

**Application for Review**

**Filed Pursuant to section 61 of the *Environmental Bill of Rights, 1993***

**RE: Cumulative Effects Assessment (CEA) in Air Approvals**

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**APPLICATION FOR REVIEW**

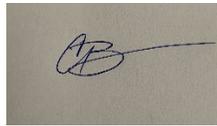
**Filed pursuant to Section 61 of the *Environmental Bill of Rights, 1993*  
RE: Cumulative Effects Assessment (CEA) in Air Approvals**

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I hereby declare that I am a full-time resident of Ontario and have been since June 8, 1975.

February 23<sup>rd</sup>, 2026



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DATE:

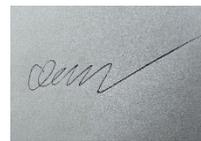
\_\_\_\_\_  
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I hereby declare that I am a full-time resident of Ontario and have been since January 18, 1991.

February 23<sup>rd</sup>, 2026



\_\_\_\_\_  
DATE:

\_\_\_\_\_  
IAN BORSUK

## **I: SUBJECT MATTER OF REQUESTED REVIEW**

The Applicants hereby request a review of an **existing** policy, namely:

- *Cumulative Effects Assessment (CEA) in Air Approvals* (CEA policy)

Subsection 61(1) of the *Environmental Bill of Rights, 1993 (EBR)* provides that an Application for Review may be filed where the Applicants believe that an existing Ontario policy “should be amended, repealed or revoked in order to protect the environment.”

Policy is defined under s. 1 of the *EBR* as a “program, plan, or objective and includes guidelines or criteria to be used in making decisions about the issuance, amendment, or revocation of instruments, but does not include an Act, a regulation, or an instrument.”

The CEA policy, which was adopted on October 1, 2018, is prescribed for the purposes of Applications for Review under Part IV of the *EBR*: see O. Reg 73/94, subsections 2(5) and 5(4).

## **II: REASONS FOR REQUESTED REVIEW**

### **1. Background: Description of the Applicants**

The Applicant, Crystal George, is a member of Aamjiwnaang First Nation (AFN) and has lived in Corunna for the past six years. She is Legal Counsel for the Walpole First Nation in Child Protection matters and was a band representative and the coordinator for social services of AFN. She has had long-standing concerns about the adverse health and environmental impacts of air pollution caused by facilities located in very close proximity to AFN.

The Applicant, Ian Borsuk, is the Executive Director of Environment Hamilton, a non-governmental organization which helps Hamiltonians develop the knowledge and skills they need to protect and enhance the environment around them. He has a lengthy history of advocating for a resilient and adaptable Hamilton in the face of a changing global climate through policy reform on air pollution, transit, green infrastructure, and more.

The Applicants believe that the CEA policy has been an abject failure in addressing the adverse health and environmental impacts from air pollution caused by facilities in Ontario. The Applicants, therefore, request that the CEA policy be reviewed for the reasons provided below.

**(a) Effects of Air Pollution in Ontario and the Need to Address Cumulative Effects**

Air pollution poses one of the greatest environmental threats to human health. It is associated with a wide range of health problems, including respiratory and cardiovascular illnesses, neurological disease, and even cancer.

The adverse impacts of air pollution have disproportionately impacted low-income and disadvantaged communities in the province.<sup>1</sup> In communities with numerous industrial facilities located in close proximity, known as “hotspots”, residents are exposed to significantly higher levels of pollution than the general population.<sup>2</sup> In particular, research demonstrates that Indigenous communities often bear a disproportionate burden of the health and other costs of air pollution, raising environmental justice issues.<sup>3</sup>

The concept of environmental justice describes more than just a fair outcome: it is focused on fairness in the distribution of environmental benefits and burdens. It also seeks to ensure the involvement of low-income and disadvantaged communities in policy decisions that have resulted

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<sup>1</sup> Amanda Giang and Kaitlin Castellani, “Cumulative air pollution indicators highlight unique patterns of injustice in urban Canada” (2020) 15 *Environmental Research Letters* 124063, online: <https://iopscience.iop.org/article/10.1088/1748-9326/abcac5> [Tab 1]; Dayna N Scott, “Confronting Chronic Pollution: A Socio-Legal Analysis of Risk and Precaution” (2008) 46:2 *Osgoode Hall LJ* 293 at p 41 [*Confronting Chronic Pollution*] [Tab 2]; Melissa Ollevier and Erica Tsang, “Environmental Justice in Toronto Report” (April 2007) at p 5, online: [https://www.yorku.ca/cityinstitute/wp-content/uploads/sites/247/2011/05/file\\_2\\_ej\\_report\\_fin.pdf](https://www.yorku.ca/cityinstitute/wp-content/uploads/sites/247/2011/05/file_2_ej_report_fin.pdf) [Tab 3].

<sup>2</sup> United Nations Human Rights Council, *Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his visit to Canada*, 45th Session, UN Doc A/HRC/45/12/Add 1 (2020) at s 26, p 6 [*UN Report on Air Pollution*] [Tab 4]; Ecojustice, “For too many in Ontario, unpolluted air is a luxury” (24 February 2015) [Tab 5]; Environmental Commissioner of Ontario, “2017 Environmental Protection Report: Good Choices, Bad Choices” (October 2017), online: <https://www.auditor.on.ca/en/content/reporttopics/envreports/env17/Good-Choices-Bad-Choices.pdf> [*ECO 2017 Environmental Protection Report*] [Tab 6]; Pollution Watch, *An Examination of Pollution and Poverty in the Great Lakes Basin*, (Toronto: Pollution Watch, November 2008) at p 2-4 [Tab 7].

<sup>3</sup> Nathalie J Chalifour, “Environmental Justice and the Charter: Do environmental injustices infringe sections 7 and 15 of the Charter?” (2015) 28:1 *Journal of Environmental Law & Practice* 89 at p 4-5 [*Environmental Justice and the Charter*] [Tab 8]; *ECO 2017 Environmental Protection Report*.

in these communities bearing more than their “fair share” of environmental harms.<sup>4</sup> In policy-making venues, a focus on environmental justice means amplifying the voices of these communities to ensure that their rights are respected and that they are not forced to endure disproportionate harm from air pollution.<sup>5</sup>

These concerns led Ontario’s Commissioner of the Environment, academics, community residents and non-governmental organizations to recommend that environmental justice principles be incorporated into the environmental decision-making process and in the pursuit of reconciliation with Indigenous people.<sup>6</sup>

Environmental and public health organizations have also urged the provincial government to specifically consider and assess cumulative impacts to protect the health of Ontarians and Ontario’s airsheds from the harmful effects of air pollution.<sup>7</sup>

In response, the MECP established the Cumulative Air Emissions Assessment subgroup (CAEA subgroup). The CAEA subgroup was part of an existing government multi-stakeholder group that had been established to address local air quality issues in Ontario and provide recommendations to the Ministry. The CAEA subgroup was tasked with reviewing the cumulative effects policies in other jurisdictions and to guide the development of a cumulative effects policy for Ontario.<sup>8</sup> However, the policy that was eventually adopted was woefully inadequate and has not achieved its objective to improve air quality in communities that have multiple industrial sources.

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<sup>4</sup> Dayna N Scott, “Environmental Justice” in David Coghlan & Mary Brydon-Miller, *The SAGE Encyclopedia of Action Research* (London, UK: SAGE Publications Ltd, 2014) at p 299 [Tab 9]; [Environmental Justice and the Charter](#) at p 11 and 16.

<sup>5</sup> [Confronting Chronic Pollution](#) at p 41.

<sup>6</sup> [ECO 2017 Environmental Protection Report](#); Kimberly R Marion Suiseeya, “Procedural Justice Matters: Power, Representation and Participation in Environmental Governance” in Brendan Coolsaet, *Environmental Justice: Key Issues* (London & New York: Routledge, 2021) at p 37 [Tab 10]; Ecojustice, News Release, “Advocates celebrate Senate’s passage of Canada’s first environmental justice bill, marking a historic milestone” June 14, 2024, online: <https://ecojustice.ca/news/advocates-celebrate-the-senates-passage-of-canadas-first-environmental-justice-bill-marking-a-historic-milestone/> [Tab 11].

<sup>7</sup> Canadian Environmental Law Association, Ecojustice, Earth Roots, Environment Hamilton, Women’s Healthy Environment Network, and Canadian Association of Physicians for the Environment, Registered Nurses Association, Citizens Environment Alliance, Ontario Sustainable Network and the Toronto Environment Alliance, [Letter to the Hon. Glen Murray, Ministry of Environment and Climate Change](#) (25 February 2015) [Tab 12].

<sup>8</sup> [ECO 2017 Environmental Protection Report](#) at p 131.

### **(b) How Air Pollution is Regulated in Ontario**

The inherent limitations in the CEA policy are particularly glaring when considered in the broader context of the existing weaknesses in Ontario’s air regulatory regime. This includes the adoption of alternative methods for regulatory compliance, such as the use of site-specific standards, technical standards, and abatement plans. In addition, specific sector-based regulations apply to some emission sources. Furthermore, the Ministry of the Environment, Conservation and Parks’ (MECP) ability to assess the cumulative impacts of air emissions was eroded by the establishment of the Environmental Activity and Sector Registry (EASR), which allows businesses to operate without obtaining approval from the Ministry.

### **(c) Environmental Compliance Approvals**

In Ontario, a facility which proposes to discharge air contaminants into the air is required to obtain an Environmental Compliance Approval (ECA) from the MECP<sup>9</sup>, unless it meets the criteria for alternative methods of regulatory compliance such as a site-specific standard or a technical standard (if available). In order to obtain an ECA, the facility will need to establish that its air emissions do not exceed the air standards that are established under Ontario Regulation 419/05 (O. Reg 419/05). A fundamental failure with prevailing regulatory approach, however, is that it does not take into account the existing background levels of air contaminants.<sup>10</sup> Instead, it assumes that the background levels to be zero.<sup>11</sup> In other words, an ECA is issued simply by considering the air emissions that will be discharged by an individual facility without taking into account the emissions caused by other existing facilities and the impact of the total emissions on the airshed as a whole.<sup>12</sup> This “facility-by-facility” regulatory approach has led to high levels of air pollution in certain areas of the province where multiple industrial sources are clustered in close proximity together.<sup>13</sup>

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<sup>9</sup> *Environmental Protection Act*, RSO 1990, c E-19, s. 9 [Tab 13].

<sup>10</sup> *Confronting Chronic Pollution* at p 32-34.

<sup>11</sup> *Confronting Chronic Pollution* at p 32-33.

<sup>12</sup> *Confronting Chronic Pollution* at p 32-34.

<sup>13</sup> *ECO 2017 Environmental Protection Report* at p 127; Environmental Commissioner of Ontario, *2013/2014 Annual Report: Managing New Challenges* (October 2014), online: <https://www.auditor.on.ca/en/content/reporttopics/envreports/env14/2013-14-AR.pdf> at p 114 [Tab 14].

### ***Site-Specific, Technical Standards and Abatement Plans***

Ontario's air regulatory regime was further undermined by the adoption of alternative mechanisms for demonstrating regulatory compliance, such as site-specific standards, technical standards and abatement plans.

The use of site-specific standards and technical standards is permitted under O. Reg 419/05 for companies that are not able to meet the provincial air standards for technical or economic reasons.<sup>14</sup> A site-specific standard is an individual, facility-based standard that exempts a facility facing technical or economic challenges from having to comply with the provincial air standards.

<sup>15</sup>

Similarly, a technical standard exempts certain industries from having to comply with the provincial air standards and instead sets general rules for facilities which apply to an entire industry (industry standards) or a specific contaminant source (equipment standards).<sup>16</sup>

Facilities that contravene or are expected to contravene air standards may also operate under abatement plans as de facto approvals.<sup>17</sup>

Further complicating Ontario's air regulatory regime is that some sulphur dioxide emission sources in large industrial sectors are exempt from Ontario air standards<sup>18</sup> and operate under sector-specific regulations.<sup>19</sup>

Many major facilities in Ontario's industrial areas operate under one of these alternative approaches for addressing their air emissions.<sup>20</sup> The residents who live close to facilities operating under these alternate compliance approaches can be exposed to air contaminants at

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<sup>14</sup> [Ontario Regulation 419/05: Air Pollution, Local Air Quality](#), s 32-44 [O. Reg 419/05] s 32-44 [Tab 15].

<sup>15</sup> [O. Reg 419/05](#), s 32; See also Ontario Ministry of the Environment, Conservation and Parks, *Guide to Requesting a Site-Specific Standard*, (February 2017), online: [https://files.ontario.ca/moecc\\_44\\_grsss\\_aoda\\_en\\_0.pdf](https://files.ontario.ca/moecc_44_grsss_aoda_en_0.pdf) [Tab 16].

