Canadian Environmental Law Association
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May 6, 2022

Chantal Cardinal
Clerk of the Standing Senate Committee on Energy,
the Environment and Natural Resources
The Senate of Canada
Ottawa, Ontario K1A OA4

Dear Ms. Cardinal:

Re: Bill S-5, An Act to Amend the Canadian Environmental Protection Act, 1999, etc.

We are enclosing our proposed written testimony should we be invited to appear before the Committee on the above matter.

We would ask that in addition to the attached being distributed to the Committee members that it also is posted on the Committee website.

Should Committee members have any questions arising from the attached or wish us to appear before the Committee to discuss this material, please feel free to contact either myself or Ms. de Leon.

Yours truly,
CANADIAN ENVIRONMENTAL LAW ASSOCIATION

Joseph F. Castrilli
Counsel

c.c. Fe de Leon, CELA

Encl. CELA Proposed Testimony on Bill S-5

WRITTEN TESTIMONY BEFORE THE STANDING SENATE COMMITTEE ON ENERGY, THE ENVIRONMENT AND NATURAL RESOURCES ON BILL S-5, AN ACT TO AMEND THE CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999, etc.

May 2022

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I. INTRODUCTION

1. The *Canadian Environmental Protection Act, 1999* ("CEPA"),[1] is the country's primary law for controlling the risks that toxic substances pose to human health and the environment. The Canadian Environmental Law Association ("CELA") is pleased to appear before the Senate Committee on Energy, Environment and Natural Resources to testify on Bill S-5, *An Act to Amend the Canadian Environmental Protection Act, 1999* and other laws.

2. CELA has previously provided to the Committee two documents relevant to Bill S-5: (1) February 2022 submissions to the federal environment and health ministers on Bill C-28; and (2) March 2022 proposed amendments to the federal environment and health ministers on Bill S-5, which are based on our February submissions. Approximately thirty (30) organizations across Canada support CELA's February 2022 submissions.[2]

3. CELA, established in 1970, is incorporated under federal law and is also a provincial legal aid clinic under Ontario law[3] providing legal assistance to low-income and disadvantaged individuals and groups experiencing environmental problems who are otherwise unable to afford legal representation. In particular, many potential clients come to CELA seeking legal assistance with respect to problems caused by the creation, use, or release of toxic substances in their communities. Our assistance to them may come in the form of summary advice, legal representation, law reform advocacy, or community outreach.

4. CELA has extensive experience with CEPA and its predecessor legislation over the decades that is summarized at the beginning of our February 2022 submissions.

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[1] S.C. 1999, c. 33.

[2] Nature Canada (Nova Scotia and Ontario sections); Prevent Cancer Now (Ontario); Toronto Cancer Prevention Coalition Environmental and Occupational Work Group (Ontario); Nova Scotia Environment Network (Nova Scotia); Saskatchewan Prevention Institute (Saskatchewan); Northwatch (Ontario); Health and Environment Justice Support (Ontario); Georgian Bay Association (Ontario); Georgia Strait Alliance (British Columbia); Canadian Association of Nurses for the Environment (Manitoba); New Brunswick Lung Association & Canadian Network for Human Health and the Environment (New Brunswick); Ingersoll District Nature Club (Ontario); Ontario Cottagers' Association (Ontario); Citizens Environment Alliance of Southwestern Ontario (Ontario); Electromagnetic Pollution Illnesses Canada Foundation (Ontario); The Oxford Coalition for Social Justice (Ontario); Citizens' Network on Waste Management (Ontario); Saskatchewan Environmental Society (Saskatchewan); Ontario Headwaters Institute (Ontario); Breast Cancer Action Manitoba (Manitoba); Vigilance OGM (Quebec); Ontario Rivers Alliance (Ontario); Safe Food Matters Inc. (Ontario); Friends of the Earth Canada (Ontario); Watershed Sentinel (British Columbia); Religious Congregations for the Great Lakes (Ontario); Manitoba Eco-Network (Manitoba); Blue Fish Canada (Ontario); MiningWatch Canada (Ontario); JustEarth (Ontario).

[3] Legal Aid Services Act, 2020, S.O. 2020, c. 11.

II. NATURE OF THE TOXICS PROBLEM

A. Globally

5. The burden of disease from exposure to industrial chemicals in the environment due to the doubling of the global chemicals market between 2017 and 2030 is expected to be high and vulnerable populations will be particularly at risk. This concern prompted the United Nations in 2019 to conclude that business as usual is not an option for governments if they are to protect public health and the environment. More recently, an international group of scientists concluded in a study released in January 2022 that the pace of industrial chemical production (a 50-fold increase in such production since 1950 that is expected to triple again by 2050) is outstripping the ability of governments to protect human health and the environment to such an extent that a cap on chemical production and release may be warranted similar to that for carbon emissions.[4]

B. In Canada

6. The international situation on industrial chemicals is mirrored in Canada where for years the federal government has been playing regulatory whack-a-mole with some of the most dangerous chemicals on the planet. Our analysis of national pollution data when compared to the Bill S-5 amendments is that the amendments will do little to solve Canada's toxics problem; a problem that requires robust reform.

7. The CELA review of national pollution data found that over the period 2006 to 2018, decreasing on-site emissions to air of cancer-causing agents that meet the definition for a toxic substance under CEPA, have been offset by the increasing deposit of these same dangerous substances to land. Moving a known or suspected carcinogen from one environmental pathway (air) to another (land) does not represent progress in protecting human health and the environment. It merely represents putting a different part of the environment and a different group of people at risk. It is not a solution to the problem of ever-expanding chemical production, and certainly not for potentially carcinogenic chemicals the federal government itself has branded "toxic." For these substances a strategy of prevention and elimination from Canadian commerce is required, not a strategy of reaction and trying to cure the problem after the emissions have occurred.

