Advancing Environmental Justice: Response from the Ontario Society of Professional Engineers (OSPE)

Foundation 4: Indigenous Environmental Justice

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The Ontario Society of Professional Engineers (OSPE) is a member-driven professional association that welcomes the entire engineering community to contribute knowledge, skills and leadership to help create a better future for our profession and society at large. Through our Equity, Diversity, Inclusion & Accessibility (EDIA) Task Force, OSPE is committed to working with industry, academia, and government to advance EDIA in the engineering profession and in engineering solutions.

1. Discussion Question: In the context of a national strategy to promote efforts across Canada to advance environmental justice, how would you define environmental justice?

In answering this question, you may wish to think about:

- **How do your lived experiences/worldviews inform your understanding of ER/EJ? How may it be distinct from others?**
- **What is challenging for you and your community in addressing instances of ER?**
- **What opportunities do you see for improved recognitional, procedural and distributive justice in your community?**
- **What is something you wish ECCC could know about environmental justice before they draft a strategy?**

In Canada, environmental justice must begin with the recognition of Indigenous rights, governance, and traditional knowledge. Engineers have an ethical and professional responsibility to integrate these perspectives into the design, construction, and operation of infrastructure and energy systems.

Environmental justice in the engineering context means designing solutions that prioritize safety, sustainability, and equity. Engineers play a central role in decisions that shape communities. Like where infrastructure is built, how clean water is delivered, and how energy systems affect local environments and social wellbeing. When these decisions are made without the full participation of Indigenous Peoples and other impacted communities, environmental racism and inequities can result.

A just approach requires co-design and co-governance. Indigenous knowledge and engineering science together offer complementary ways of understanding land, water, and resource systems.

The national strategy should promote engineering capacity-building within Indigenous communities, support Indigenous-led infrastructure projects, and strengthen professional training on equity, reconciliation, and environmental stewardship.

Before drafting the national strategy, Environment and Climate Change Canada (ECCC) should facilitate cross-training between engineers and Indigenous peoples. Engineers should be treated as partners, since they have the tools to design equitable, resilient systems. Engineers must be given the opportunity and education to value Indigenous leadership and community input as foundational to every project.

2. Discussion Question: What tools and mechanisms do you believe should be used to support efforts to advance environmental justice?

In answering this question, you may wish to think about:

- **How might UNDA principles be considered in the context of our work?**
- **Do you know of any tools that help address environmental racism or support environmental justice? If you've used or know of any, we'd like to hear how they work and what makes them effective.**
- **Are there specific principles, protocols or ways of working with First Nations, Inuit or Métis peoples that the federal government may be missing in environmental policy. Are there any key ideas or actions we should include to make this work stronger and more inclusive?**

The Ontario Society of Professional Engineers (OSPE) believes that advancing environmental justice requires practical, data-driven tools and inclusive governance mechanisms grounded in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Embedding Free, Prior, and Informed Consent (FPIC) into all environmental and infrastructure decisions is essential. To make these mechanisms effective, Canada must invest in capacity-building, Indigenous-led engineering projects, and training pathways for Indigenous engineers and technologists.

Key tools to support environmental justice include:

- **Equity Impact Assessments (EIAs):** Evaluate how environmental risks and benefits are distributed among racialized, Indigenous, and low-income communities.

- **GIS-based Mapping of Environmental Inequities:** A national tool to visualize where pollution, infrastructure gaps, and vulnerable populations intersect.
- **Community-Led Monitoring Programs:** Empower Indigenous and local communities to collect, manage, and share environmental data using accessible engineering and environmental technologies.
- **Indigenous-Led and Co-Governed Environmental Assessments:** Ensure that Indigenous governments and advocacy groups, like Indigenous Climate Action, have decision-making power, not just consultation roles.

By combining Indigenous knowledge and engineering principles, Canada can design policies and infrastructure that protect people, land, and water to ensure equitable outcomes for all communities.

3. Discussion Question: What could the Government of Canada do to support the advancement of environmental justice?

In answering this question, you may wish to think about:

- **What structures do you currently use to convey your specific concerns around ER/EJ? Who represents you on these issues?**
- **What approaches or mechanisms could improve the federal government's engagement with Indigenous peoples on environmental policies or decisions?**

The Ontario Society of Professional Engineers (OSPE) believes the Government of Canada can advance environmental justice by embedding engineering expertise, Indigenous leadership, and equity-based accountability across environmental and infrastructure decision-making.

Engineers play a vital role in designing clean water systems, sustainable energy networks, and climate-resilient infrastructure. OSPE represents Ontario's engineering community in advocating solutions that eliminate inequities in environmental outcomes and ensure projects are safe, sustainable, and inclusive.

To strengthen Canada's approach, the federal government should:

- Integrate licensed engineers and engineering associations into environmental policy and project governance to ensure evidence-based, technically sound decisions.
- Support training and capacity-building programs for Indigenous engineers and technologists.

Environmental justice requires co-leadership between engineers, Indigenous Nations, and policymakers. By combining technical innovation with reconciliation and equity principles, Canada

can ensure that all communities benefit equally from safe, sustainable, and resilient infrastructure.

3. Concluding question: Is there anything else you would like to add to contribute to the development of a national strategy for Canada?

To achieve meaningful progress, the Government of Canada should ensure that engineers are active partners in environmental policy development, project planning, and oversight. Embedding the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and Free, Prior, and Informed Consent (FPIC) principles into federal frameworks will ensure projects are both technically sound and socially just.

OSPE also encourages continued investment in data transparency, Indigenous engineering capacity, and interdisciplinary collaboration to identify and address inequities in environmental outcomes.