<sup>16</sup> [O. Reg 419/05](#), s 38; See also Ontario Ministry of the Environment, Conservation and Parks, *Technical Standards to Manage Air Pollution*, online: <https://www.ontario.ca/document/technical-standards-manage-air-pollution-0> [Tab 17].

<sup>17</sup> O. Reg 419/05, s 29.

<sup>18</sup> O. Reg 419/05, s 5.2 and 5.3.

<sup>19</sup> O. Reg 88/22 *Air Pollution – Discharge of Sulphur Dioxide from Petroleum Facilities* [Tab 18]; O. Reg 652/21 *Air Pollution – Discharge of Sulphur Dioxide from Nickel Smelting and Refining Facilities in the Sudbury Area* [Tab 19].

<sup>20</sup> [Technical Standards Registry – Air Pollution](#), Environmental Registry of Ontario search “site specific standard”, online: <https://ero.ontario.ca/> [Tab 20]; O. Reg 88/22 *Air Pollution – Discharge of Sulphur Dioxide from Petroleum Facilities*; O. Reg 652/21 *Air Pollution – Discharge of Sulphur Dioxide from Nickel Smelting and Refining Facilities in the Sudbury Area*.

significantly higher levels than if these facilities were operating in compliance with the provincial air standards. Furthermore, there is no requirement in O. Reg 419/05 for the MECP to consider the cumulative impacts of air pollution before issuing a site-specific standard or a technical standard.

Consequently, these alternative compliance mechanisms have further eroded Ontario's air regulatory regime by allowing high levels of air contaminants in certain areas of the province, including regions with degraded air quality.<sup>21</sup> In contrast, many other jurisdictions across Canada and the United States have adopted a cumulative effects assessment for air pollutants.<sup>22</sup>

#### **(d) Environmental Activity and Sector Registry**

Ontario's air regulatory regime was also weakened by the establishment of EASR, an online self-registration process. The EASR process allows businesses to register certain activities on a public electronic registry and commence operation without obtaining an ECA. Instead, these businesses are required to comply with specific requirements for that activity as set out in the regulation.

A fundamental weakness with EASR is that it does not require consideration of cumulative effects for facilities subject to the self-registration process. This has prompted concerns from the Commissioner of the Environment, who noted that low-risk facilities still produce cumulative impacts to the environment. In fact, given that low-risk facilities are generally located closely together, the cumulative impact of emissions from these facilities can be significant.<sup>23</sup>

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<sup>21</sup> Leah Borts-Kuperman, "How Ontario allows industry to evade air pollution rules" *The Narwhal* (20 August 2024), online: <https://thenarwhal.ca/ontario-air-pollution-rules/> [Tab 21].

<sup>22</sup> Alberta Government, *Clearing the Air: Alberta's Renewed Clean Air Strategy* (October 2012) at p 6 [Tab 22]; British Columbia Ministry of Environment and Climate Change Strategy, *British Columbia Air Quality Dispersion Modelling Guideline* (July 2022) at p 70 [Tab 23]; Nova Scotia Department of Environment and Climate Change, Air Quality Unit, *Air Assessment Guidance Document* at xiv [Tab 24]; United States Environmental Protection Agency, "Integrated Urban Air Toxics Strategy" (last modified 6 November 2024) [Tab 25]; Rachel Morello-Frosch et al, "Integrating a Community Cumulative Impacts Framework in the Implementation of AB 617 and SB 673" (25 March 2021) at p 8-9 [Tab 26]; Minnesota Pollution Control Agency, "Cumulative impacts analysis" (2025) [Tab 27].

<sup>23</sup> Environmental Commissioner of Ontario, *Doing Less with Less: How Shortfalls in budget-staffing and in-house expertise are hampering the effectiveness of MoE and MNR* (Toronto: ECO, 24 April 2007), online: <https://www.auditor.on.ca/en/content/reporttopics/envreports/env07/2007-Less-with-Less.pdf> [Tab 28].

It was anticipated that the EASR regime would apply to 50% -70% of air emitters and would apply to approximately 9,000 facilities.<sup>24</sup> Consequently, the majority of facilities discharging air emissions in Ontario would not be captured under the CEA policy even if it were extended to apply province-wide.

### **(e) The Key Features of the CEA Policy**

The CEA policy was developed to ensure cumulative impacts from multiple air pollution sources were considered when making decisions related to air approvals.<sup>25</sup> According to the CEA policy, enhanced pollution control measures may be required even if a facility meets the air standard under Ontario’s air quality regulation, O. Reg 419/05 Air Pollution – Local Air Quality (O. Reg 419/05).<sup>26</sup>

However, the CEA policy only applies to:

- New and expanding facilities which require an ECA under s. 9 of the Ontario *Environmental Protection Act*;
- Air emissions of benzene in Sarnia/Corunna; and
- Air emissions of benzene and benzo(a)pyrene in Hamilton/Burlington.<sup>27</sup>

The policy identifies three “action levels” to manage the cumulative effects of air contaminants as set out in Table 1 below. <sup>28</sup> If a facility applying for an ECA is located in an area identified as Action Level 2 or 3, the facility may be required to take management actions, even if it is meeting the provincial air standard(s) for the CEA contaminants.<sup>29</sup>

**Table 1: Management actions associated with action levels for carcinogens**

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<sup>24</sup> *ECO 2017 Environmental Protection Report* at p 73.

<sup>25</sup> Ontario Ministry of the Environment and Climate Change, *Cumulative Effects Assessment (CEA) in Air Approvals* (16 April 2018) at p 4 [*Cumulative Effects Assessment (CEA) in Air Approvals*][Tab 29].

<sup>26</sup> *Cumulative Effects Assessment (CEA) in Air Approvals*.

<sup>27</sup> Ontario Ministry of the Environment, Conservation and Parks, “ERO 013-1680 Cumulative effects assessment in air approvals” (26 April 2018) online: <https://ero.ontario.ca/notice/013-1680> [*ERO 013-1680 Cumulative effects assessment in air approvals*][Tab 30].

<sup>28</sup> *Cumulative Effects Assessment (CEA) in Air Approvals* at p 7.

<sup>29</sup> *Cumulative Effects Assessment (CEA) in Air Approvals* at p 6.

Action Level of CEA Contaminants (Cumulative Concentration/Risk in Air of multiple sources)	Management Actions
Less than 1 in a million lifetime incremental combined cancer risk	Does not trigger further action
<b>ACTION LEVEL 1</b> 1 to 10 in a million lifetime incremental combined cancer risk	No further action for industry.  Triggers periodic evaluation (by ministry) to determine if the Action Level changes
<b>ACTION LEVEL 2</b> Greater than 10 to 100 in a million lifetime incremental combined cancer risk	ECA Applications for new or expanding facilities: 1. may be required to include a technology benchmarking report with some exceptions (see section 2.2) 2. may be required to include best available pollution control methods
<b>ACTION LEVEL 3</b> Greater than 100 in a million lifetime incremental combined cancer risk	ECA Applications for new or expanding facilities may be required to: 1. include a technology benchmarking report with some exceptions (see section 2.2) 2. include pollution control methods to achieve the lowest possible emission rates as compared to an existing pollution source of the same kind globally

### III: RATIONALE FOR REVIEWING THE CEA POLICY

#### (a) MECP is legally required to consider the cumulative effects of air pollution

Since 2008, the Ministry of the Environment, Conservation and Parks (MECP) has been legally required to consider cumulative effects when issuing air approvals due to the Ontario Divisional Court’s decision in *Lafarge Canada Inc. v Ontario (Environmental Review Tribunal)*. In *Lafarge*, the Court considered the extent to which Ministry decision makers had to consider the Statement of Environmental Values (SEV) under the *EBR*. Section 11 of the *EBR* requires government ministries to develop and implement SEVs that explain how the purposes of the Act will be considered when making decisions that may significantly impact the environment. However, there had been a long-standing debate about whether SEVs also extended to instruments. In *Lafarge*, the Court unanimously upheld the then Environmental Review Tribunal’s (now known as the Ontario Land Tribunal) decision that SEVs constituted government policies which applied to instruments, such as ECAs.<sup>30</sup> Since then, the *Lafarge* decision has been cited and applied by the Ontario Land Tribunal in over 50 decisions.<sup>31</sup>

<sup>30</sup> *Lafarge Canada Inc v Ontario (Environmental Review Tribunal)*, 2008 CanLII 6870 (ON SCDC) [Tab 31]; *Environmental Bill of Rights, 1993*, SO 1993, c 28, s 11 [Tab 32].

<sup>31</sup> Law Commission of Ontario, *A New Environmental Bill of Rights for Ontario* (Toronto: Law Commission of Ontario, 2024) at p 82 [*A New Environmental Bill of Rights for Ontario*] [Tab 33].

The MECP's current SEV requires it to consider cumulative effects in environmental decision-making. Section 3 of the Ministry's SEV states that the MECP will consider "the cumulative effects on the environment; the interdependence of air, land, water and living organisms; and the relationships among the environment, the economy and society"<sup>32</sup> when developing Acts, regulations and policies. The MECP is, therefore, mandated by its SEV to consider the cumulative effects of air pollution in its decision-making process.

**(b) Major failings with the CEA Policy**

A major failing with the CEA policy is that it does not apply to existing facilities. The policy only applies to new or expanding facilities. Consequently, the CEA policy is ineffectual in addressing the adverse health and environmental impacts that are presently being caused by air pollution in Ontario. The CEA policy is also restricted to just two contaminants and fails to consider the adverse effects caused by the multitude of other air contaminants that are being discharged daily across Ontario. Finally, the application of the CEA policy is restricted to just two areas of the province. The policy, by design, creates an inherently inconsistent and uneven level of environmental protection since other areas of the province with high levels of air pollution are excluded from its application.

**(c) The CEA policy has never been applied**

Beyond these major shortcomings in the CEA policy, it appears that the policy has never been effectively implemented.

The CEA policy has not been considered in the context of an ECA application, with one exception. However, even in the one instance that the policy was considered, its requirements were not applied.

CELA submitted a request under the *Freedom of Information and Protection of Privacy Act (FIPPA)* regarding the number of times the CEA policy has been applied before an ECA was

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<sup>32</sup> Ontario Ministry of the Environment, Conservation and Parks, "[Statement of Environmental Values](#)" at s 3 Application to the SEV [Tab 34].

issued and the number of times the application of the policy resulted in a refusal of a request for an ECA.

Based on the information provided by the MECP, the policy has been considered only six times since it came into effect on October 1, 2018. The last time the policy was applied was in September 2022.

The MECP declined to apply the CEA policy on the six occasions that it was considered. The reason provided was that the emissions of benzene or benzo[a]pyrene were deemed negligible, despite all of these facilities being classified as action level three—the highest action level—corresponding to a greater than 100 in a million-lifetime incremental combined cancer risk. The CEA policy, therefore, has had no impact on addressing the cumulative effects of air pollution.

The CEA policy was intended to strengthen and clarify the consideration of cumulative effects during the air approvals process with the goal of improving air quality in communities that host multiple industrial facilities.<sup>33</sup> Based on the information received through the *FIPPA* request, it is clear that the policy has not achieved this goal.

When the policy was introduced, the MECP stated that it was committed to consulting and further expanding the CEA policy.<sup>34</sup> In particular, the MECP stated that the CEA policy was “a first step and targeted policy that identifies specific contaminants and specific areas.”<sup>35</sup> According to the Ministry, the policy was to be reviewed within two years of its release, which would have been in 2020.

The review was supposed to further analyze air quality data and other data sources to identify additional contaminants and geographic areas that could be included in the policy.<sup>36</sup> Furthermore, the review was also supposed to ensure that the MECP worked with the Air Standards/Local Air

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<sup>33</sup> [\*ERO 013-1860 Cumulative effects assessment in air approvals.\*](#)

<sup>34</sup> [\*ERO 013-1860 Cumulative effects assessment in air approvals.\*](#)

<sup>35</sup> [\*ERO 013-1860 Cumulative effects assessment in air approvals.\*](#)

<sup>36</sup> [\*ERO 013-1860 Cumulative effects assessment in air approvals.\*](#)

Quality Regulation External Working Group to define the scope of the review and further develop the policy.<sup>37</sup> However, MECP has not reviewed the policy since it was first issued.

#### IV: THE CEA POLICY'S LIMITATIONS

As noted above, the CEA policy has serious shortcomings due to its applicability to only new and expanding facilities, to only two contaminants and to just two areas of the province. These limitations and their implications for the protection of Ontarians' health and the environment are discussed in more detail below.