8. The CELA review found for the 2006 to 2018 period that for substances declared toxic under CEPA that also are classified by the International Agency for Research on Cancer ("IARC") as known or suspected carcinogens there was:

[4] Appendix A to our written testimony is a chart that summarizes the nature of the environmental and human health problems posed by toxic substances internationally, domestically, and in some Indigenous communities that, in our respectful submission, are not materially addressed by Bill S-5. Appendix A also indicates where more information can be found in our February 2022 submissions.

- in Ontario, a 56 percent decrease in on-site air emissions, but a 48 percent increase in on-site disposal / land release of the same substances;[5]

- in Quebec, a 53 percent decrease in on-site air emissions, but a 587 percent increase in on-site disposal / land release of the same substances; and

- in Alberta, a 17 percent increase in on-site air emissions, and a 62 percent increase in on-site disposal / land release of the same substances.[6]

9. The picture in Canada is not much improved for even those chemicals, such as arsenic and its compounds, which were known to ancient Rome to be dangerous. The CELA review found that in Quebec, for arsenic and its compounds, known cancer-causing agents designated as toxic under CEPA, on-site air emissions increased 49 percent during the period 2006 to 2018. However, on-site disposal / land release of arsenic and its compounds increased an astounding 10,828 percent during the same period.[7]

10. Finally, when comparing Ontario to certain states in the United States with a similar economic, manufacturing, and industrial base the picture is also disappointing. To illustrate this CELA compared on-site air emissions of "CEPA-toxic" known or suspected cancer-causing agents in one such jurisdiction, New Jersey, to those for Ontario for the 2006 to 2018 period. New Jersey was chosen because the federal government tries to "benchmark itself against" it because of the state's "extremely effective toxics" program. The results, however, showed that Ontario's on-site air emissions were more than 28 times greater than those of New Jersey. Corrected for a per capita comparison, Ontario's on-site air emissions of such substances were still 14 times greater than New Jersey's; while the province's per capita on-site disposal / land releases of the same substances were over 1300 times greater than those of New Jersey.[8]

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5 See Appendix A.1 for the definitions of "on-site releases to air", "on-site disposal" and "land releases" used by CELA for its review which were taken from the following report: Environment and Climate Change Canada, *Guide for Reporting to the National Pollutant Release Inventory: 2020 and 2021*, at pages 65-67.

6 See Appendix B, Tables A and B / Figures A and B. Appendix B to our written testimony is an interprovincial comparison of on-site releases to air and on-site disposal and land releases of CEPA-toxic known or suspected carcinogens for the period 2006 to 2018 for selected jurisdictions (Ontario, Quebec, Alberta). Appendix B, Table D.1 identifies the toxic substances/cancer-causing agents. Table D.2 indicates that about 7 percent of 43 "CEPA-toxic" substances that are cancer-causing substances or classes of substances would be placed in the proposed Part 1 of the new Schedule 1 of CEPA and be subject to total, partial, or conditional prohibition, if Bill S-5 were enacted as currently drafted. "CEPA-toxic" refers to a substance that meets one or more of the requirements of section 64 of CEPA for what is "toxic" (i.e., have or may have immediate or long-term harmful effect on the environment or its biological diversity; constitute or may constitute danger to the environment on which life depends; or constitute or may constitute danger to human life or health). Where this is the case, the substance is listed in the Act's Schedule 1 "List of Toxic Substances" and is eligible for risk management measures under the Act.

7 See Appendix B, Tables C.1 and C.2 and Figures C.1 and C.2.

8 See Appendix C, Tables B and C, and Figures B and C. Appendix C to our written testimony is an inter-jurisdictional comparison of Ontario and New Jersey on-site releases to air and on-site disposal and land releases of CEPA-toxic known or suspected carcinogens for the period 2006 to 2018. Appendix C, Table D identifies the toxic substances.

11. CELA acknowledges that on-site air emissions of such substances have been reduced in Ontario over this 13-year period and that CEPA is a substantial contributing factor. However, Ontario's on-site air emissions of CEPA-toxic cancer-causing agents were still on the order of 1 million kilograms per year during this period, and its on-site disposal / land releases of these same substances on the order of tens of millions of kilograms per year during this 13-year period and going up. As a result, the federal government cannot avoid responsibility for the continuing magnitude of emissions of substances it has itself designated toxic under CEPA and international agencies have identified as known or suspected cancer-causing agents.

12. Overall, this pollution data should have caused the federal government to propose in Bill S-5 robust amendments to CEPA, a statute that has not been significantly amended in over two decades. Ever-expanding chemical production – and mainly shifting releases of toxic substances from one environmental pathway to another – is not what the House Standing Environment Committee expected when they submitted their first-ever report to Parliament in 1995 on reform of CEPA. The Committee's report stated that: "…we reiterate the need to emphasize preventive measures and to phase out pollution control methods. Pollution control strategies should be considered only as interim measures until pollution-prevention strategies are put in place."[9] It is now almost 30-years later and it appears that, with some exceptions, "business as usual" is the option of choice in the Bill S-5 amendments. The data, however, make it plain that business as usual should not be the option of choice, particularly if we are to protect vulnerable populations – children, women, workers, Indigenous peoples, and people of colour – who are disproportionately at risk from exposure to CEPA-toxic cancer-causing agents.

