should promote collaboration with local organizations to ensure housing projects are tailored to diverse social, cultural, and economic realities. Prioritizing equitable housing access will create safer, more resilient communities across the province.

Encouraging Workforce Diversity in Construction and Engineering

To build a more inclusive housing sector, the next government should introduce mentorship and training programs that support underrepresented groups, particularly women and minorities, in construction and engineering. Strengthening workforce diversity will help bridge the talent gap and expand the pool of skilled professionals contributing to sustainable housing development.

Strengthening Inclusive Design Standards

Ontario's building codes and planning policies should ensure that homes and public spaces are designed with accessibility in mind. Universal design principles must be embedded into new developments to accommodate individuals with disabilities, aging populations, and diverse cultural needs. Enforcing these standards will make communities more inclusive and adaptable for all residents.

Ensuring Meaningful Community Engagement

Housing and infrastructure projects should be developed with direct input from the communities they serve. The next government must establish participatory design approaches that engage local residents, particularly marginalized voices, to ensure housing developments reflect their needs and aspirations.

Developing Accessible Infrastructure

Ontario must ensure that public spaces, transit systems, and residential developments incorporate accessible infrastructure, including ramps, elevators, and smart city technologies. Prioritizing accessibility in urban planning will enhance mobility and quality of life for individuals with disabilities and aging populations.

Integrating Green Spaces into Urban Development

Sustainable communities must include accessible green spaces that provide recreational opportunities, regulate temperature, and enhance biodiversity. Policies should ensure urban developments integrate parks and natural areas that promote environmental sustainability and social cohesion while celebrating the cultural diversity of Ontario's neighbourhoods.

Preserving Cultural Heritage within Sustainable Development

The modernization of Ontario's infrastructure should not come at the expense of cultural heritage. The next government must implement policies that balance historic preservation with sustainable development, ensuring that culturally significant buildings are maintained while incorporating energy-efficient and resilient design elements.

Raising Public Awareness on Sustainable and Inclusive Housing

Education and public outreach efforts should inform communities about the benefits of sustainable, inclusive housing. Government-led campaigns should emphasize Equity, Diversity, Inclusion, and Accessibility (EDIA) principles, equipping residents with knowledge about energy-efficient building practices and the importance of inclusive urban design.

By embedding sustainability, accessibility, and equity into housing policies, the next government can ensure that Ontario's communities remain resilient, diverse, and inclusive for generations to come. Prioritizing these principles will strengthen social cohesion, protect vulnerable populations, and position Ontario as a leader in sustainable urban development.

Emerging Technologies for Future Growth

The next Ontario government must prioritize policies that strengthen cybersecurity, integrate artificial intelligence, advance cleantech solutions, and establish robust data governance frameworks. As digital infrastructure and emerging technologies play an increasingly critical role in economic and social development, Ontario must stay ahead of evolving threats and opportunities to remain competitive and secure.

Strengthening Cybersecurity for a Resilient Digital Future

Ontario must take decisive action to fortify its cybersecurity infrastructure. As reliance on digital systems grows, protecting sensitive data and critical infrastructure is essential. The next government should support initiatives that implement state-of-the-art cybersecurity technologies and establish comprehensive data protection policies to safeguard public and private sector digital assets.

To stay ahead of cyber threats, Ontario must also encourage research and development in cybersecurity. Advancing innovative security solutions will strengthen the province's defenses against cyberattacks and enhance its ability to detect, respond to, and mitigate emerging threats.

Additionally, cybersecurity education and workforce development should be prioritized to ensure that Ontario produces skilled professionals capable of managing future security challenges. A cybersecurity-conscious society, where businesses and individuals understand the importance of digital safety, will be critical to the province's long-term resilience.

Leveraging Artificial Intelligence for Security and Innovation

AI-driven solutions have the potential to transform Ontario's approach to cybersecurity and beyond. The next government should support research and adoption of AI-powered threat detection and response systems to improve Ontario's ability to counter cyber threats in real time. By integrating AI into cybersecurity frameworks, the province can enhance incident response strategies and proactively address security vulnerabilities.

Beyond cybersecurity, Ontario must prioritize the ethical development of AI across industries. Policies should ensure that AI applications align with societal values and are deployed responsibly. Establishing regulatory frameworks for AI-driven decision-making will protect privacy, mitigate bias, and promote accountability. To equip the workforce for an AI-driven economy, educational initiatives that foster AI literacy must be expanded, ensuring that Ontario remains a leader in AI innovation and regulation.

Enhancing Data Governance and Privacy Protection

With the widespread adoption of smart technologies, Ontario must implement stronger data governance frameworks. The next government should advance policies that establish enforceable

privacy standards, ensuring responsible data collection, storage, and usage. Ethical guidelines for emerging technologies will protect citizens' rights while fostering public trust in digital systems.

Advancing Cleantech and Sustainable Innovation

Ontario's commitment to environmental sustainability must include support for cleantech solutions that drive economic resilience while reducing environmental impact. Policies should encourage the adoption of decentralized wastewater treatment (DWWT) systems to improve water management efficiency. By leading in cleantech innovation, Ontario can position itself as a global hub for sustainable infrastructure, reinforcing its leadership in clean energy and environmental stewardship.

By embedding cybersecurity, AI integration, cleantech innovation, and data governance into its policy framework, the next Ontario government can ensure a future that is both technologically advanced and ethically responsible. These initiatives will enhance security, drive economic growth, and support a sustainable and resilient digital economy.

Strengthening Public Health Through Clean Indoor Air Initiatives

The next Ontario government must take decisive action to improve indoor air quality and protect residents from the health risks associated with airborne pollutants and viruses. Ontario can create healthier indoor environments across workplaces, schools, and public spaces by implementing stronger air quality regulations, aligning with international standards, and raising public awareness.

Introducing a Clean Indoor Air Act for Ontario

To safeguard public health, Ontario should adopt a Clean Indoor Air Act that establishes comprehensive air quality measures. This framework should prioritize improvements in ventilation, filtration, and air quality monitoring in public buildings, workplaces, and educational institutions. Strengthening air quality policies will help mitigate exposure to fine particulate matter (PM2.5) and airborne pathogens, both of which contribute to respiratory diseases and other serious health conditions.

Enhancing Public Awareness of Indoor Air Quality

In addition to regulatory measures, the next government should commit to public education campaigns that inform residents about the risks associated with poor indoor air quality. Raising awareness of proper ventilation and filtration practices will empower individuals, businesses, and institutions to take proactive steps toward maintaining healthier indoor environments.

Aligning Legislation with America Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Standards

Ontario should ensure that indoor air regulations are aligned with best practices by integrating ASHRAE standards into provincial policies. Establishing a legal framework based on these internationally recognized guidelines will enhance ventilation and filtration requirements, creating safer and healthier spaces for all Ontarians.

To facilitate widespread adoption, the next government should support building compliance and certification programs that incentivize public and private sectors to meet these improved air quality standards. Encouraging compliance through financial incentives and regulatory support will accelerate the transition to better indoor air management across Ontario's infrastructure.

Protecting Public Health and Reducing Healthcare Costs

Improving indoor air quality is a long-term investment in public health. Reducing exposure to airborne pollutants will lower the incidence of respiratory illnesses, decrease healthcare costs, and enhance overall well-being. This initiative is particularly critical in high-density urban areas, where indoor air quality concerns are more pronounced and pose greater risks to vulnerable populations.

By prioritizing indoor air quality in its public health strategy, the next government can enhance the quality of life for residents, reduce healthcare burdens, and position Ontario as a leader in environmental health and safety.