##### (a) The CEA policy only applies to new and expanding facilities

A major weakness with the CEA policy is that it only applies to new and expanding facilities. A case study undertaken by the MECP for the Cumulative Air Emissions Assessment (CAEA) subgroup<sup>38</sup> demonstrated that the Ambient Air Quality Criteria (AAQC) for benzene and benzo[a]pyrene from existing facilities were exceeded at monitoring locations based on annual average concentrations.<sup>39</sup> In addition, after seven years of implementation, benzene fence-line monitoring under the Petroleum Refining and Petrochemical Industry Standards shows that the annual benzene concentrations still exceed the annual AAQC, which is also the standard under O.Reg 419/05.<sup>40</sup>

The International Agency for Research on Cancer (IARC) classifies benzene as a known human carcinogen based on sufficient evidence that it causes acute myeloid leukemia (AML).<sup>41</sup> Any level of exposure to benzene can adversely affect blood cells,<sup>42</sup> and benzene exposure has been linked

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<sup>37</sup> [ERO 013-1860 Cumulative effects assessment in air approvals](#).

<sup>38</sup> The CAEA subgroup was part of the Air Standards/Local Air Quality Regulation External Working Group established by the MECP.

<sup>39</sup> Canadian Environmental Law Association, [Letter to Lubna Hussain, Manager, Environmental Sciences and Standards Division, Ministry of the Environment and Climate Change](#) (7 February 2018) at p 5 [Tab 35].

<sup>40</sup> Clean Air Sarnia and Area. Property Line Monitoring. online:

<https://www.cleanairsarniaandarea.com/reporting/property-line-monitoring.aspx> [Tab 36].

<sup>41</sup> International Agency for Research on Cancer, [Benzene](#), vol 120, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans (Lyon: International Agency for Research on Cancer, 2018) at p 33-34 [Tab 37]; Government of Canada, Environment Canada & Health Canada, [Canadian Environmental Protection Act Priority Substances List Assessment Report: Benzene](#) (Ottawa: Minister of Supply and Services Canada, 1993) at p 25 [[Canadian Environmental Protection Act Priority Substances List Assessment Report: Benzene](#)][Tab 38]; Ontario Ministry of the Environment, Conservation and Parks, ["Key air contaminants"](#) (8 November 2024) [[Key air contaminants](#)][Tab 39].

<sup>42</sup> [Canadian Environmental Protection Act Priority Substances List Assessment Report: Benzene](#) at s 2.7, p 9.

to acute lymphocytic leukemia, chronic lymphocytic leukemia, multiple myeloma, and non-Hodgkin lymphoma.<sup>43</sup> IARC also concluded that benzo[a]pyrene is carcinogenic to humans.<sup>44</sup>

Given that the MECP's case study for the CAEA subgroup clearly demonstrated that there was an elevated cancer risk from combined benzene and benzo[a]pyrene levels at existing facilities, the restriction of the policy to only new and expanding facilities is completely unjustifiable. The MECP needs to undertake a cumulative effects assessment for all existing facilities, not just new or expanding facilities that are required to obtain an ECA.

**(b) The CEA policy only applies to benzene and benzo[a]pyrene**

Another major failing with the CEA policy is that it is restricted to just two contaminants: benzene and benzo[a]pyrene. Given the multitude of contaminants discharged by facilities in urban centres across Ontario, including the Sarnia/Corunna and Hamilton/Burlington areas, there is no justification for excluding other contaminants from the policy. Restricting the application of the policy so narrowly to only one contaminant in Sarnia/Corunna and just two contaminants in Hamilton/Burlington renders the policy meaningless. Since people in these communities are exposed to numerous types of contaminants, beyond benzene and benzo[a]pyrene, it is essential to consider their cumulative effects, even if the levels of most of these contaminants are individually below levels of concern.

Moreover, chemical exposures rarely occur in isolation: interactions between chemicals can take many forms, with additive interactions generally assumed to be the default for human health risk assessments.<sup>45</sup> Additive interactions occur for chemicals that are structurally similar, act toxicologically through similar mechanisms, or affect the same target tissue or organ in the body (i.e. there is a common health outcome).<sup>46</sup> In addition, certain chemicals which may be below

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<sup>43</sup> International Agency for Research on Cancer, *Benzene*, vol 120, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans (Lyon: International Agency for Research on Cancer, 2018) [Tab 40]; *Key air contaminants*.

<sup>44</sup> Charles William Jameson, "Polycyclic aromatic hydrocarbons and associated occupational exposures" in Robert A Baan, Bernard W Stewart & Kurt Straif, eds, *Tumour Site Concordance and Mechanisms of Carcinogenesis* (Lyon: International Agency for Research on Cancer, 2019) at p 60 [Tab 41].

<sup>45</sup> Intrinsic Corp, *Sarnia Area Environmental Health Project Air Exposure Review Final Assessment Report* (Mississauga: Intrinsic Corp, 2024) at p 15 [*Sarnia Area Environmental Health Project Air Exposure Review*] [Tab 42].

<sup>46</sup> *Sarnia Area Environmental Health Project Air Exposure Review*.

regulatory standards can have synergistic impacts through interactions with other chemicals, creating a complex phenomenon.<sup>47</sup> The combined mixture as a whole can change toxicity and biological impacts, resulting in different outcomes than if each pollutant were assessed individually.<sup>48</sup>

Although O. Reg 419/05 includes standards for many air contaminants, there are many others that should be considered under the CEA policy. These include chemicals that are listed as toxic under the *Canadian Environmental Protection Act (CEPA)* and are carcinogenic, such as hexachlorobenzene, naphthalene, all particulate matters (including PM<sub>10</sub>, PM<sub>2.5</sub> and ultrafine PM), arsenic and heavy metals. (A request under the Ontario *Environmental Bill of Rights* to update the Ontario NOs standard and adopt a PM<sub>2.5</sub> standard under O. Reg 419/05 was denied in 2019.)<sup>49</sup>

In 2024, a detailed technical report was provided to the MECP regarding risks to human health from chemicals in outdoor air in the Sarnia area. The report evaluated five priority chemicals.<sup>50</sup> The five priority chemicals were benzene, polycyclic aromatic hydrocarbons (which include benzo[a]pyrene), sulphur dioxide, fine particulate matter (PM<sub>2.5</sub>), and 1,3-butadiene.<sup>51</sup> The report did not just evaluate these chemicals individually; instead, a conscious effort was made to evaluate each of the potential cumulative air risks of these chemicals.<sup>52</sup> A brief summary of the adverse health impacts associated with three of the five priority chemicals, which were not included in the CEA policy, is provided below.

(i) *Sulphur Dioxide*

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<sup>47</sup> Geary, Nori (December 2012). Understanding synergy American Journal of Physiology-Endocrinology and Metabolism 2013 304:3, E237-E253, <https://doi.org/10.1152/ajpendo.00308.2012> [Tab 43].

<sup>48</sup> Bloch, D., Diel, P., Epe, B. et al. Basic concepts of mixture toxicity and relevance for risk evaluation and regulation. Arch Toxicol 97, 3005–3017 (2023) <https://doi.org/10.1007/s00204-023-03565-6> [Tab 44].

<sup>49</sup> Ecojustice. Blog: Ontario disappoints by refusing to take further steps to protect Ontarians' right to breathe clean air (21 February 2019) [Tab 45].

<sup>50</sup> Sarnia Area Environmental Health Project Air Exposure Review at p 1. As the study progressed, the MECP also modelled concentrations of nitrogen oxide and ozone.

<sup>51</sup> Sarnia Area Environmental Health Project Air Exposure Review at p 1.

<sup>52</sup> Sarnia Area Environmental Health Project Air Exposure Review at p 1.

Sulphur dioxide is emitted from refineries and petrochemical manufacturing plants.<sup>53</sup> Processing crude oil involves removing sulphur, which produces hydrogen sulphide gas, also called acid gas.<sup>54</sup> During transitional operating conditions (i.e. start-ups and shut-downs) and malfunctions, a refinery may need to burn off acid gases in a flare, resulting in highly concentrated sulphur dioxide emissions.<sup>55</sup> In 2020, there were 112,196,200 kg (or 112,196 tonnes) of sulphur dioxide emitted in Ontario.<sup>56</sup> The CAEA subgroup's case study on cumulative sulphur dioxide indicated that the modelled concentrations (one-hour average) were greater than 690 µg/m<sup>3</sup> in Sarnia.<sup>57</sup> At these levels, symptoms are expected in at least 50% of asthmatics, including children, with symptoms such as shortness of breath, wheezing, coughing, and chest pain.<sup>58</sup>

At the time of the CAEA subgroup's case study, 690 µg/m<sup>3</sup> was the 1-hour standard in Ontario for sulphur dioxide, which was updated to 100 µg/m<sup>3</sup> on July 1, 2023, after a 5-year phase-in, and 690 µg/m<sup>3</sup> became the new 1-hour Upper Risk Threshold.<sup>59</sup> The provincial government also stated that emissions from transitional operating conditions and acid gas flaring must comply with the new standard.<sup>60</sup> However, by the time the updated standard took effect, the exemptions for refineries and smelters discussed above were in place, ensuring that the updated sulphur dioxide standard would not apply to some of the largest emitters in Sarnia and Sudbury.<sup>61</sup>

Sulphur dioxide emissions are causing serious health impacts to Sarnia and Aamjiwnaang First Nation residents.<sup>62</sup> In particular, young children born and raised in the Sarnia region and Aamjiwnaang First Nation have a higher chance of developing asthma than those born in other

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<sup>53</sup> Ecojustice, *Return to Chemical Valley: Ten Years After Ecojustice's Report on one of Canada's Most Polluted Communities* (Toronto: Ecojustice, 2019) at p 16 [*Return to Chemical Valley*] [Tab 46].

<sup>54</sup> *Return to Chemical Valley*.

<sup>55</sup> *Return to Chemical Valley*.

<sup>56</sup> National Pollutant Release Inventory. Dashboard. Search air release for Sulphur dioxides, Ontario, 2020.

Result: <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/all-year-dashboard.html> [Tab 47].

<sup>57</sup> Ontario Ministry of Environment, Conservation and Parks, Cumulative Air Emissions Assessment (CAEA) Subgroup of the 419 Extended Working Group, *Multisource Modelling Scenarios: Preliminary results on Cumulative Air Emissions Case Studies for Sarnia and Hamilton* (Toronto: Local Air Quality External Working Group, 2016) at p 9 [Tab 48].

<sup>58</sup> Dr Elaine MacDonald, "[Chemical Valley report shows dangerous impact of pollution](#)" (Toronto: Ecojustice, 2024) [*Chemical Valley Report*] [Tab 49].

<sup>59</sup> Regulatory amendments related to air emissions of sulphur dioxide and other items: [ERO 013-0903](#) [*ERO 013-0903*] [Tab 50].

<sup>60</sup> [ERO 013-0903](#).

<sup>61</sup> Reducing sulphur dioxide emissions from Ontario's petroleum facilities: [ERO 019-3443](#) [Tab 51]; Regulation for the nickel smelting and refining industry: [ERO 019-1107](#) [Tab 52].

<sup>62</sup> *Chemical Valley Report*.

parts of Ontario.<sup>63</sup> Exposure to sulphur dioxide as briefly as ten minutes can cause coughing, wheezing, and shortness of breath.<sup>64</sup> The MECP's Standards Development Branch has noted that Health Canada and the United States Environmental Protection Agency "concluded that the strongest causal relationship exists between short-term sulphur dioxide exposure and respiratory effects. These adverse effects include bronchoconstriction, changes in lung function, airway inflammation, airway hyper-responsiveness and emergency room hospital visits."<sup>65</sup> Additionally, sulphur dioxide has been linked to cardiovascular distress and is suspected to be linked to reproductive and developmental health problems.<sup>66</sup>

(ii) *Fine Particulate Matter (PM<sub>2.5</sub>)*

Fine particulate matter (PM<sub>2.5</sub>) is one of three carcinogens associated with the majority (over 90%) of new environmental cancer cases in Ontario, causing 290 to 900 (mean = 560) new cancer cases per year.<sup>67</sup> Fine particulate matter describes solid and liquid particles that are 2.5 microns in diameter and less, which is about 30 times smaller than the average diameter of human hair.<sup>68</sup> Fine particulate matter is formed through chemical reactions in the atmosphere and through fuel combustion, and it includes smoke, fumes, dust, ash, and pollen.<sup>69</sup> This pollutant is particularly concerning since its small size allows it to penetrate deeper into the lungs, which means that its effects on health are more devastating.<sup>70</sup> Exposure to fine particulate matter is associated with hospital admissions and worsening of cardiovascular and respiratory illnesses, including premature death.<sup>71</sup> Dementia, Parkinson's disease, and age-related macular degeneration have also been associated with exposure to fine particulate matter.<sup>72</sup> Individuals with these illnesses or asthma, as well as children and the elderly, are the most sensitive to the effects of fine particulate

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<sup>63</sup> [Chemical Valley Report](#).