13. Overall, the national pollution data supports the CELA proposed amendments to Bill S-5 found in our March 2022 submissions,[10] and summarized below.

III. SUMMARY OF, CONCERNS WITH, IMPROVEMENTS FOR, BILL S-5

A. Summary of Bill S-5

14. The amendments to *CEPA, 1999* contained in Bill S-5 include:

> (1) a preamble recognizing a right in every individual in Canada to a healthy environment, a provision requiring the Government of Canada to protect that right as provided under the Act (which includes balancing the right with social, economic, health, and scientific factors), and a further provision requiring development of an "implementation framework" within two years of the coming

[9] Canada, House of Commons Standing Committee on Environment and Sustainable Development, "It's About Our Health! Towards Pollution Prevention – CEPA Revisited" in *Debates*, No. 81 (13 June 1995) at 83.

[10] See Appendices A, B, and C, below, and the CELA proposed amendments Tabs 1 to 8 of our March 2022 proposed amendments document.

into force of the provision, setting out how the right will be considered in the administration of *CEPA, 1999*;

(2) authority for the Ministers of Environment and Health, respectively, to develop a plan specifying the substances the Ministers are satisfied priority should be given in assessing whether they are toxic, or capable of becoming toxic, and providing opportunities for any person to request that the Ministers assess a substance;

(3) authority for the Government of Canada to exercise its powers in a manner that protects the health of vulnerable populations, including conducting research, investigations, evaluations, and considering available information on such populations in relation to whether a substance is toxic or capable of becoming toxic, including any cumulative effects that may result from exposure to the substance in combination with exposure to other substances;

(4) authority for the Government of Canada to collect data and conduct investigations in relation to whether a substance has the ability to disrupt the endocrine system of an organism;

(5) authority to impose total, partial, or conditional prohibitions on a small number of toxic substances posing the highest risk under a revamped Schedule 1 and, for the purposes of developing proposed regulations or instruments on such substances, considering whether there are feasible safer alternatives to these substances;

(6) authority to impose pollution prevention measures on the remaining toxic substances in Schedule 1, which would constitute the bulk of the substances under the revamped Schedule, and to expand such measures to products that may contain or release such substances into the environment;

(7) authority to establish a "watch list" of substances which, though not currently the subject of controls under the Act, may become subject to controls in future;

(8) expanding the powers of the Minister of the Environment to notify persons of the obligation to comply with the significant new activity provisions of the Act for substances subject to those provisions;

(9) authority to require that requests for confidentiality of information provided to the Minister in relation to a substance be accompanied by reasons, and allowing the Minister to disclose certain information, such as the explicit chemical or biological name of a substance, in certain circumstances; and

(10) repealing the priority substances list provisions and existing authority to virtually eliminate toxic substances under the Act.

B. Concerns with Bill S-5

15. Unfortunately, Bill S-5 opts for largely housekeeping amendments that: (1) ignore long-standing unmet needs; (2) pursue only half-measures; or (3) fix something that is not broken and, in the process, make the situation worse. Examples of the first type of problem in Bill S-5 include:

- actual problems with the existing statute are left largely unaddressed by Bill S-5, particularly Parts 4 and 5 of the Act pertaining to pollution prevention and control of toxic substances, including;
    - failing to make pollution prevention plans mandatory, instead of discretionary, for any toxic substance listed in Schedule 1 (this failure has resulted in only one-sixth of all substances in the Schedule in the last 20 years having a plan, a rate that, if continued, will mean that all existing toxic substances in Schedule 1 will not have a plan before the year 2100);
    - treating the pollution prevention plan requirement in the Act, meant to control the creation and use of toxic substances, as predominantly a pollution abatement measure (i.e., where only emissions are controlled) has allowed such substances to stay in Canadian commerce and the environment; and
    - failing to make substitution of safer alternatives to toxic substances a central focus of amendments to the Act places Canadians and the environment at risk, and Canada at a disadvantage relative to other countries that have done so.

16. Examples of the second type of problem in Bill S-5 include:

- proposing to recognize a right to a healthy environment but failing to provide an enforceable remedy that would make the right effective (the existing remedy provision in CEPA has been unused since it came into force in 2000 because of a wide variety of procedural barriers to its use).

17. Examples of the third type of problem in Bill S-5 include:

- proposed amendments in Bill S-5 relating to CEPA's Schedule 1 List of Toxic Substances seek to fix something that is not currently broken in the Act but if enacted could create legal and constitutional problems that would invite unnecessary litigation (i.e., undermining the constitutional law foundation for the Act, which is based on the criminal law power, by no longer identifying the Schedule as a list of toxic substances, and dividing the list of 150 substances in the Schedule into two classes with

> much the larger class, consisting of almost 90 percent of the entire list of substances in Schedule 1, being made subject to potentially less stringent measures).[11]

18. In short, Bill S-5 does not appear to reflect the warnings contained in government national pollution data.

C. Improving Bill S-5

19. The Hon. Steven Guilbeault, Minister of Environment and Climate Change, at the time of the introduction of Bill S-5 in the Senate on February 9, 2022, stated that: "All Canadians expect and deserve a healthy environment".[12] In his appearance before the Standing Senate Committee on Energy, Environment and Natural Resources, on March 24, 2022, Minister Guilbeault described Bill S-5 as designed to strengthen the management of chemicals in Canada and urged all members of the Senate to "lean in on the first major update to [CEPA] in 20 years".[13] In his appearance before the Committee on April 28, 2022, at the start of Second Reading debate on Bill S-5, Minister Guilbeault stated that he agrees "with those who say that other amendments or changes are needed to CEPA".[14] CELA believes the Minister can achieve his goals by amending Bill S-5 along the lines suggested by our March 2022 proposed amendments to Bill S-5. They include:

