



WORKERS' EDUCATION AND RIGHTS COLLECTIVE

Submission on Building Canada Strong for All –
Powered by Canada's Workers



PREPARED FOR

Labour Program
Employment and Social Development Canada

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Introduction

The Workers' Education and Rights Collective (WERC-CÉDT) thanks the Labour Program for the opportunity to provide written submissions on updates to Canada's federal labour policy. WERC-CÉDT's submissions focus on Issue 10: *Strengthening workplace health and safety protections, and working on labour mobility to harmonize training standards and regulations*. Specifically, WERC-CÉDT wishes to highlight the gaps in workplace health and safety protections from climate-related hazards, and to propose concrete reforms to address this pressing challenge.

While not the focus of our submission, WERC-CÉDT endorses the position of several unions (see Appendix I of this submission) regarding the harm to collective bargaining and labour relations caused by section 107 of the *Canada Labour Code*, and echoes the calls from those unions for its repeal.

About WERC-CÉDT

WERC-CÉDT is a federally incorporated non-profit with a mandate to empower workers to exercise their rights through legal education, information, and support. WERC-CÉDT envisions a community where all workers — particularly vulnerable and marginalized workers — understand and have the support they need to exercise their rights, both individually and collectively. WERC-CÉDT offers services to Ottawa residents and federally regulated individuals in labour, employment, human, and environmental rights.

Climate change

Climate change is the greatest challenge of this century. The average warming of the Earth's surface due to increased carbon dioxide concentrations in the atmosphere will cause major changes to weather, ecosystems, and ecological interactions (Adam-Poupart et al, 2013). Widespread and rapid changes to the atmosphere, land, ocean, and ice regions have resulted in climate and weather extremes all over the world, and are anticipated to cause millions of deaths worldwide. Climate change has already and will continue to significantly impact the way Canadians live and work (Twiss, 2023).

Climate change and worker health and safety

Climate change is a worker health and safety issue. While workers have long faced exposure to weather-related hazards, climate change will expand both the hazards faced and the number and types of workers affected (Levy, 2019).

Climate change creates unique risks for workers. Workers are often exposed to climate hazards for longer durations and at higher intensities than the general public. Unlike the public, workers cannot elect to avoid hazardous climate conditions, because their livelihoods often depend on their exposure to those conditions (Kiefer et al, 2016; Levy, 2019).

The impact of climate change on workers varies based on the nature of the work environment, the type of work being performed (e.g. the degree of physical exertion required), and availability of protective equipment (Kim et al, 2017). Impacts on workers may be compounded by additional vulnerabilities, including underlying health conditions, socioeconomic barriers, systemic racism or gender inequality (CCOHS, 2023).

In 2009, a preliminary framework to understand the impact of climate change on worker health and safety was developed. The framework identified seven categories of climate-related hazards: 1) increased ambient temperatures; 2) air pollution; 3) UV radiation exposure; 4) extreme weather events; 5) vector-borne diseases and expanded habitats; 6) industrial transitions and emerging industries; and 7) changes in the built environment (Schulte et al, 2016). These impacts can interact with and compound one another. For example, extreme heat leads to an increased use of pesticides (Moctezuma, 2023); temperature increases can cause droughts, which in turn can cause wildfires (ILO, 2024).

Climate change has been linked to numerous workplace health effects in the literature, including injuries, cancer, heart and respiratory diseases, macular degeneration, and mental health conditions (ILO, 2024).

Workplace health and safety regimes need to adapt to the many hazards created by climate change. Most occupational health and safety regimes are currently silent on climate-related threats to workers' health and safety, relying instead on general obligations, which can lead to inconsistent interpretation and enforcement. Climate conditions are also unpredictable and rapidly changing, and health and safety regimes must be adaptable to this evolving challenge (Twiss, 2023).

This submission focuses on the climate-related hazards posing the greatest risk for workers in Canada, and outlines potential reforms to strengthen protection for federally regulated workers from climate impacts.

Extreme heat

Background

Increased surface temperature is one of the clearest and most pressing dangers facing workers, in Canada and globally. Climate change will increase the frequency and severity of extreme heat; for example, southern Ontario is projected to triple the number of days with 30 degree temperatures or higher by 2050 (Jay & Kenny, 2010; Thorburn, 2025).

All regions face increased health risks due to extreme heat; worldwide, the number of workers exposed to extreme heat grew by 34.7% between 2000 and 2020 (ILO, 2024). Extreme heat is a present and growing occupational hazard across Canada. For example, during British Columbia's 'heat dome' in June 2021, over 600 excess deaths were recorded and WorkSafeBC accepted more than 100 heat-stress injury claims in a single week (Thorburn, 2025).