<sup>64</sup> [Return to Chemical Valley](#) at p 16.

<sup>65</sup> Ontario Ministry of Environment, Conservation and Parks Standards Development Branch, "[Science Discussion Document on the Development of Air Standards for Sulphur Dioxide \(SO<sub>2</sub>\)](#)" (July 2016) at ii [Tab 53].

<sup>66</sup> [Return to Chemical Valley](#) at p 16.

<sup>67</sup> Cancer Care Ontario & Ontario Agency for Health Protection and Promotion (Public Health Ontario), [Environmental Burden of Cancer in Ontario](#) (Toronto: Queen's Printer for Ontario, 2016) at p 3 [[Environmental Burden of Cancer in Ontario](#)] [Tab 54].

<sup>68</sup> Ontario Ministry of Environment, Conservation and Parks, "[Fine Particulate Matter](#)" (18 February 2025) [[Fine Particulate Matter](#)] [Tab 55]; [Return to Chemical Valley](#) at p 17.

<sup>69</sup> [Fine Particulate Matter; Return to Chemical Valley](#) at p 17.

<sup>70</sup> [Return to Chemical Valley](#) at p 17.

<sup>71</sup> [Fine Particulate Matter; Return to Chemical Valley](#) at p 17.

<sup>72</sup> Office of the Auditor General of Ontario, [The State of the Environment in Ontario](#) (Toronto: King's Printer for Ontario, 2023) at p 15-16 [[The State of the Environment in Ontario](#)] [Tab 56].

matter and can experience adverse health effects from exposure in as little as a day.<sup>73</sup> In 2016, facilities in Sarnia (right next to Aamjiwnaang First Nation) released 678 tonnes of fine particulate matter, or about 7% of the total industrial emissions in Ontario.<sup>74</sup> In 2020, there were 171,733 tonnes of fine particulate matter emitted in Ontario.<sup>75</sup>

(iii) *1,3-Butadiene*

1,3-butadiene is a colourless gas used to produce synthetic rubbers for industrial and consumer products (e.g. tires, plastics).<sup>76</sup> Exposure primarily occurs through inhalation of ambient air.<sup>77</sup> The community in the Sarnia area has raised specific health concerns about exposure to 1,3-butadiene.<sup>78</sup> It is considered carcinogenic and has been specifically linked to blood cancers, such as leukemia, lymphoma, and multiple myeloma.<sup>79</sup> According to a 2019 study, the incidence of acute myeloid leukemia (AML) in Sarnia and Aamjiwnaang First Nation is three times higher than the national average.<sup>80</sup> In 2017, facilities in the Sarnia area that neighbour Aamjiwnaang First Nation emitted approximately 87% of the total 1,3-butadiene emitted by industry in Ontario.<sup>81</sup>

In addition to these five priority chemicals, the report also identified other chemicals for further study through a detailed toxicity-based screening approach.<sup>82</sup> In summary, it is evident that there are numerous other chemicals, beyond benzene and benzo[a]pyrene, which pose a risk to human health in Ontario.

**(c) The CEA policy only applies to the Sarnia/Corunna and Hamilton/Burlington areas**

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<sup>73</sup> *Fine Particulate Matter; Return to Chemical Valley* at p 17.

<sup>74</sup> *Return to Chemical Valley* at p 17.

<sup>75</sup> *The State of the Environment in Ontario* at p 16.

<sup>76</sup> *Environmental Burden of Cancer in Ontario* at p 39; National Cancer Institute, “[1,3-Butadiene](#)” (last modified 6 August 2024) [[1,3-Butadiene](#)] [Tab 57].

<sup>77</sup> *Environmental Burden of Cancer in Ontario* at p 39; [1,3-Butadiene](#).

<sup>78</sup> *Return to Chemical Valley* at p 10.

<sup>79</sup> International Agency for Research on Cancer, “[List of classifications by cancer sites with sufficient or limited evidence in humans](#)” (last modified 29 November 2024) at p 12-13 [Tab 58].

<sup>80</sup> Feras M Ghazawi et al, “[Analysis of acute myeloid leukemia incidence and geographic distribution in Canada from 1992 to 2010 reveals disease clusters in Sarnia and other industrial US border cities in Ontario](#)” (2019) 125:11 *Cancer* at p 1886 [[“Analysis of acute myeloid leukemia incidence and geographic distribution in Canada”](#)] [Tab 59].

<sup>81</sup> *Return to Chemical Valley* at p 10.

<sup>82</sup> *Sarnia Area Environmental Health Project Air Exposure Review* at p. xii.

The CEA policy is restricted in its application across the province. An effective CEA policy for Ontario needs to be applied consistently across the province and not just the Sarnia/ Corunna and Hamilton/Burlington areas.

Restricting the policy to only two areas in Ontario is problematic, given that the most recent National Pollutant Release Inventory (NPRI) data for 2023 indicates that high levels of contaminants are also discharged in other areas, such as Sault. St. Marie and Sudbury. These areas, like Sarnia/Corunna and Hamilton, also have poorer air quality than the rest of the province.<sup>83</sup> Another example is Windsor, which has 34 industrial facilities, of which 25 facilities reported air releases of the MECP's five priority contaminants in addition to other chemicals (i.e. mercury, cadmium, lead), many of which are listed as toxic under *CEPA*. Many of these toxic chemicals are associated with adverse health effects such as respiratory illnesses and neurological and reproductive impacts.

There is simply no valid rationale for limiting the application of the CEA policy to just two areas of the province. This restriction creates inconsistent environmental effects across Ontario and an uneven and inherently unfair application of Ontario's environmental laws. Moreover, such an approach exacerbates environmental injustice since it does not adequately account for impacts on specific groups who already experience disproportionate harm from the impacts of air contaminants. The then Environmental Review Tribunal has previously commented on this issue.

Consistency in environmental standards is highly desirable. Unpredictability and inconsistency produce uncertainty for those who would otherwise embrace environmentally beneficial change. Thus, unpredictability and inconsistency in the application of environmental laws can defeat the benefits such laws were created to achieve. Indeed, consistency is one of the characteristics of a system of governance based upon the rule of law. Inconsistency violates the principle that like cases should be treated alike.<sup>84</sup>

The tribunal further noted that “[c]onsistency in the context of the *EPA* does not mean that all facilities should operate under the same conditions, but that facilities should be regulated as

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<sup>83</sup> *The State of the Environment in Ontario* at p 10.

<sup>84</sup> *Dawber v Ontario (Director, Ministry of the Environment)*, 2007 CarswellOnt 1996, 28 CELR (3d) 281 at p 27, citing *Safety-Kleen Canada Inc v Ontario (Director, Ministry of the Environment)*, 2006 CarswellOnt 2918, 21 CELR (3d) 88 at para 37 [*Dawber v Ontario*] [Tab 60].

necessary to limit environmental effects to a consistent level across Ontario.”<sup>85</sup> The CEA’s policy narrow application to only two areas of the province, however, exacerbates inconsistency in the application of Ontario’s environmental laws and creates discriminatory effects between communities. The CEA policy, thus, needs to be expanded to apply province-wide to ensure consistency of Ontario’s air regulatory regime.

## **2. SUMMARY OF CEA POLICY’S LIMITATIONS**

The CEA policy has serious flaws and has been a profound disappointment. It only applies to new and expanding facilities, to merely two contaminants and just two areas of the province. These fundamental deficiencies with the policy mean that it cannot address the multitude of toxic chemicals that are being discharged daily across the province.

The extremely narrow constraints in the CEA policy have made it utterly ineffective in addressing air pollution in Ontario. Furthermore, despite being in effect for seven years, the policy does not appear to have ever been applied by MECP, even within its very limited context.

## **IV: PUBLIC INTEREST IN THE REQUESTED REVIEW**

Under subsection 67(2(a) of the *EBR*, the Minister must consider the relevant SEV to determine whether the public interest warrants the requested review.

In this case, the MECP’s SEV indicates that the Ministry’s “vision” is an “Ontario with clean and safe air, land, and water” that contributes to healthy communities, ecological protection, and environmentally sustainable development for present and future generations.” To achieve this vision, the SEV commits the MECP to several important principles, such as:

- Considering the cumulative effects on the environment, the interdependence of air, land, water and living organisms; and the relationships among the environment, the economy and society.
- Using a precautionary, science-based approach in decision-making to protect human health and the environment.

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<sup>85</sup> *Dawber v Ontario* 281 at p 28.

- Placing a priority on preventing pollution and minimizing the creation of pollutants that can adversely affect the environment (emphasis added).

These and other SEV commitments represent a commitment by MECP that it will take all necessary steps to safeguard the environment and public health and safety. In the Applicants' view, the requested review of the CEA policy is consistent with – if not mandated by - the principles and provisions of MECP's SEV.

## **V: POTENTIAL FOR HARM TO HUMAN HEALTH AND ENVIRONMENT IF REVIEW IS NOT UNDERTAKEN**

Subsection 67(2)(b) of the *EBR* requires the Minister to also consider the potential harm to the environment if the review applied for is not undertaken. The Applicants submit that the failure to review the CEA policy has the potential to cause serious harm to human health and the environment. In particular, as demonstrated by the maps and tables below, low-income communities are disproportionately impacted by the release of carcinogens and criteria air contaminants (CACs).

### **(a) Air Pollution Impacts Human Health and Disproportionately Burdens Low-income and Disadvantaged Communities**

The implications of the CEA policy's failure to protect Ontarians' health are serious. Air pollution poses a major risk to the health and well-being of Ontario residents. The World Health Organization considers air pollution to be the world's greatest environmental risk to human health.<sup>86</sup> Air pollutants cause, or are associated with, a wide array of adverse health risks, including respiratory, cardiovascular, and neurodegenerative diseases; reproductive health problems; endocrine disruption; and cancer.<sup>87</sup> Studies show that children are particularly vulnerable to adverse health impacts from exposure to toxic contaminants.<sup>88</sup> Major factors that influence

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<sup>86</sup> *The State of the Environment in Ontario* at p 14.

<sup>87</sup> Health Canada, *Health Impacts of Air Pollution from Transportation, Industry and Residential Sources in Canada* (Ottawa: His Majesty the King in Right of Canada, as represented by the Minister of Health, 2023) at p 4 [Tab 61]; Health Canada, *Health Impacts of Air Pollution in Canada: Estimates of Premature Deaths and Nonfatal Outcomes 2021 Report* (Ottawa: Her Majesty the Queen in Right of Canada, as represented by the Minister of Health, 2021) at p 4 [*Health Impacts of Air Pollution in Canada*] [Tab 62]; *The State of the Environment in Ontario* at p 15.

<sup>88</sup> *UN Report on Air Pollution* at p 11; Ecojustice, "[For too many in Ontario, unpolluted air is a luxury](#)" (24 February 2015).

susceptibility to air quality health risks include proximity to emission sources and ambient air pollutant concentrations.<sup>89</sup>

Air pollution is estimated to be responsible for about 7% of all deaths in Ontario (6,580 premature deaths in 2016, according to the most recently published data).<sup>90</sup> This corresponds to 47 per 100,000 annual premature deaths, which is the second-highest mortality rate of all the provinces and territories.<sup>91</sup> Air pollution is also responsible for over 4,000 hospital admissions and emergency room visits per year, mainly due to respiratory and cardiac issues from exposure.<sup>92</sup> According to the Commissioner of the Environment, “[e]xposure to air pollutants resulted in Ontarians experiencing 17.2 million symptom days and 6.9 restricted activity days in 2016.<sup>93</sup> This is equivalent to each Ontarian experiencing 1.8 days of pollutant-related symptoms and/or having to restrict their activities (such as work, school, or exercise).”<sup>94</sup>

There is empirical evidence that air pollution disproportionately burdens low-income and disadvantaged communities.<sup>95</sup> Air pollution reductions have been shown to have a significant impact on mortality in Canada. A decline in air pollution has been demonstrated to decrease mortality amongst Canadians, particularly amongst older men and older low-income earners.<sup>96</sup> These findings underscore the importance that reducing air pollution can have on resolving health disparities amongst certain segments of the Canadian population.

### **High levels of Air Emissions in Certain Areas of Ontario**

Pollution data collected under NPRI data shows that there are high releases of air pollution from industrial sources in certain areas in Ontario, such as Sarnia, Hamilton, Sault Ste. Marie and Sudbury.

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<sup>89</sup> *The State of the Environment in Ontario* at p 21.