> (1) an enforceable remedy for the right to a healthy environment proposed by Bill S-5, which otherwise lacks a remedy;[15]
>
> (2) turning the discretionary Ministerial power to require companies to adopt pollution prevention plans, which has only been exercised by Ministers for one-sixth of the 150 toxic substances covered by *CEPA, 1999* over the last two decades, into a mandatory obligation to do so that would result in coverage of all Schedule 1 toxic substances in the next few years and also enshrine the examination of safer alternatives to such substances as a central pillar of federal environmental law;
>
> (3) imposing mandatory testing obligations on industry where available information is lacking to help determine whether a substance is toxic, or capable

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[11] Appendix D to our written testimony is a chart that summarizes our concerns with nine issues pertaining to Bill S-5. Appendix D also indicates where more information can be found in our February 2022 submissions and where the solution to the problem is addressed in our March 2022 proposed amendments. Appendix E to our written testimony contains an April 2021 blog that summarizes CELA's initial concerns that are expanded on in our February 2022 submissions document.

[12] Environment and Climate Change Canada, "Strengthening protections for Canadians and the environment from harmful chemicals and pollutants," *News Release* (Ottawa, February 9, 2022).

[13] Canada, Standing Senate Committee on Energy, the Environment and Natural Resources, "Study on Emerging Issues Related to the Committee's Mandate," *Evidence* (24 March 2022).

[14] Canada, Standing Senate Committee on Energy, the Environment and Natural Resources, "Bill S-5, Strengthening Environmental Protection for a Healthier Canada Act", *Evidence* (28 April 2022).

[15] Appendix F to our written testimony reproduces key sections of the Yukon *Environment Act* that recognize a right to a healthy environment needs to be paired with a remedy if the right is to be enforceable.

of becoming toxic, in the context of such issues as endocrine disrupting substances, cumulative effects, and impacts on vulnerable populations;

(4) establishing authority for enforceable ambient air quality standards so as to address nationally problematic substances like lead, an approach recommended by the 2017 report of the House Standing Environment Committee in its examination of CEPA; and

(5) retaining but improving existing authority in CEPA that Bill S-5 would remove, muddle, or obscure on such issues as:

- virtual elimination of toxic substances;
- geographic targeting of regulatory authority; and
- identifying substances in Schedule 1 as "toxic".[16]

IV. CONCLUSIONS

20. Although CEPA is required to be examined by Parliament every 5 years with a view to its timely reform, in practice the statute appears to be amended no more frequently than once every two decades. Because new and emerging problems can accumulate over such a long timeframe, it is imperative for Parliament to make the most of those few times when CEPA comes before it for amendment. This is one of those times.

[16] Appendix G to our written testimony contains excerpts from a further blog (March 2022) regarding CELA concerns with Bill S-5 removing the phrase "toxics substances" from the title of Schedule 1 of the Act and the need for its retention. Appendix H reproduces excerpts from the April 2007 House Standing Environment Committee findings on why removal of the word "toxic" from Schedule 1 of *CEPA, 1999* could undermine the constitutional foundation of the Act and is not otherwise warranted.

V. APPENDIX A – SUMMARY OF NATURE OF THE TOXIC SUBSTANCES PROBLEM

NATURE OF THE TOXIC SUBSTANCES PROBLEM

At the International Level	Reference
Doubling of global chemicals market between 2017 and 2030 will increase global chemical releases, human health exposures, and environmental impacts; burden of disease from chemicals high and vulnerable populations particularly at risk; "business as usual…not an option"	2019 United Nations Environment Report: *Global Chemicals Outlook* – see CELA February 2022 submissions on Bill C-28, page 8, paragraph 6
50-fold increase in chemical production since 1950; will triple again by 2050; pace greater than governments can address; need cap on chemical production / release similar to cap on carbon emissions	2022 study in *Environmental Science and Technology* – see CELA February 2022 submissions on Bill C-28, page 8, paragraph 7
In Canada	**Reference**
On-site air emissions of known / suspected cancer-causing agents listed in *CEPA, 1999* Schedule 1 List of Toxic Substances increased in the period 2013-2019: - 21 percent in Canada; - 29 percent in Ontario	Commission for Environmental Cooperation / National Pollutant Release Inventory - see CELA February 2022 Submissions on Bill C-28, pages 8-10, paragraphs 8-10
For Selected First Nation Communities	**Reference**
Indigenous representatives testifying before 2016 House Standing Environment Committee on *CEPA, 1999* reported their monitoring data showed increasing levels of Schedule 1 toxic substances (mercury, lead, cadmium, chromium, polycyclic aromatic hydrocarbons) in traditional foods (e.g. fish, moose)	Testimony of representatives of Mikisew Cree First Nation before House Standing Environment Committee, November 17, 2016 – see CELA February 2022 submissions on Bill C-28, pages 9-10, paragraph 9

VI. APPENDIX A.1 – DEFINITIONS FOR ON-SITE RELEASES TO AIR, ON-SITE DISPOSAL / LAND RELEASES

10. Glossary

10.1 Release, disposal, and recycling categories

On-site releases: a discharge of a substance to the environment within the physical boundaries of the facility. This includes releases to air, surface waters and land. Routine releases (e.g., fugitive releases) and accidental or non-routine releases (e.g., spills) are included. Releases do not include on-site or off-site disposals or off-site transfers for recycling.

