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

Foundation 3: Examining the Link Between Race, Socio-economic Status and Environmental Risk

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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: What actions can help build national awareness and understanding of environmental racism and justice in Canada?

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

- **What do you need—whether in a community, non-profit, school, or government role—to better understand environmental justice and racism?**
- **Are there specific information, tools, data or resources that could further understandings of environmental racism? Are there barriers to accessing certain existing information?**
- **How might the national study best support the continued learning and growth of the Canadian public? What would be relevant, useful, and accessible? How should this information be shared?**

Building a better understanding on environmental racism

To effectively address environmental racism, Canada must first build widespread awareness of how environmental burdens and benefits are distributed and ensure all Canadians have access to the information, education, and tools needed to understand and act on these inequities.

National awareness can begin with education. Embedding environmental justice and anti-racism principles into school curricula, post-secondary programs, and professional

training - especially in engineering, planning, and environmental sciences - will build a workforce capable of identifying and mitigating inequities. Engineers must be equipped to assess the social as well as technical impacts of their work

Supporting the continued learning and growth of Canadians with accessible data

A relevant, useful, and accessible way the Federal government can support the continued learning and growth of Canadians could include an update on environmental equity findings with each publication of new census data. Interactive maps are great format, with the option to view how the indicator/data has changed over time so Canadians can view the current state as well as previous results. Tools like HealthyPlan are user-friendly and accessible to a range of audiences. These should be promoted and expanded to include more relevant variables and environmental data

2. Discussion Question: What information or statistics about where environmental hazards are located would help you most, as work on environmental justice and racism continues?

Examples of this, based on national, federal data (see examples of federal datasets in Topic 1, might include:

- **statistics related to the number of certain sites (National Pollutant Release Inventory);**
- **the locations of different project types and any concentrations or other insights (Impact Assessment Agency Registry); or**
- **information related to the kinds of contaminants being released at differing sites and/or states of remediation (Federal Contaminated Sites Inventory).**

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

- **What do you want to know about the environmental hazards in your community? What kind of information would help you to better understand these hazards?**
- **Is there specific information you need to participate in environmental decision-making, or to bring concerns to the attention of decision-makers?**
- **What format is most accessible for receiving this kind of technical information? Do you prefer visuals and/or spatial data? Are data tables useful? Do you have a use for statistical information?**

- **Are there ways existing federal datasets could be adjusted to better meet your needs? For example, making it easier to understand the relationships between differing facilities and/or locations, or by creating user guides?**
- **Is there support that would be helpful as you work to interpret data?**

Some information that would be useful to make widely accessible, in addition to those mentioned in the suggestions above:

- Air quality data (particulate matter, traffic proximity, etc.)
- Radon data
- Flood risk/susceptibility data
- Harmful contaminants present in water supply data (eg. Uranium in wells used for drinking water, count of nearby hazardous waste facilities, wastewater discharge, etc.)

These environmental hazards and risks should be displayed alongside census data that shows the demographic makeup and identifies if certain populations face disproportionate harms. Spatial data may be most useful, together with some visuals/summary statistics that can assist in communicating with and educating the general public.

3. Discussion Question: Communities facing environmental racism, along with grassroots groups and advocates, have deep knowledge of their priority issues and where change is needed. They also know firsthand when progress is happening. How might the advancement of environmental justice in the Canadian context be tracked? What may be outputs or indicators of meaningful progress?

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

- **How might progress be best shared with the public? What would make information accessible, tangible, and/or relevant? Are there certain formats that you prefer?**
- **How will we know if communities, advocacy groups, researchers, and governments are improving their understanding of environmental justice and racism? What signs or results would show that knowledge is growing?**

- **What kinds of changes or results would show real progress in advancing environmental justice?**
- **Are outputs or indicators for your community or experience the same as for others?**

Tracking Environmental Justice

From OSPE's perspective, advancing environmental justice in Canada requires a monitoring framework that is grounded in both engineering evidence and community-driven knowledge. Environmental racism is experienced locally, so tracking progress must centre on the lived realities of affected communities while also integrating the technical data, modelling, and risk-assessment tools engineers bring

In the Canadian context, meaningful tracking involves frequent, publicly accessible reporting on environmental exposures, infrastructure conditions, and health-related impacts in historically marginalized communities. Progress would be reflected not only in improved environmental quality but also in reduced disparities between communities that have historically borne disproportionate risks and those that have benefited from greater investment and protection. Co-developed reports that include the voices of community members, alongside technical analysis from engineers and scientists, make the information more tangible.

Sharing Progress with the Public
Information on progress must be communicated in a way that is understandable, relevant, and rooted in community experience. OSPE recognizes the technical data sets discussed above, like air quality measurements, soil contamination levels, infrastructure audits, must be translated into formats the public can interpret without specialized training. Recommendations above like interactive maps and summaries included with census data would make technical information on environmental justice accessible.

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

Building National Awareness and Understanding

Engineers must be trained to evaluate not only technical risks but also social and distributional consequences. From OSPE's perspective, national awareness of environmental racism must begin with education and accessible information. Embedding environmental justice content into school curricula, post-secondary programs, and professional training, especially in engineering, will ensure that future decision-makers recognize disproportionate impacts and know how to prevent them.

The Importance of Public Data

A deeper understanding of environmental justice depends on access to high-quality data on environmental hazards and on who is most affected by them. Engineers and the public would benefit from clearer information on air quality, radon, flood risk, water contaminants, industrial releases, and the remediation of contaminated sites. National awareness would be strengthened through modernized, user-friendly data platforms, plain-language explanations, and regular updates that highlight where risks are concentrated and how they relate to race and socio-economic status.

A national study should provide consistent updates on changing environmental conditions and inequities over time. Public access to tools like interactive maps would allow Canadians to explore local conditions and observe long-term trends.

To ensure this information is truly accessible, it should be supported by visual summaries, narratives, and clear guidance materials so users can interpret findings without specialized technical training. This combination of engineering technical analysis and effective communication would support continued learning and enable more informed public engagement.