<sup>90</sup> *The State of the Environment in Ontario* at p 10.

<sup>91</sup> *Health Impacts of Air Pollution in Canada* at p 18.

<sup>92</sup> *Health Impacts of Air Pollution in Canada* at p 18.

<sup>93</sup> *The State of the Environment in Ontario* at p 22.

<sup>94</sup> *The State of the Environment in Ontario* at p 22.

<sup>95</sup> Pollution Watch, *An Examination of Pollution and Poverty in the Great Lakes Basin*, (Toronto: Pollution Watch, November 2008) at 2-4.

<sup>96</sup> Hong Cheng et al, “[Impact of a 10-year shift in ambient air quality in Canada: a causal analysis of multiple pollutants](#)” (2025) *Lancet Planet Health* 9; e92-102, at pp. 99-100 [Tab 63].

The Canadian Environmental Law Association (CELA) coordinated the production of maps to assess pollution levels and their impacts on low-income communities in Ontario. The maps combined pollution data from the 2020 National Pollutant Release Inventory of releases to air of pollutants that are carcinogenic and criteria air contaminants contributing to smog formation, with the Low-Income Measure (LIM) data from the Statistics Canada 2021 census. The maps identify the proportion of households whose incomes are under the LIM in the given census tracts, beginning with locations where the portion of households under the LIM is 10% or more. There is a colour gradient indicating increasing percentages of households below LIM in a given area as shown in the legend.

The mapping work identified neighbourhoods across Ontario with a portion of 10% or greater of low-income households. The resulting analysis indicates that there are communities with a portion of households at or below the LIM exceeding 10%, and experiencing high levels of releases of air pollutants, in Sarnia, Hamilton, Sault Ste. Marie and Sudbury.

All these areas are designated within Ontario as requiring further air management actions under the Air Zone Management System (AZMS). The AZMS is a key component of the Air Quality Management System (AQMS), which is a collaborative approach by the federal, provincial and territorial governments to reduce emissions and ambient air quality concentrations for certain pollutants within Canada, including fine particulate matter, ozone, nitrogen oxide and sulphur dioxide. Air zones in Ontario consist of the following three categories:

**Air zone categories<sup>97</sup>**

**Category 1**

Areas with limited pollution from either point or non-point sources or transboundary influence

**Category 2**

Areas under pressure from multiple sources, including some or all of the following: non-point sources, smaller point sources,

**Air zone areas**

Northern Ontario (except for Sudbury and Sault Ste. Marie)

Southern Ontario (except for Sarnia/St Clair Township and Hamilton)  
Sault Ste. Marie  
Sudbury

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<sup>97</sup> Government of Ontario, *Air Quality in Ontario 2023 Report*, “National Air Quality Management System” online: <https://www.ontario.ca/document/air-quality-ontario-2023-report/national-air-quality-management-system> [Tab 64].

**Air zone categories**<sup>97</sup>

individual large industrial point sources, transboundary influences

**Air zone areas**

**Category 3**

Areas with a concentration of large industrial sources

Sarnia/St. Clair Township

Hamilton

Sarnia and Hamilton are designated as Category 3 within the AZMS. The Category 3 designation is given to an area having a concentration of large industrial sources requiring advanced air management actions and strategies, including the abatement of local industrial emissions.

Sault St. Marie and Sudbury are designated as Category 2, which are areas under pressure from multiple sources of pollution, including non-point sources, smaller point sources, individual large industrial point sources, and transboundary influences. The focus in areas within Category 2 is to ensure active air management and actions to prevent exceedance of the Canadian Ambient Air Quality Standards (CAAQS).<sup>98</sup>

MECP has stated that “[t]aking action within each air zone area to reduce emissions, provide information on air quality conditions and report publicly on these actions is an important part of the air zone management framework.”<sup>99</sup> According to the MECP, “Ontario’s approach to air zone management is to combine a province-wide framework of regulations and programs to protect air quality across Ontario with enhanced activities within specific air zone areas as appropriate.”<sup>100</sup> The CEA policy is listed as one of the types of actions MECP is taking to address air pollution in Sarnia and Hamilton. However, for reasons noted above, the CEA policy has been totally ineffective in reducing benzene and benzo[a]pyrene in these areas.

(i) *Sarnia and Aamjiwnaang First Nation*

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<sup>98</sup> The CAAQS are national ambient air quality objectives set out by the Canadian Council of Ministers of the Environment (CCME for nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), fine particulate matter (PM<sub>2.5</sub>) and ozone (O<sub>3</sub>).

<sup>99</sup> Government of Ontario, *Air Quality in Ontario 2023 Report*, “National Air Quality Management System” online: <https://www.ontario.ca/document/air-quality-ontario-2023-report/national-air-quality-management-system>.

<sup>100</sup> Government of Ontario, *Air Quality in Ontario 2023 Report*, “National Air Quality Management System” online: <https://www.ontario.ca/document/air-quality-ontario-2023-report/national-air-quality-management-system>.

Sarnia (including Aamjiwnaang First Nation) is one of the worst pollution hotspots in Canada and has been dubbed “Chemical Valley” due to the high concentration of petrochemical and refining facilities in the area.<sup>101</sup> Between 2015 and 2021, Sarnia and the Aamjiwnaang First Nation were subject to the highest number of Special Air Quality Statements.<sup>102</sup> Although the mean benzene annual concentrations across Ontario have decreased over 30% from 2014 to 2023, the mean in Sarnia during this period was 0.565 µg/m<sup>3</sup>, which is above the Ambient Air Quality Criteria<sup>103</sup> value of 0.45 µg/m<sup>3</sup>.<sup>104</sup>

Many inhabitants of the Sarnia area and Aamjiwnaang First Nation have experienced an industrial emergency including explosions, chemical releases, shelter-in-place alerts, and large flaring events.<sup>105</sup> Within ten years, the MECP received 870 reports from local community members directly impacted by industrial incidents.<sup>106</sup>

According to a 2020 report by the United Nations Special Rapporteur (UN Special Rapporteur), children in Sarnia are born “pre-polluted” and are exposed to toxic substances throughout crucial periods of development, before they can express their views.<sup>107</sup> The UN Special Rapporteur noted that the Aamjiwnaang First Nation has been almost entirely surrounded by over 60 industrial facilities whose presence creates “physiological and mental stress among community members” due to the risk of impending explosions or other disasters, and health impacts from unquestionably poisonous chronic exposures.<sup>108</sup> The community has long-suffered from the impacts of air pollution, which has resulted in serious health impacts to individuals, who have reported disproportionately higher rates of asthma, respiratory problems, miscarriages, learning disabilities and cancer.<sup>109</sup> From 1996 to 2000, Aamjiwnaang experienced higher-than-average hospital

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<sup>101</sup> *UN Report on Air Pollution* at p 8- 9.

<sup>102</sup> *The State of the Environment in Ontario* at p 22.

<sup>103</sup> “Ambient Air Quality Criteria (AAQC)” is a concentration of a contaminant in air that is protective against adverse effects on health and/or the environment, but is not a regulatory value.

<sup>104</sup> Government of Ontario, *Air Quality in Ontario 2019 Report*, Appendix: “Ten-year Trend for Benzene.

<sup>105</sup> *Chemical Valley Report*.

<sup>106</sup> *Chemical Valley Report*.

<sup>107</sup> *UN Report on Air Pollution* s 53 at p 11-12.

<sup>108</sup> *UN Report on Air Pollution* s 39 at p 8-9.

<sup>109</sup> Ecojustice, *Exposing Canada’s Chemical Valley: An Investigation of Cumulative Air Pollution Emissions in the Sarnia, Ontario Area* (Toronto: Ecojustice, 2007) at p 9-10 [Tab 65].

admissions for respiratory and cardiovascular illnesses.<sup>110</sup> From 1986 to 1992, the community experienced higher-than-average cancer rates.<sup>111</sup> From 1999 to 2003, the birth ratio was skewed with two girls born for every boy.<sup>112</sup> Although sex ratios can fluctuate over time, the deviation in Aamjiwnaang is considered “outside the range of normal.”<sup>113</sup>

The adverse health impacts experienced by the Aamjiwnaang community in their traditional territory have also had an enormous emotional toll.<sup>114</sup> Residents have expressed anger and lingering sadness upon learning the extent of their health problems and the ever-increasing evidence connecting those problems to the actions of their industrial neighbours.<sup>115</sup> While this knowledge is upsetting, the unknowns have an equally corrosive effect since no one can definitively tell the Aamjiwnaang community whether they are experiencing the latent manifestation of past exposures, facing an acute danger from the ongoing pollution, or both.<sup>116</sup>

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<sup>110</sup> Office of the Auditor General of Ontario, *Annual Report 2019 Reports on the Environment* (Toronto: Queen’s Printer for Ontario, 2019) at p 16 [*2019 Reports on the Environment*] [Tab 66].

<sup>111</sup> *2019 Reports on the Environment* at p 16.

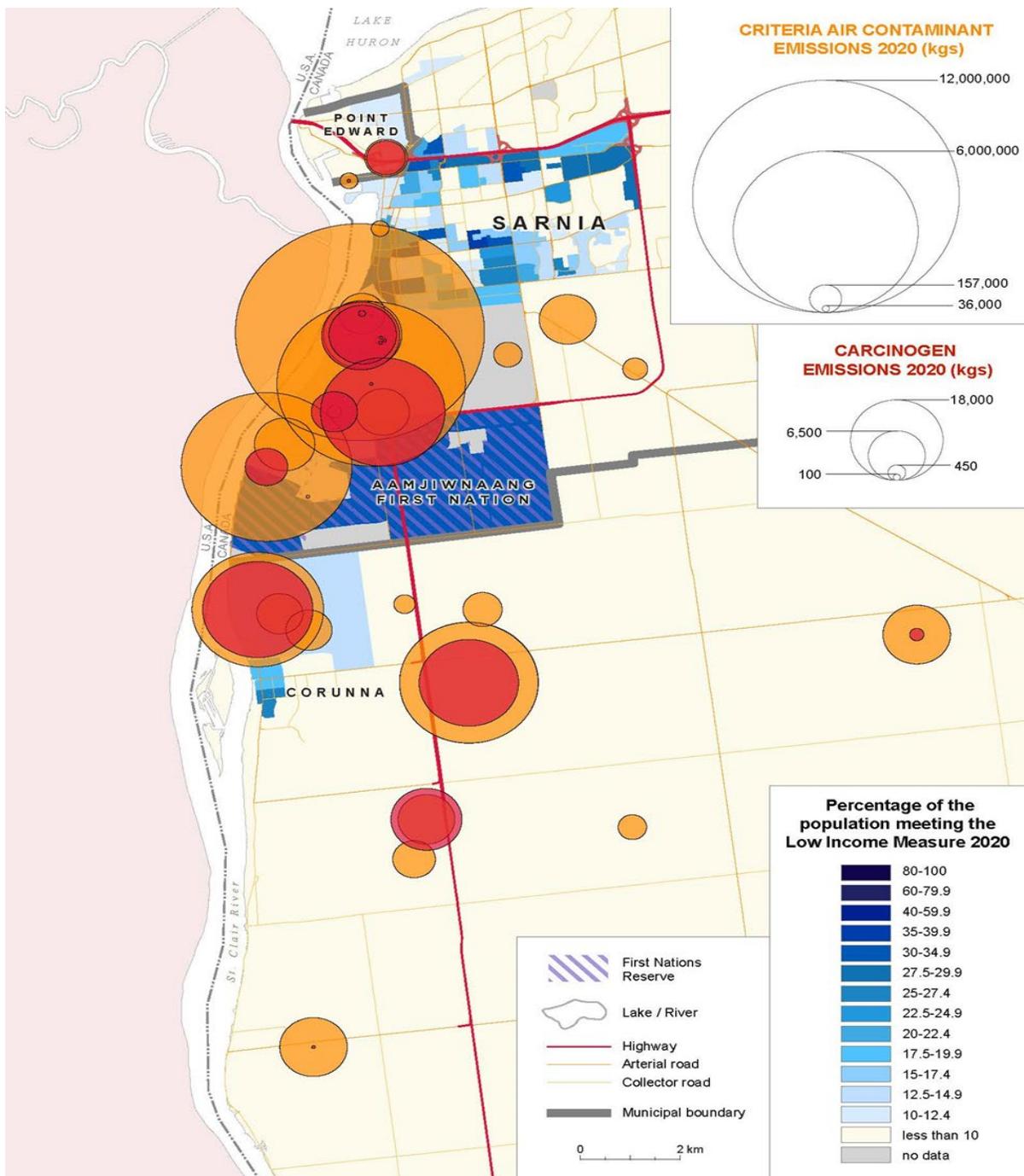
<sup>112</sup> Constanze A Mackenzie, Ada Lockridge & Margaret Keith, “Declining Sex Ratio in a First Nation Community” (2005) 113:10 *Envtl Health Perspectives* at p 1295 [*Declining Sex Ratio in a First Nation Community*][Tab 67]; *2019 Reports on the Environment* at p 16.