Releases to air

- **Stack or point releases**: releases from stack or point sources including stacks, flares, vents, ducts, pipes, or other confined process streams. Releases to air from pollution control equipment generally fall into this category.
- **Storage or handling releases**: releases to air from storage or handling of materials.
- **Fugitive releases**: releases that cannot be captured and releases that are unintentional, including
  - fugitive equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.
  - evaporative losses from surface impoundments and spills
  - releases from building ventilation systems
  - any other fugitive or non-point air emissions from land treatment, tailings, waste rock, storage piles, etc.
- **Spills**: accidental releases to air.
- **Road dust**: total particulate matter, PM10 and PM2.5 releases from road dust must be reported if vehicles travelled more than 10 000 kilometres on unpaved roads at the facility.
- **Other non-point releases**: any other non-point releases to air that are not captured in the categories above.

….

Releases to land

Releases to land include surface and underground releases which occur at a facility.

- **Spills:** spills include any accidental releases to land, normally occurring over a short period of time (hours or days).
- **Leaks:** leaks differ from spills in that they are chronic events, occurring over a comparatively long time (days, months, etc.).
- **Other releases to land that are not disposals**: net quantities of other releases to land that are not spills or leaks and are not for the purposes of disposal. This category includes NPRI substances that are injected underground for purposes other than disposal (for example, solvents used to enhance in situ bitumen extraction). NPRI substances sent to landfill, used for land application, disposed of by underground injection, or transferred for treatment or storage are categorized as disposals (see the following sections for more information on disposals). Disposal quantities should be reported under the disposal category only, and not under releases to land, to avoid double-reporting.

Disposals: The final disposal to landfill, land application or underground injection, either on the facility site or at a location off the facility site; transfer to a location off the facility site for storage or treatment prior to final disposal; or movement into an area where tailings or waste rock are discarded or stored, and further managed to reduce or prevent releases to air, water or land, either on the facility site or at a location off the facility site. The disposal of a substance is different from a direct release to air, water or land.

On-site Disposals

- **Landfill:** total quantities of substances sent for final disposal to a designated landfill area located within the site boundaries.
- **Land application**: total quantities of substances sent for final disposal by application or incorporation into soil within the site boundaries.
- **Underground injection:** total quantities of substances disposed of by injection underground from within the site boundaries.
- **Tailings and waste rock**: net quantities of substances that are moved into an on-site area where tailings or waste rock are discarded or stored and further managed to reduce or prevent releases.

….

Source: Environment and Climate Change Canada*, Guide for Reporting to the National Pollutant Release Inventory: 2020 and 2021*, at pages 65-67.

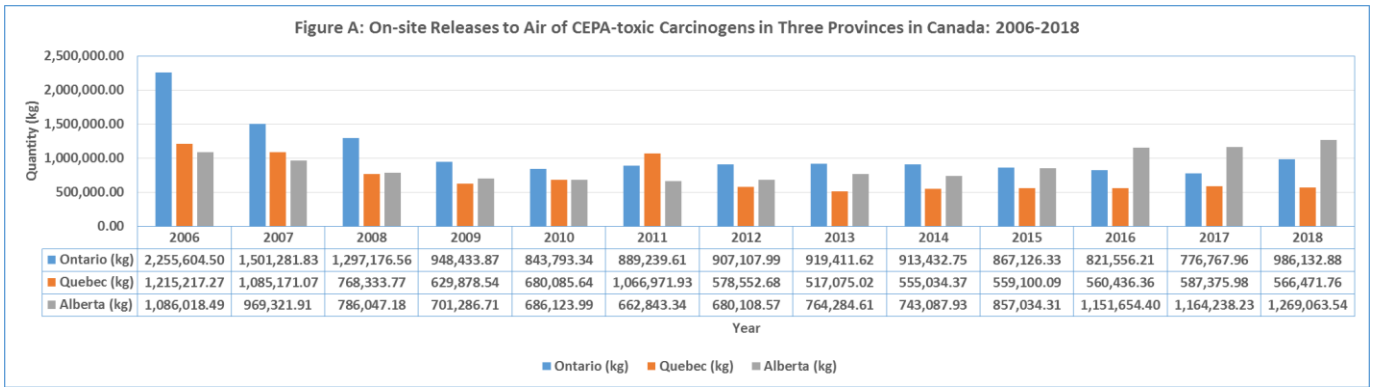
VII. APPENDIX B – SELECTED INTERPROVINCIAL COMPARISON OF ON-SITE RELEASES TO AIR AND ON-SITE DISPOSAL/LAND RELEASES OF CEPA-TOXIC CANCER-CAUSING AGENTS IN ONTARIO, QUEBEC, AND ALBERTA – 2006-2018

Note: CELA's February 2022 submissions on Bill C-28 (now Bill S-5), used data from Ontario to illustrate the level of on-site air emissions of CEPA-toxic carcinogens[17] from a major provincial economy in Canada. To put in perspective Ontario's emissions set out in the February 2022 submissions, Appendix B compares emissions between Ontario and two other major provincial economies:

Table A: On-site Releases to Air of CEPA-toxic Carcinogens in Three Provinces in Canada: 2006-2018

Year	Ontario (kg)	Quebec (kg)	Alberta (kg)
2006	2,255,604.50	1,215,217.27	1,086,018.49
2007	1,501,281.83	1,085,171.07	969,321.91
2008	1,297,176.56	768,333.77	786,047.18
2009	948,433.87	629,878.54	701,286.71
2010	843,793.34	680,085.64	686,123.99
2011	889,239.61	1,066,971.93	662,843.34
2012	907,107.99	578,552.68	680,108.57
2013	919,411.62	517,075.02	764,284.61
2014	913,432.75	555,034.37	743,087.93
2015	867,126.33	559,100.09	857,034.31
2016	821,556.21	560,436.36	1,151,654.40
2017	776,767.96	587,375.98	1,164,238.23
2018	986,132.88	566,471.76	1,269,063.54