Heat exposure can cause acute, short-term health impacts such as heat exhaustion, heat stroke, reduced cognitive function, dehydration, increased risk of injury, heat syncope, and even death. It can also cause long-term impacts, including aggravation of chronic conditions, renal disease and cardiovascular problems (Twiss, 2023; Schulte et al, 2016; Adam-Poupart et al, 2013; Kim et al, 2017).

Extreme heat can impact both outdoor and indoor workers (Jay & Kenny, 2010). The impact of extreme heat is highly dependent on individual factors, including age, weight, medical conditions, and degree of acclimatization (Kim et al, 2017). Heat stress can also interact with other climate hazards: increased temperatures can increase occupational exposure to pesticides and hazardous chemicals (Levy, 2019). If workers wear more protective clothing and equipment, the risk of heat stress increases (Moctezuma, 2023).

Forthcoming thermal stress regulations under the *Canada Occupational Health and Safety Regulations*

WERC-CÉDT is encouraged by the forthcoming amendments to the *Canada Occupational Health and Safety Regulations* to specifically address workplace risks due to thermal stress. These amendments are consistent with the national trend away from reliance on general duty provisions and towards express and enforceable heat exposure limits (Thorburn, 2025). Without a binding heat ceiling, preventive or protective action will often depend on an individual inspector's judgment or will only occur in response to a serious incident (Thorburn, 2025).

WERC-CÉDT notes that the proposed amendments were pre-published in 2023 and initially projected to come into force in 2025, but have been delayed to now come into force in 2027 (Thorburn, 2025). This unacceptable delay has left federal workers less protected from thermal stress in the intervening years.

These new regulations are based on Threshold Limit Values (TLVs) stated in units of Wet Bulb Globe Temperature (WBGT). This is the most widely used heat index globally, and is recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) (Jay & Kenny, 2010). With that said, numerous publications have highlighted the limitations of the WBGT: it only assesses environmental parameters, despite the response to heat stress being highly variable between individuals: “the many non-environmental factors that profoundly influence human thermoregulation in the heat are not considered at all” (Jay & Kenny, 2010). WBGT monitoring is also impractical for some employers, particularly small enterprises (Thorburn, 2025; Klassen et al, 2025).

Proposed supplements to new thermal stress regulations

Because of the shortcomings of WBGT monitoring, WERC-CÉDT recommends that the Labour Program consider supplementing the forthcoming amendments regarding thermal stress with additional changes, specifically geared towards workers and sectors that are at particular risk due to regular exposure to extreme heat:

- 1) Require heat tolerance screening** in workplaces with regular exposure to extreme heat. This screening would implement a standardized process for assessing workers’ risk levels through specialized, confidential medical fitness assessments, and facilitate accommodation of workers at greatest health risk (Jay & Kenny, 2010).
- 2) Require proactive heat acclimatization programs** for workers exposed to extreme heat on a regular basis. Acclimatization can ‘train’ the sweat glands to produce a greater amount of sweat and has been shown to significantly reduce the risk of heat-related illness and death (Jay & Kenny, 2010).
- 3) Introduce a pilot project of sectoral or regional health and safety committees** for small or multi-employer worksites where workplaces fall below the threshold for a mandatory Joint Health and Safety Committee. These committees would have the same requirements to develop and implement procedures to monitor and control thermal stress. This approach would be particularly beneficial to at-risk sectors such as gig workers (Thorburn, 2025).

Proposed harmonization of thermal stress standards across Canada

Workplace standards for thermal stress would benefit from harmonization across the country. Canada currently “lacks a uniform legal ceiling on workplace heat” (Thorburn, 2025). Occupational heat stress regulation varies considerably across the country, with some jurisdictions having no heat-specific regulations, some requiring all workplaces to follow the ACGIH guidelines, and others imposing requirements only for specific work environments (Tetzlaff, 2025). The patchwork of regulation across Canada, with a mix of WBGT and Humidex-based thresholds, and different versions of the TLVs referenced, creates compliance confusion for employers operating across multiple jurisdictions (Thorburn, 2025). WERC-CÉDT therefore recommends that the Labour Program:

- 4) Collaborate with partners across Canadian jurisdictions to **harmonize thermal stress regulations** across Canada.

Air pollution

Background

Air pollution has a complex relationship with climate change: it is at once a driver and a consequence of increased temperatures (Schulte et al, 2016; Klassen et al, 2025). As temperatures continue to increase, air pollution rates will rise due to increased periods of drought and more frequent wildfires (Wang et al, 2017; ILO, 2024).

According to Health Canada, outdoor air pollution is the largest environmental cause of premature death and disability in Canada (Health Canada, 2021). Wildfire smoke, which can travel thousands of kilometres, contains particulate matter, carbon monoxide, nitrogen oxides, and volatile organic compounds that can significantly reduce air quality (Government of Canada, 2025; Kiefer et al, 2016).