<sup>113</sup> *Declining Sex Ratio in a First Nation Community* at p 1296.

<sup>114</sup> *Confronting Chronic Pollution* at p 13.

<sup>115</sup> *Confronting Chronic Pollution* at p 13.

<sup>116</sup> *Confronting Chronic Pollution* at p 13.



**Map 1: Releases to air of carcinogens and CACs within low-income communities in Sarnia, 2020**

*Releases to air of carcinogens listed as toxic under CEPA*

In 2020, facilities in Sarnia released a total of 132,088 kg of carcinogens to the air.

**Table 2: Top releases to air of carcinogens by facility in Sarnia, 2020**

	Facility Type	Releases of carcinogens by facility (kg)	Low-income Measure (LIM)*
	Petrochemical manufacturing	35,095	
	Petroleum refineries	27,840	X
	Petroleum refineries	13,958	
	Other basic organic chemical manufacturing	11,179	
	Petrochemical manufacturing	9,536	

\*Low-income measure  $\geq$  10 percent are considered low-income communities

**Table 3: Top releases to air of carcinogens by substance in Sarnia, 2020**

Substance name	Releases of carcinogens by substance (kg)
Benzene	66,162
Ethylbenzene	24,398
1,3-Butadiene	16,206
Acetaldehyde	11,179
Isoprene	3,549

*Releases to Air of CACs in Sarnia, 2020*

In 2020, facilities in Sarnia released a total of 36,937,445 kg of CACs to the air.

**Table 4: Top releases to air of CACs by facility in Sarnia, 2020**

	Facility Type	Releases of CACs by facility (kg)	Low Income Measure (LIM)*
	Petroleum refineries	11,128,260	
	All other basic inorganic chemical manufacturing	6,485,189	
	Petroleum refineries	5,321,944	
	Petroleum refineries	3,146,937	X
	Petroleum refineries	1,122,102	

\*Low-income measure  $\geq$  10 percent are considered low-income communities

**Table 5: Top releases to air of CACs by substance in Sarnia, 2020**

Substance Name	Releases of CACs by substances (kg)
Sulphur dioxide	14,318,551
Carbon monoxide	9,014,392
Nitrogen oxides (expressed as nitrogen dioxide)	8,720,633
Volatile Organic Compounds (VOCs)	3,466,825
Total particulate matter	1,417,044

*(ii) Hamilton*

Hamilton is another Ontario pollution hotspot with a lengthy industrial history and the location of several major industrial facilities.<sup>117</sup> The concentration of low-income communities in Hamilton and the health inequalities between different neighbourhoods with respect to air pollution amplify social deprivation.<sup>118</sup>

Hamilton’s steelmakers are reported to be among the highest emitters of benzo[a]pyrene in Canada, according to NPRI data. A 2011 Air Quality Health Assessment estimated that commonly emitted air pollutants—such as fine particulate matter and sulphur dioxide—contribute to approximately 186 premature deaths, 395 respiratory hospital admissions, and 322 cardiovascular hospital admissions each year in Hamilton.<sup>119</sup> Additionally, a 2003 study found a correlation between income level and exposure to fine particulate matter and sulphur dioxide.<sup>120</sup>

According to the AQMS, advanced management action is required to address sulphur dioxide and fine particulate matter in Hamilton to reduce these pollutant levels to below the CAAQs.<sup>121</sup>

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<sup>117</sup> Ecojustice, “[For too many in Ontario, unpolluted air is a luxury](#)” (24 February 2015); Clean Air Hamilton, *Health Impacts* (2025) [Tab 68].

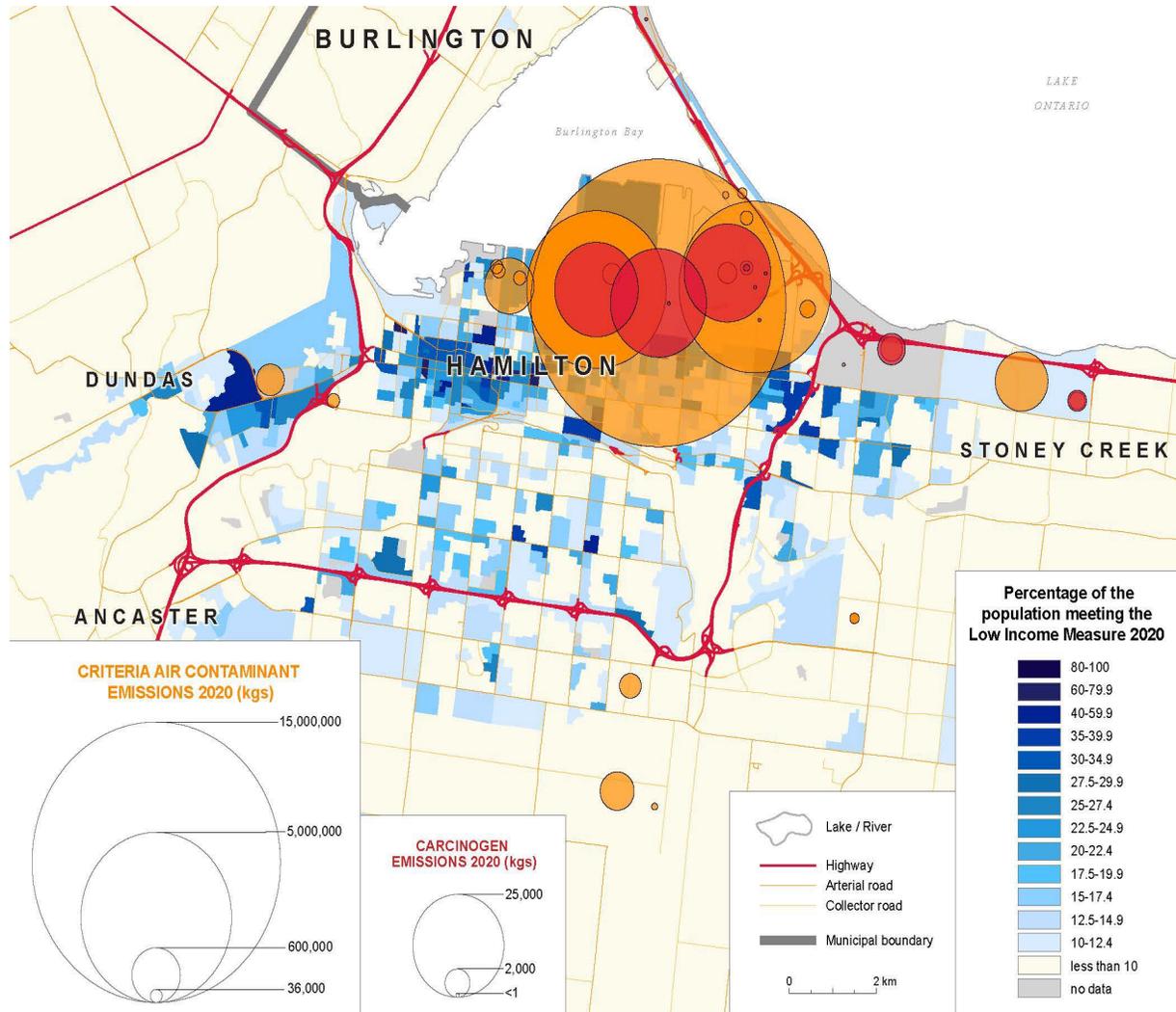
<sup>118</sup> *UN Report on Air Pollution* at p 10.

<sup>119</sup> Clean Air Hamilton, *Health Impacts* (2025); City of Hamilton, Public Health Services, Health Protection Division, *Clean Air Hamilton 2011 Progress Report (BOH12015) (City Wide)* (11 July 2012) at p 12-13 [Tab 69].

<sup>120</sup> Murray M Finkelstein et al, “[Relation between income, air pollution and mortality: a cohort study](#)” (2003) 169:5 *Canadian Medical Association Journal* at p 397 [Tab 70].

<sup>121</sup> Government of Ontario, *Air Quality in Ontario 2019 Report*, Map of Fine Particulate Matter Air Quality Management Level; Map of Sulphur Dioxide Air Quality Management Level [Tab 71].

This is the highest level of air quality management action under the air zone management framework.



**Map 2: Releases to air of carcinogens and CACs within low-income communities in Hamilton, 2020**

*Releases to Air of Carcinogens listed as toxic under CEPA*

In 2020, facilities in Hamilton released a total of 71,610 kg of carcinogens to the air.

**Table 6: Top releases to air of carcinogens by facility in Hamilton, 2020**

	Facility Type	Releases of carcinogens by facility (kg)	Low Income Measure (LIM)*

	Iron and steel mills and ferro-alloy manufacturing	26,745	
	Other basic organic chemical manufacturing	21,295	
	Iron and steel mills and ferro-alloy manufacturing	19,614	X
	Coating, engraving, cold and heat treating and allied activities	2,230	
	Water and sewer line and related structures construction	1,640	

\*Low-income measure  $\geq$  10 percent are considered low-income communities

**Table 7: Top releases of carcinogens by substance in Hamilton, 2020**

Substance Name	Releases of carcinogens by substance (kg)
Benzene	46,326
Naphthalene	20,280
Styrene	1,898
Ethylbenzene	1,652
Lead and its compounds	395

*Releases to air of Criteria Air Contaminants (CACs) in Hamilton*

In 2020, facilities in Hamilton released a total of 27,638,822 kg of CACs to the air.

**Table 8: Top releases to air of CACs by facility in Hamilton, 2020**

Facility Type	Releases of CACs by facility (kg)	Low-income measure (LIM)*
Iron and steel mills and ferro-alloy manufacturing	15,335,109	

	All other basic inorganic chemical manufacturing	5,463,185	
	Iron and steel mills and ferro-alloy manufacturing	4,601,367	X
	All other miscellaneous chemical product manufacturing	652,798	X
	Oilseed processing	556,330	X

\*Low-income measure  $\geq 10$  percent are considered low-income communities

**Table 9: Top releases to air of CACs by substance in Hamilton, 2020**

Substance Name	Releases of CACs by substance (kg)
Carbon monoxide	9,418,629
Sulphur dioxide	9,875,520
Nitrogen oxides (expressed as nitrogen dioxide)	5,136,329
Total particulate matter	1,649,724
Volatile Organic Compounds (VOCs)	1,558,620

Three of the top five facilities in Hamilton reporting on air releases of CAC under NPRI in 2020 are located in communities meeting the Low-Income Measure.

(iii) *Sault Ste. Marie*

Sault Ste. Marie, like Windsor, experiences the effects of transboundary air pollution from the U.S., specifically Michigan. The Canadian and U.S. governments have previously conducted joint studies on transboundary air pollution in the region.<sup>122</sup> However, Sault Ste. Marie also has many of its own industrial polluters who discharge high levels of air contaminants. The highest release of air pollutants was in the particle board and fibreboard mills sectors and the iron, steel mills and ferro-alloy manufacturing sector.

<sup>122</sup> See for example International Air Quality Advisory Board, *Air Quality in Selected Binational Great Lakes Urban Regions: (Detroit-Windsor, Port-Huron-Sarnia, and Sault Ste. Marie)* (Windsor: International Joint Commission, 2004)[Tab 72]; Potvin Air Management Consulting, *Informal Consultation on Local Air Issues in Sault Ste. Marie, Ontario-Michigan under the Canada-United States Air Quality Agreement: Technical Support Document on Air Quality 2001-2003* (summary report prepared for Environment Canada, U.S. Environmental Protection Agency, Ontario Ministry of the Environment, Michigan Department of Environmental Quality and Inter-Tribal Council of Michigan, 2006) [Tab 73].