Source: Commission for Environmental Cooperation ("CEC"), Taking Stock, 2022

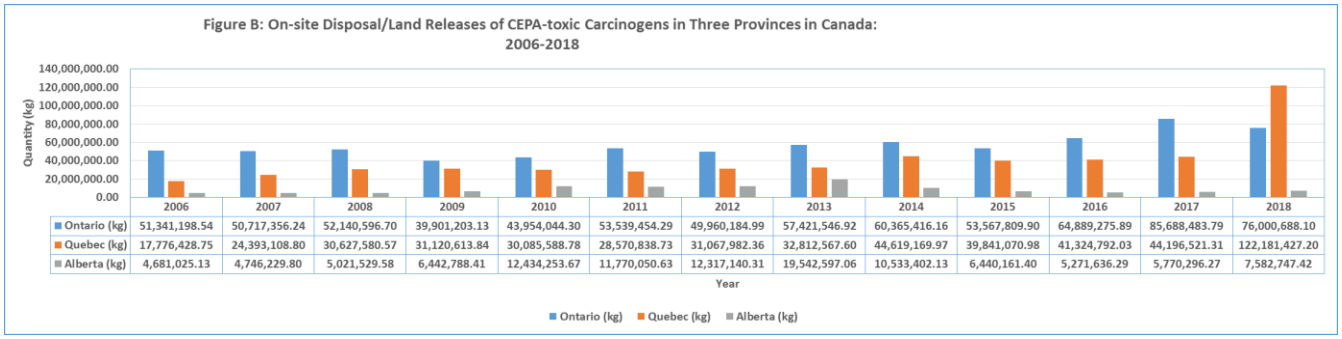


[17] "CEPA-toxic" refers to a substance that meets one or more of the requirements of section 64 of *CEPA, 1999* and, as a result, has been listed under the Act's Schedule 1 List of Toxic Substances.

Table B: On-site Disposal/Land Releases of CEPA-toxic Carcinogens in Three Provinces in Canada: 2006-2018

Year	Ontario (kg)	Quebec (kg)	Alberta (kg)
2006	51,341,198.54	17,776,428.75	4,681,025.13
2007	50,717,356.24	24,393,108.80	4,746,229.80
2008	52,140,596.70	30,627,580.57	5,021,529.58
2009	39,901,203.13	31,120,613.84	6,442,788.41
2010	43,954,044.30	30,085,588.78	12,434,253.67
2011	53,539,454.29	28,570,838.73	11,770,050.63
2012	49,960,184.99	31,067,982.36	12,317,140.31
2013	57,421,546.92	32,812,567.60	19,542,597.06
2014	60,365,416.16	44,619,169.97	10,533,402.13
2015	53,567,809.90	39,841,070.98	6,440,161.40
2016	64,889,275.89	41,324,792.03	5,271,636.29
2017	85,688,483.79	44,196,521.31	5,770,296.27
2018	76,000,688.10	122,181,427.20	7,582,747.42

Source: CEC, Taking Stock, 2022



The above Tables and Figures indicate the following:

- For Ontario, a significant **decrease (-56.28%)** in on-site air emissions of "CEPA-toxic" carcinogens over the period 2006-2018 but a significant **increase (+48.03%)** in the on-site disposal/land release of these same substances over the same period;

- For Quebec, a significant **decrease (-53.39%)** in on-site air emissions of "CEPA-toxic" carcinogens over the period 2006-2018 but a very significant **increase (+587.32%)** in the on-site disposal/land release of these same substances over the same period. Even if the 2018 on-site disposal/land release data for Quebec were an outlier and we were to assume that the 2018 Quebec data were the same or similar to the 2017 data (i.e., approximately 44,200,000 kg) that would still result in a very significant **increase (+148.64%)** of these same substances over the same period;

- For Alberta, an **increase (+16.85%)** in on-site air emissions of "CEPA-toxic" carcinogens over the period 2006-2018 and a significant **increase (+61.99%)** in the on-site disposal/land release of these same substances over the same period.

Tables C.1 and C.2 and Figures C.1 and C.2, below, examine the on-site air emissions and on-site disposal/land releases of arsenic (and its compounds), a CEPA-toxic carcinogen in each of Ontario, Quebec, and Alberta for the period 2006 to 2018:

Table C.1: Arsenic (and its compounds) – A Carcinogen listed in *CEPA, 1999* Schedule 1 List of Toxic Substances - On-site Air Emissions in Ontario, Quebec, and Alberta – 2006-2018

Province	Year:2006*	Year:2018*	Percentage Increase (+) or Decrease (-) in Emissions
Ontario	31,139.27	3,414.55	-89.03%
Quebec	15,571.87	23,282.82	**+49.52%**
Alberta	655.89	518.61	-20.93%