Outdoor workers are at increased risk of health consequences from wildfire smoke and other air pollution, as they have longer periods of exposure and tend to have higher respiratory rates (Schulte et al, 2016). Wildfire smoke can also affect workers indoors, particularly if buildings have inadequate air filtration (Kim et al, 2017).

Air pollution can cause acute symptoms including irritation of the eyes, nose and throat, headaches, worsening allergies, shortness of breath, and coughing. It can also have long-term health impacts, including respiratory illness, cancer, ischemic heart disease, and stroke (CCOHS, 2025; Kim et al, 2017; Kiefer et al, 2016; ILO, 2024). Exposure to PM2.5 (fine particulate matter, making up a large component of wildfire smoke) is particularly harmful: there is no known safe exposure to PM2.5 pollution and the number of deaths from fire-related PM2.5 will double by the end of this century (Klassen et al, 2025; Matz et al, 2020; Government of Canada, 2025).

Individual factors can influence the impact of air pollution, including age, weight, pregnancy, socioeconomic status, and medical conditions (Kim et al, 2017; Government of Canada, 2025). The combined impact of air pollution and excessive heat is a particular threat to workers—the cumulative risk of both climate hazards exceeds the sum of their risks alone (ILO, 2024).

Lack of regulations addressing outdoor air quality

Most occupational health and safety regulations impose standards for air quality only in indoor work environments (ILO, 2024). There is a notable absence, including under the *Canada Labour Code*, of regulations addressing outdoor air quality. This means employers' obligations are limited to their general duty to take all reasonable precautions for the protection of workers (Workplace Safety & Prevention Services, 2025).

WERC-CÉDT offers three concrete recommendations to address this gap in regulation and protect workers from health risks associated with air pollution.

Proposal to codify the Air Quality Health Index

The Air Quality Health Index (AQHI) is a tool to assess the impact of air quality on health. It measures the combination of common air pollutants (ozone, particulate matter, and nitrogen dioxide) and translates them to a simple 1-10 scale. The scale is divided into four levels of health risk (low, moderate, high, and very high) with corresponding health guidance at each level. Importantly, the guidance in the AQHI is customized for the general population and for individuals at greater risk due to heart or breathing problems (Government of Canada, 2021).

The Canadian Centre for Occupational Health and Safety recommends that employers monitor the AQHI, but it has not been incorporated into safety standards under the *Canada Labour Code*. Codifying the AQHI would promote consistent reliance on this simple tool that helps assess the risk posed by outdoor air quality. One article specifically recommends adopting a modified version of the AQHI designed to reflect the risks of wildfire smoke (OHCOW, 2023).

WERC-CÉDT therefore recommends that the Labour Program:

- 5) Codify** the right of employees to limit or cease outdoor work based on the guidance in **the Air Quality Health Index (AQHI)**, including the modified AQHI during periods of wildfire smoke.

Proposal to mandate MERV 13 or higher HVAC filters

If HVAC systems lack adequate filtration, particulate matter from wildfire smoke can affect indoor workers (OHCOW, 2023). According to the Ontario Society of Professional Engineers, MERV 13 air filters are the “most important tool for mitigating the impact of wildfire smoke and outdoor air pollution on indoor environments” (OSPE, 2023). This aligns with guidance from the American Society of Heating, Refrigerating and Air-Conditioning Engineers for protecting building occupants from wildfire smoke (OSPE, 2023). WERC-CÉDT therefore recommends that the Labour Program:

- 6) Mandate MERV 13 or higher HVAC filters** in federally regulated workplaces.

Proposal to consider combined risk due to heat stress and air pollution

As noted above, the cumulative risk of excessive heat and air pollution is significantly higher than the sum of those risks individually (ILO, 2024). This issue can be addressed by amending the thermal stress regulations to include express consideration of the added risk in times of poor air quality (CCOHS, 2025). WERC-CÉDT therefore recommends that the Labour Program:

- 7) Amend the forthcoming thermal stress regulations** to incorporate a requirement that employers’ thermal stress procedures including monitoring outdoor air quality and taking additional precautions to **mitigate the combined risk of thermal stress and poor air quality**.

Other climate impacts

Extreme weather events

Climate change has led to more frequent and intense extreme weather events, including hurricanes, tornadoes, landslides, droughts, and winter storms (Twiss, 2023). These events can place workers at risk both during and after the event, particularly workers involved in rescue, clean up, and restoration efforts (Schulte et al, 2016). Workers may be injured or exposed to hazardous substances (Levy, 2019; ILO, 2024). Extreme weather events can also have serious psychological impacts on workers (Twiss, 2023).