Sault Ste. Marie, for example, is the long-time home of an integrated iron and steel manufacturing plant (“the manufacturing plant”).<sup>123</sup> The manufacturing plant is directly adjacent to low-income communities, and the toxic air emissions have been shown to be harmful to inhabitants. At a residential study site neighbouring the manufacturing plant, researchers found that air concentrations of sulphur dioxide were 50-100% higher than at a site farther away.<sup>124</sup> They also found that fine particulate matter was associated with an increase in pulse pressure in individuals who stayed at the residential study site.<sup>125</sup> Pulse pressure is increasingly being recognized as a risk factor for cardiovascular disease.<sup>126</sup> Another study found that exposure to air pollution near the manufacturing plant was significantly associated with a reduction in heart rate variability, which is linked to increased risk of cardiovascular mortality and morbidity in both healthy and vulnerable populations.<sup>127</sup> A third study found that the area around the manufacturing plant had both a significantly higher incidence of and mortality rate from AML than the national average.<sup>128</sup>

Meanwhile, the manufacturing plant operated under site-specific standards allowing it to emit benzene, benzo[a]pyrene, and suspended particulate matter (which includes fine particulate matter) at higher levels than the provincial standard.<sup>129</sup> Since the site-specific standard expired, the manufacturing plant has been operating under an abatement plan.<sup>130</sup> In early 2021, manufacturing plant’s site-specific standards for these contaminants were extended until mid-2023, despite the MECP acknowledging that the site-specific standard for benzene is five times higher

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<sup>123</sup> Ontario Ministry of the Environment, Conservation and Parks, “ERO 019-9048 - Algoma Steel Inc Environmental Compliance Approval (air)” (20 September 2024) online: <https://ero.ontario.ca/notice/019-9084> [Tab 74].

<sup>124</sup> Ling Liu et al, “[Exposure to air pollution near a steel plant and effects on cardiovascular physiology: A randomized crossover study](#)” (2014) 217:2-3 *International Journal of Hygiene & Environmental Health* at p 279 [[Exposure to air pollution near a steel plant and effects on cardiovascular physiology](#)] [Tab 75].

<sup>125</sup> [Exposure to air pollution near a steel plant and effects on cardiovascular physiology](#) at p 284.

<sup>126</sup> [Exposure to air pollution near a steel plant and effects on cardiovascular physiology](#) at p 284.

<sup>127</sup> [Exposure to air pollution near a steel plant and effects on cardiovascular physiology](#) at p 2.

<sup>128</sup> Feras M Ghazawi et al, “[Analysis of acute myeloid leukemia incidence and geographic distribution in Canada](#)” at p 1894.

<sup>129</sup> Ontario Ministry of the Environment, Conservation and Parks, “ERO 019-4585 - Algoma Steel Inc Order to conform with the Environmental Protection Act” (17 June 2022) online: <https://ero.ontario.ca/notice/019-4585> [Tab 76].

<sup>130</sup> Algoma Emission Summary Dispersion Modelling Report (March 31 2025) online: <https://www.algoma.com/wp-content/uploads/2025/04/Algoma-Steel-ESDM-Executive-Summary-March-31-2025.pdf> at p. 2 [Tab 77].

than the Ministry's air emissions standard and that benzene is a known carcinogen.<sup>131</sup> In mid-2022, the manufacturing plant was ordered to submit applications for new site-specific standards for these three contaminants since the company determined it was not in compliance with its existing site-specific standards.<sup>132</sup>

As of 2024, the manufacturing plant is applying to transition its production process to a non-coal-fired electric furnace by 2029.<sup>133</sup> The manufacturing plant has also applied for new site-specific standards for benzene, benzo[a]pyrene, suspended particulate matter, and sulphur dioxide emissions.<sup>134</sup> This application is currently under review<sup>135</sup> but there is no environmental proposal posted for public comment as of January 2026. The manufacturing plant, however, was granted a new ECA which covers the period of the transition to the electric arc furnaces in April 2025.<sup>136</sup> There were 346 public comments received in relation to the proposed ECA.

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<sup>131</sup> Ontario Ministry of the Environment, Conservation and Parks, "ERO 019-2301 - Algoma Steel Inc Approval of a site-specific air standard" (14 January 2021) online: <https://ero.ontario.ca/notice/019-2301> [Tab 78].

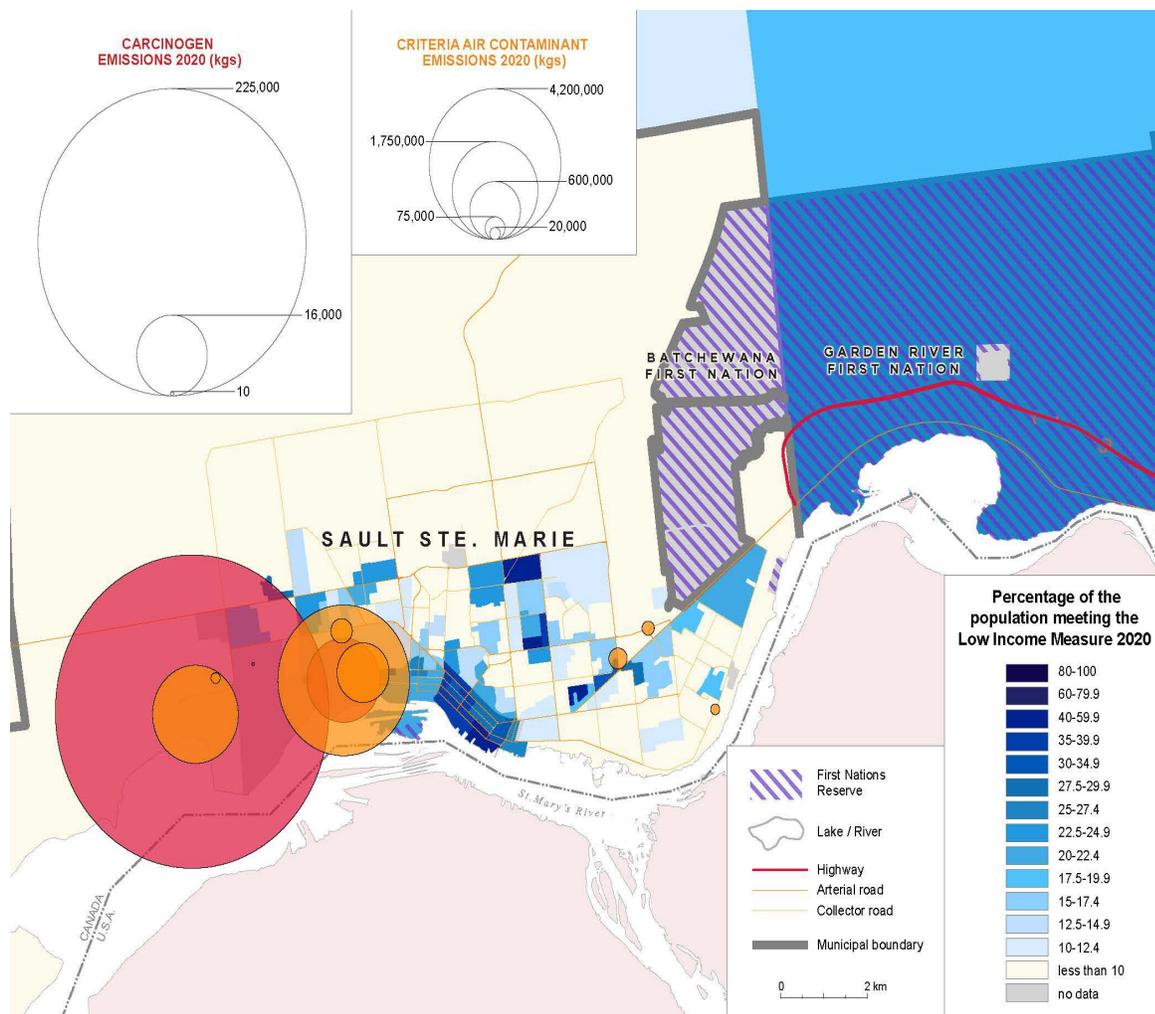
<sup>132</sup> Ontario Ministry of the Environment, Conservation and Parks, "ERO 019-4585 - Algoma Steel Inc Order to conform with the Environmental Protection Act" (17 June 2022) online: <https://ero.ontario.ca/notice/019-4585>.

<sup>133</sup> Ontario Ministry of the Environment, Conservation and Parks, "ERO 019-9048 - Algoma Steel Inc Environmental Compliance Approval (air)" (20 September 2024) online: <https://ero.ontario.ca/notice/019-9084>.

<sup>134</sup> Ontario Ministry of the Environment, Conservation and Parks, "ERO 019-9048 - Algoma Steel Inc Environmental Compliance Approval (air)" (20 September 2024) online: <https://ero.ontario.ca/notice/019-9084>.

<sup>135</sup> Ontario Ministry of the Environment, Conservation and Parks, "ERO 019-9048 - Algoma Steel Inc Environmental Compliance Approval (air)" (20 September 2024) online: <https://ero.ontario.ca/notice/019-9084>.

<sup>136</sup> Ontario Ministry of the Environment, Conservation and Parks, "ERO 019-9048 - Algoma Steel Inc Environmental Compliance Approval (air)" (20 September 2024) online: <https://ero.ontario.ca/notice/019-9084>.



**Map 3: Releases to air of carcinogens and CACs within low-income communities in Sault Ste. Marie, 2020**

*Releases to air of carcinogens also listed as toxic under CEPA*

In 2020, facilities in Sault Ste. Marie released a total of 245,558 kg of carcinogens to the air.

**Table 10: Top releases to air of carcinogens by facility in Sault Ste. Marie, 2020**

	Facility Type	Releases of carcinogens by facility (kg)
	Particle board and fibreboard mills	228,910
	Iron and steel mills and ferro-alloy manufacturing	16,635

	Recyclable metal merchant wholesalers	13
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**Table 11: Top releases of carcinogens by substance in Sault Ste. Marie, 2020**

Substance Name	Releases of carcinogens by substance (kg)
Formaldehyde	228,910
Benzene	10,724
Arsenic (and its compounds)	4,031
Ethylbenzene	863
Naphthalene	496
Lead (and its compounds)	403

*Releases to air of CACs in Sault Ste. Marie*

In 2020, facilities in Sault Ste. Marie released a total of 6,771,749 kg CACs to the air.

**Table 12: Top releases to air of CACs by facility in Sault Ste. Marie, 2020**

Facility Type	Releases of CACs by facility (kg)
Iron and steel mills and ferro-alloy manufacturing	4,217,829
Particle board and fibreboard mills	1,744,330
Other electric power generation	615,585
Iron and steel pipes and tubes manufacturing from purchased steel	85,808
Petroleum and petroleum products merchant wholesalers	79,540

**Table 13: Top releases to air of CACs by substance in Sault Ste. Marie, 2020**

Substance Name	Releases of CACs by substance (kg)
Sulphur dioxide	2,667,513
Carbon monoxide	1,674,919
Nitrogen oxides (expressed as nitrogen dioxide)	104,9354

Volatile Organic Compounds (VOCs)	882,351
Total particulate matter	497,612

(iv) *Sudbury*

Sudbury has long been recognized as one of Canada’s most environmentally degraded regions. Once dominated by extensive nickel and copper smelting operations, which began in the early 20<sup>th</sup> century, Sudbury experienced severe ecological degradation over time.<sup>137</sup> For context, in the 1960s, Sudbury was known for being one of the largest emitters of sulphur dioxide (SO<sub>2</sub>) in the world, releasing an estimated 2500 tonnes per day.<sup>138</sup> These extreme levels of air pollution stripped local vegetation across tens of thousands of hectares of land, and acidified more than 7,000 local lakes.<sup>139</sup> This gave Sudbury notoriety internationally for having acidified, lifeless lakes and a blackened, treeless landscape, a contamination legacy that it is still associated with to this day.<sup>140</sup>

Despite this legacy, significant efforts have been made in Sudbury to reverse decades of ecological damage. Beginning in the 1970s large-scale emission control and regreening programs were initiated in Sudbury.<sup>141</sup> By the late 1970s, these efforts were well underway, with community, corporate, and government-led initiatives, liming thousands of hectares of soil, planting over 12 million trees, and dramatically reducing smelter emissions.<sup>142</sup>

Although these efforts achieved substantial improvements,<sup>143</sup> recent NPRI data indicate that Sudbury is still subject to high levels of air pollution. According to AQMS air quality management

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<sup>137</sup> Nadia Mykytczuk, “Sudbury went from major polluter to clean city - here’s what extractive industries can learn” (7 October 2025), *The Narwhal* (online), <https://thenarwhal.ca/opinion-sudbury-ontario-extractive-industries-transition/> [Tab 79].

<sup>138</sup> Jodi E Newman et al, “[The Impact of Severe Pollution from Smelter Emissions on Carbon and Metal Accumulation in Peatlands in Ontario, Canada](#)” (2024) 320:121102 *Environmental Pollution* at p 1 [Tab 80].

<sup>139</sup> Morrissa Boerchers et al, “[Reinvention through Regreening: Examining Environmental Change in Sudbury, Ontario](#)” (2016) 3:3 *The Extractive Industries & Society* at p 793 [Tab 81].

<sup>140</sup> Wendy H Hallows, “[Emissions in Sudbury, Ontario](#)” (2024) *EBSCO* [Tab 82].