Source: CEC, Taking Stock, 2022
***all figures in kilograms (kg)**

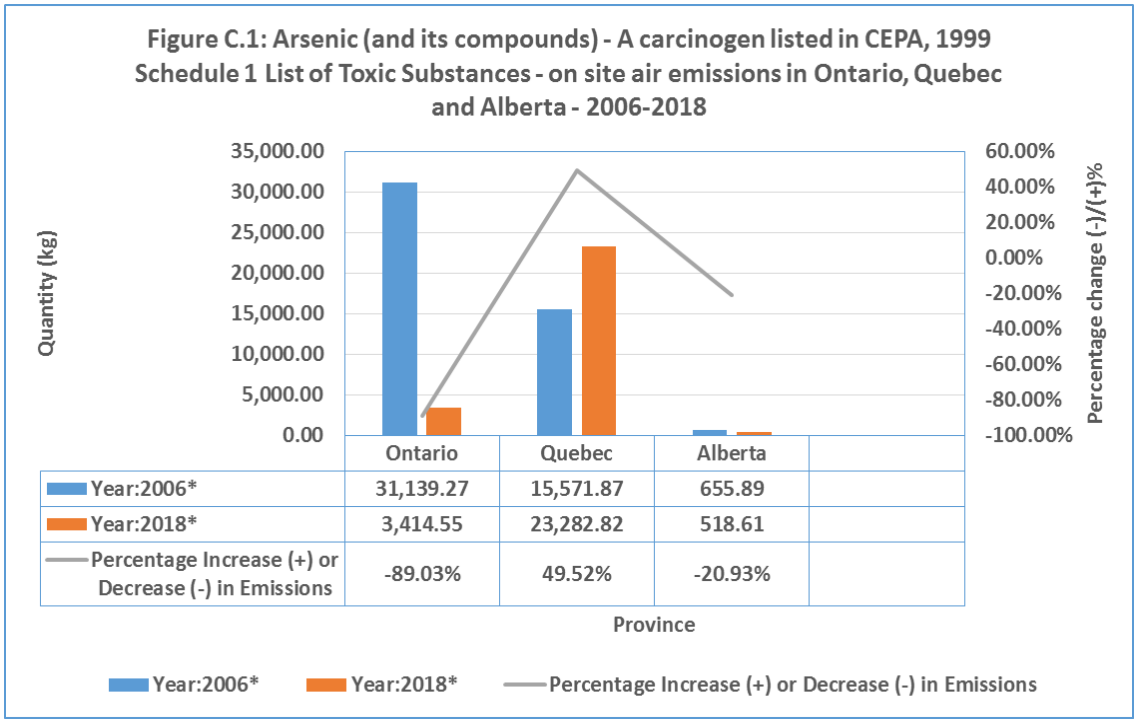
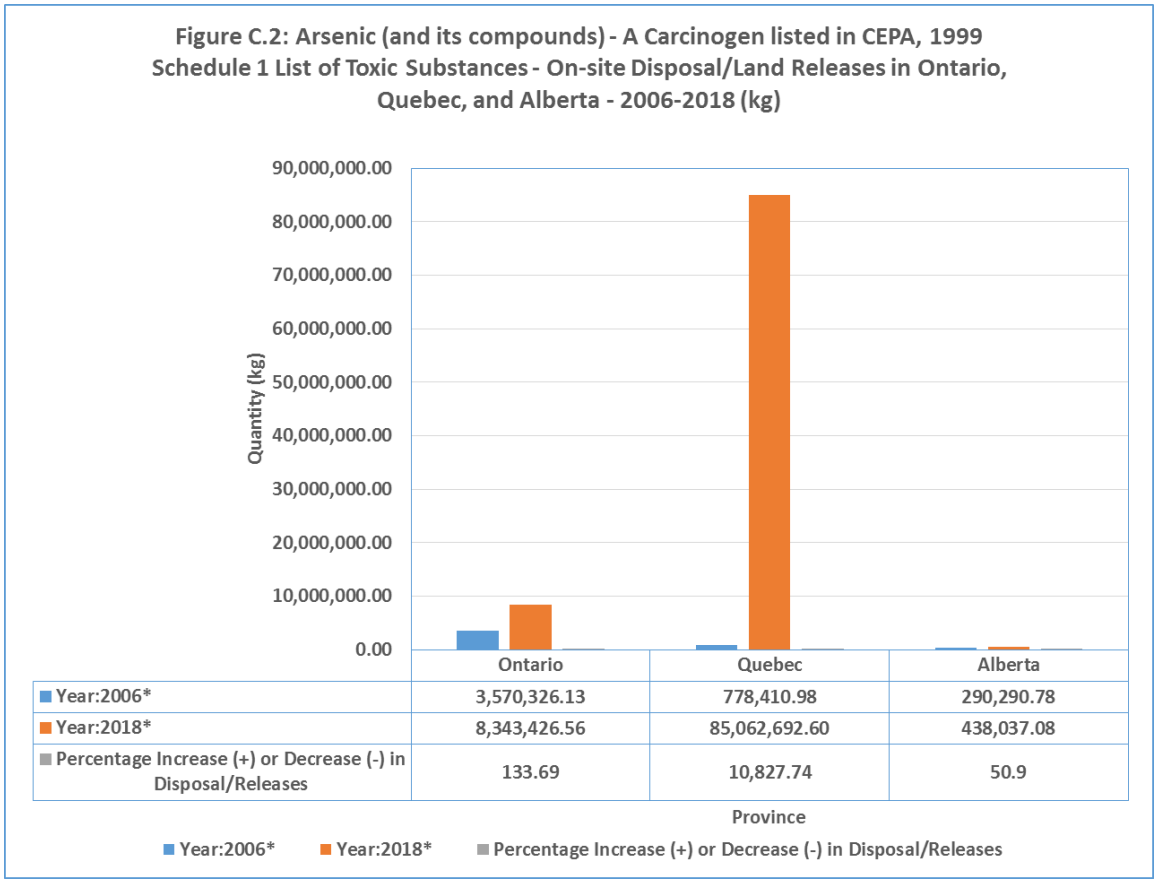