WERC-CÉDT recommends that the Labour Program:

- 8) Require employers to specifically **address extreme weather events in their Emergency Action Plans**, with tailored emergency response plans for each type of extreme weather event (Kim et al, 2017; ILO, 2024).
- 9) Codify a requirement to **suspend work operations during extreme weather events**, removing the onus from employees to refuse dangerous work (ILO, 2024).

Vector-borne diseases

Changes in temperature and rainfall patterns can alter the seasonality, distribution, and prevalence of insects that are vectors for diseases (Kiefer et al, 2016; ILO, 2024). For example, climate change will expand the range and habitat of mosquitoes and ticks, which are vectors for pathogens and diseases (Twiss, 2023). The increase of vector-borne diseases will further compound the hazards due to increased use of pesticides (Levy, 2019).

The increase in vector-borne diseases is a clear threat to outdoor worker health and safety; for example, outdoor workers face five times the risk of contracting Lyme disease compared to indoor workers (Schulte et al, 2016). Yet, there is very little research on the occupational risks associated with this climate impact, possibly because of the diversity of workers and sectors potentially affected (Schulte et al, 2016).

WERC-CÉDT therefore recommends that the Labour Program:

- 10) Develop and implement a **research plan** on the risks to federally regulated workers due to climate-related **increases in vector-borne diseases** and strategies to mitigate these risks.

UV radiation exposure

The “complex interaction of greenhouse gases, climate change, and stratospheric ozone depletion, results in increased ultraviolet (UV) radiation that can affect all people, particularly outdoor workers” (Schulte et al, 2016). While the Earth is gradually recovering from decades of ozone depletion, that recovery will be slower in northern latitudes, leaving Arctic workers in particular at a heightened risk of UV-related health impacts (Schulte et al, 2016).

UV radiation exposure can cause macular degeneration, cataracts, immune suppression, and multiple forms of skin cancer (Adam-Poupart et al, 2013). Outdoor workers have up to 3.5 times the likelihood of developing skin cancer compared to indoor workers (Sun Safety at Work, 2026). The direct and indirect costs of occupational non-melanoma skin cancer cases in Canada are estimated to be more than \$28 million per year (ILO, 2024).

Section 12.14 of the *Canada Occupational Health and Safety Regulations* requires employers to provide workers with skin protection where there is a risk of injury or disease to the skin. However, the greatest challenges associated with this climate hazard are awareness and behaviour modification. Sun safety programs can be implemented by workplace health and safety committees to promote greater worker awareness of UV radiation risks and appropriate prevention behaviours (Sun Safety At Work Canada, 2026).

To help raise greater awareness among federally regulated workers about sun safety in the workplace, WERC-CÉDT recommends that the Labour Program:

- 11)** Explore the possibility of codifying a requirement for employers with outdoor workers to develop a **sun safety program**.

WERC-CÉDT thanks the Labour Program for the opportunity to make these submissions.



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Summary of recommendations

- 1) Require **heat tolerance screening** in workplaces with regular exposure to extreme heat. This screening would implement a standardized process for assessing workers' risk levels through specialized, confidential medical fitness assessments, and facilitate accommodation of workers at greatest health risk.
- 2) Require proactive **heat acclimatization programs** for workers exposed to extreme heat on a regular basis. Acclimatization can 'train' the sweat glands to produce a greater amount of sweat and has been shown to significantly reduce the risk of heat-related illness and death.
- 3) Introduce a pilot project of **sectoral or regional health and safety committees** for small or multi-employer worksites where workplaces fall below the threshold for a mandatory Joint Health and Safety Committee. These committees would have the same requirements to develop and implement procedures to monitor and control thermal stress. This approach would be particularly beneficial to at-risk sectors such as gig workers.
- 4) Collaborate with partners across Canadian jurisdictions to **harmonize thermal stress regulations** across Canada.
- 5) **Codify** the right of employees to limit or cease outdoor work based on the guidance in **the Air Quality Health Index (AQHI)**, including the modified AQHI during periods of wildfire smoke.
- 6) **Mandate MERV 13 or higher HVAC filters** in federally regulated workplaces.
- 7) **Amend the forthcoming thermal stress regulations** to incorporate a requirement that employers' thermal stress procedures including monitoring outdoor air quality and taking additional precautions to **mitigate the combined risk of thermal stress and poor air quality**.
- 8) Require employers to specifically **address extreme weather events in their Emergency Action Plans**, with tailored emergency response plans for each type of extreme weather event .
- 9) Codify a requirement to **suspend work operations during extreme weather events**, removing the onus from employees to refuse dangerous work.
- 10) Develop and implement a **research plan** on the risks to federally regulated workers due to climate-related **increases in vector-borne diseases** and strategies to mitigate these risks.
- 11) Explore the possibility of codifying a requirement for employers with outdoor workers to develop a **sun safety program**.

Appendix I: Union statements on s. 107 of the *Canada Labour Code*

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