<sup>141</sup> Wendy H Hallows, “[Emissions in Sudbury, Ontario](#)” (2024) *EBSCO*.

<sup>142</sup> Nadia Mykytczuk, “Sudbury went from major polluter to clean city - here’s what extractive industries can learn” (7 October 2025), *The Narwhal* (online), <https://thenarwhal.ca/opinion-sudbury-ontario-extractive-industries-transition/>

<sup>143</sup> Patrick A Levasseur et al, “Minimal legacy effects of metal pollution on litter decomposition and soil respiration following liming and tree-planting in the Sudbury, Ontario region” (2025) 992 *Science of the Total Environment* 179892, online: <https://www.sciencedirect.com/science/article/pii/S0048969725015335> at p 6 [Tab 83].

guidance, early and ongoing actions for continuous improvement of sulphur dioxide emissions are encouraged for the Sudbury air zone.<sup>144</sup>

Mining companies continue to operate smelting facilities in the area, which emit sulphur dioxide (SO<sub>2</sub>), fine particulate matter (PM 2.5), and trace metals such as nickel and lead.<sup>145</sup> While current emission levels are significantly lower than historical levels,<sup>146</sup> air emissions levels near industrial sites still pose ongoing risks to nearby communities.<sup>147</sup>

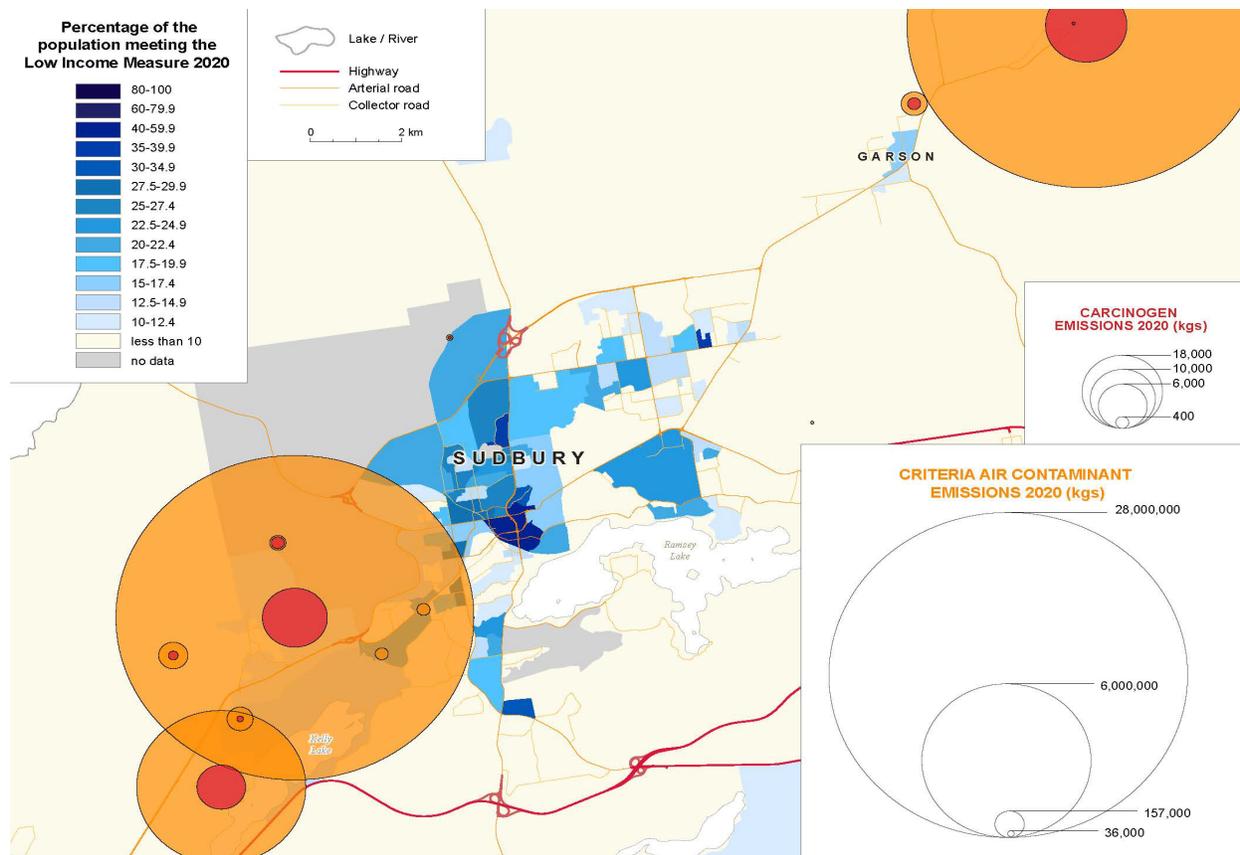
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<sup>144</sup> Government of Ontario, *Air Quality in Ontario 2019 Report*, Map of Sulphur Dioxide Air Quality Management Level.

<sup>145</sup> Environment and Climate Change Canada (ECCC). National Pollutant Release Inventory. Air releases for Greater Sudbury between 2015-2024. Accessed December 9 2025. Accessed at: <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/all-year-dashboard.html> [Tab 84].

<sup>146</sup> Patrick A Levasseur et al, “Minimal legacy effects of metal pollution on litter decomposition and soil respiration following liming and tree-planting in the Sudbury, Ontario region” (2025) 992 *Science of the Total Environment* 179892, online: <https://www.sciencedirect.com/science/article/pii/S0048969725015335> at p 6.

<sup>147</sup> Environment and Climate Change Canada (ECCC). National Pollutant Release Inventory. Air releases for Greater Sudbury between 2015-2024. Accessed December 9 2025. Accessed at: <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/all-year-dashboard.html>



**Map 4: Releases to air of carcinogens and CACs within low-income communities in Sudbury, 2020**

*Releases to air of carcinogens are also listed as toxic under CEPA*

In 2020, facilities in Sudbury released a total of 36,504 kg of carcinogens to the air.

**Table 14: Top releases to air of carcinogens by facility in Sudbury, 2020**

	Facility Type	Releases of carcinogens by facility (kg)
	Non-ferrous metal (except aluminum) smelting and refining	18,124
	Non-ferrous metal (except aluminum) smelting and refining	10,899
	Non-ferrous metal (except aluminum) smelting and refining	6,403
	Nickel-copper ore mining	464
	Nickel-copper ore mining	368

**Table 15: Top releases of carcinogens by substance in Sudbury, 2020**

<b>Substance Name</b>	<b>Releases of carcinogens by substance (kg)</b>
Nickel (and its compounds)	23,158
Lead (and its compounds)	4,966
Arsenic (and its compounds)	3,551
Selenium (and its compounds)	2,079
Cobalt (and its compounds)	1,432

*Releases to air of CACs in Sudbury.*

In 2020, facilities in Sudbury released a total of 62,486,920 kg CACs to the air.

**Table 16: Top releases to air of CACs by facility in Sudbury, 2020**

		<b>Facility Type</b>	<b>Release of CACs by substance (kg)</b>
		Non-ferrous metal (except aluminum) smelting and refining	
		Non-ferrous metal (except aluminum) smelting and refining	
		Non-ferrous metal (except aluminum) smelting and refining	
		Nickel-copper ore mining	
		Nickel-copper ore mining	
		Nickel-copper ore mining	

**Table 17: Top releases to air of CACs by substance in Sudbury, 2020**

<b>Substance Name</b>	<b>Releases of CACs by substance (kg)</b>
Sulphur dioxide	59,838,400
Carbon monoxide	1,236,942
Total particulate matter	684,405
Nitrogen oxides (expressed as nitrogen dioxide)	647,543

**(b) Potential for Harm to the Environment if review is not undertaken**

In addition to the significant health impacts noted above, air pollution also causes adverse impacts to the natural environment. Emissions contaminate soil and water resources, harm plants and animals, disrupt ecological processes, cause acid rain and algal blooms in lakes, and damage ecosystems.<sup>148</sup> Studies conducted in the Sarnia region have reported changes in the sex ratios and reproductive abilities of fish, bird, and turtle populations, likely due to exposure to endocrine-disrupting chemicals.<sup>149</sup> Additionally, fine particulate matter causes corrosion soiling, damage to vegetation, and reduced visibility.<sup>150</sup> At a greater scale, increased air pollutant emissions worsen climate change, which exacerbates other environmental impacts.<sup>151</sup>

Air emissions of contaminants that contribute to acid rain can result in tarnishing and premature wearing of materials, as well as building soiling, which leads to higher maintenance and replacement costs for infrastructure and other buildings.<sup>152</sup> Air pollution also reduces the growth of crops, plants, and trees, which, in turn, causes economic losses for the agriculture and forestry sectors. According to the federal government, this has cost Canadian farmers millions of dollars in lost production annually.<sup>153</sup>

The health effects of air pollution also impose economic costs from increased need for medical care, lost productivity, limitations to normal daily activities, and decreased quality of life.<sup>154</sup> The economic valuation of annual premature deaths attributable to air pollution in Ontario in 2016 was \$49,200,000,000—the highest of all the provinces and territories

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<sup>148</sup> *2019 Reports on the Environment* at p 16; *The State of the Environment in Ontario* at p 15.

<sup>149</sup> *Confronting Chronic Pollution* at p 38.

<sup>150</sup> *2019 Reports on the Environment* at p 15; *Fine Particulate Matter*.

<sup>151</sup> *2019 Reports on the Environment* at p 15; OECD, *The Economic Consequences of Air Pollution* (Paris: OECD Publishing, 2016) at p 82 [*Economic Consequences of Air Pollution*] [Tab 85].

<sup>152</sup> Government of Canada, “[Air pollution: drivers and impacts](#)” (28 March 2024) [Tab 86].

<sup>153</sup> Government of Canada, “[Air pollution: drivers and impacts](#)” (28 March 2024).

<sup>154</sup> *Economic Consequences of Air Pollution* at p 14; Government of Canada, “[Air pollution: drivers and impacts](#)”.

## **VI: INAPPLICABILITY OF THE PRESUMPTION AGAINST REVIEWING RECENT DECISIONS**

Subsection 68(1) of the *EBR* provides a general presumption against reviewing decisions made within the past five years. However, the Applicants submit that this presumption is not applicable as the CEA policy has not been reviewed since it was issued seven years ago.

In addition, the Applicants note that the MECP provided assurance when the CEA policy was issued that it was committed to reviewing it within two years. The Applicants submit that government accountability warrants this commitment be fulfilled.

## **VII: RESOURCES REQUIRED FOR THE REQUESTED REVIEW**

Subsection 67(2)(f) of the *EBR* lists “resources required to conduct the review” as another factor to be considered by the Minister when determining if the public interest warrants a review.

To the Applicants’ best knowledge, the requested review of the CEA policy can be carried out by relevant MECP personnel without the allocation of any new resources or staff.

## **VIII: EVIDENCE SUPPORTING THE REQUESTED REVIEW**

The documentary evidence supporting the requested review is attached hereto as follows:

<b>TAB #</b>	<b>Document</b>	<b>Copy Included</b>
1	Amanda Giang and Kaitlin Castellani, “Cumulative air pollution indicators highlight unique patterns of injustice in urban Canada” (2020) 15 <i>Environmental Research Letters</i> 124063, online: <a href="https://iopscience.iop.org/article/10.1088/1748-9326/abcac5">https://iopscience.iop.org/article/10.1088/1748-9326/abcac5</a> .	
2	Dayna N Scott, “ <a href="#">Confronting Chronic Pollution: A Socio-Legal Analysis of Risk and Precaution</a> ” (2008) 46:2 <i>Osgoode Hall LJ</i> 293.	
3	Melissa Ollevier and Erica Tsang, “Environmental Justice in Toronto Report” (April 2007), online: <a href="https://www.yorku.ca/cityinstitute/wp-content/uploads/sites/247/2011/05/file_2_ej_report_fin.pdf">https://www.yorku.ca/cityinstitute/wp-content/uploads/sites/247/2011/05/file_2_ej_report_fin.pdf</a> .	
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12	Canadian Environmental Law Association, Ecojustice, Earth Roots, Environment Hamilton, Women’s Healthy Environment Network, and Canadian Association of Physicians for the Environment, Registered Nurses Association, Citizens Environment Alliance, Ontario Sustainable Network and the Toronto Environment Alliance, <i>Letter to the Hon. Glen Murray, Ministry of Environment and Climate Change</i> (25 February 2015).	
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	<i>Sulphur Dioxide from Nickel Smelting and Refining Facilities in the Sudbury Area.</i>	
19	<i>O. Reg 652/21 Air Pollution – Discharge of Sulphur Dioxide from Nickel Smelting and Refining Facilities in the Sudbury Area.</i>	
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