Table C.2: Arsenic (and its compounds) – A Carcinogen listed in *CEPA, 1999* Schedule 1 List of Toxic Substances - On-site Disposal / Land Releases in Ontario, Quebec, and Alberta – 2006-2018

Province	Year:2006*	Year:2018*	Percentage Increase (+) or Decrease (-) in Disposal/Releases
Ontario	3,570,326.13	8,343,426.56	**+133.69**
Quebec	778,410.98	85,062,692.60	**+10,827.74**
Alberta	290,290.78	438,037.08	**+50.90**

Source: CEC, Taking Stock, 2022
***all figures in kilograms (kg)**



The 2006-2018 period saw reductions in on-site air emissions of arsenic (and its compounds) in Ontario and Alberta, but an increase in Quebec. At the same time, the 2006-2018 period saw substantial increases in the percentage of on-site disposal / land releases of arsenic (and its compounds) in all three provinces. In general, the data from Tables C.1 and C.2 / Figures C.1 and C.2 suggest mainly a change in environmental pathway from air to land with respect to this CEPA-toxic carcinogen as opposed to the elimination of the generation and use of the substance.

Table D.1 contains the list of CEPA-toxic carcinogens common to Ontario, Quebec, and Alberta that were released during the period 2006 to 2018:

Table D.1: CEPA-toxic Carcinogens Common to Ontario, Quebec, and Alberta Released in 2006-2018

Pollutant Name	CAS Number
1,2-Dichloroethane	107-06-2
1,3-Butadiene	106-99-0
7H-Dibenzo(c,g)carbazole	194-59-2
Acetaldehyde	75-07-0
Acrylamide	79-06-1
Acrylonitrile	107-13-1
Arsenic (and its compounds)	--
Asbestos (friable form)	1332-21-4
Benzene	71-43-2
Benzo(a)anthracene	56-55-3
Benzo(a)phenanthrene (Chrysene)	218-01-9
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(j)fluoranthene	205-82-3
Benzo(k)fluoranthene	207-08-9
Benzyl chloride	100-44-7
Bis(2-ethylhexyl) phthalate	117-81-7
Cadmium (and its compounds)	--
Carbon tetrachloride	56-23-5
Chromium (and its compounds)	--
Cobalt (and its compounds)	--
Dibenzo(a,h)anthracene	53-70-3
Dibenzo(a,i)pyrene	189-55-9
Dibenzo(a,j)acridine	224-42-0
Dichloromethane	75-09-2
Dioxins and furans	--
Epichlorohydrin	106-89-8
Ethylene oxide	75-21-8
Formaldehyde	50-00-0
Hexachlorobenzene	118-74-1
Hydrazine (and its salts)	302-01-2
Indent(1,2,3-c,d)pyrene	193-39-5
Isoprene	78-79-5

Lead (and its compounds)	--
Mercury (and its compounds)	--
Naphthalene	91-20-3
Nickel (and its compounds)	--
Quinoline (and its salts)	91-22-5
Selenium (and its compounds)	--
Tetrachloroethylene	127-18-4
Toluenediisocyanate (mixed isomers)	26471-62-5
Trichloroethylene	79-01-6
Vinyl chloride	75-01-4

Source: CEC, Taking Stock, 2022

Table D.2 contains the list of CEPA-toxic carcinogens common to Ontario, Quebec, and Alberta that were released during the period 2006 to 2018 organized by whether they would appear in Part 1 or Part 2 of Schedule 1 of CEPA if Bill S-5 were enacted as currently drafted:

Table D.2: CEPA-toxic Carcinogens Common to Ontario, Quebec, and Alberta Released in 2006-2018 and Organized on Basis of Whether They Would Appear in Part 1 or Part 2 of Schedule 1 of Bill S-5

Pollutant Name	CAS Number	CEPA Schedule 1 TSL	Bill S-5, Schedule 1
1,2-Dichloroethane	107-06-2	36. 1,2-Dichloroethane	**Part 2,** 32 1,2-Dichloroethane
1,3-Butadiene	106-99-0	49. 1,3-Butadiene, which has the molecular formula C4H6	**Part 2,** 88 1,3-Butadiene, 2-methyl-, which has the molecular formula C5H8
7H-Dibenzo(c,g)carbazole*	194-59-2	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Acetaldehyde	75-07-0	48. Acetaldehyde, which has the molecular formula C2H4O,	**Part 2,** 43 Acetaldehyde, which has the molecular formula C2H4O
Acrylamide	79-06-1	111. 2-Propenamide, which has the molecular formula C3H5NO	**Part 2,** 99 2-Propenamide, which has the molecular formula C3H5NO
Acrylonitrile	107-13-1	50. Acrylonitrile, which has the molecular formula C3H3N,	**Part 2,** 45 Acrylonitrile, which has the molecular formula C3H3N
Arsenic (and its compounds)	--	28. Inorganic arsenic compounds	**Part 2,** 24 Inorganic arsenic compounds

Asbestos (friable form)	1332-21-4	6. Asbestos	**Part 2** 4 Asbestos
Benzene	71-43-2	26. Benzene that has the molecular formula C6H6,	**Part 2** 22 Benzene that has the molecular formula C6H6
Benzo(a)anthracene*	56-55-3	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Benzo(a)phenanthrene (Chrysene)*	218-01-9	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Benzo(a)pyrene*	50-32-8	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Benzo(b)fluoranthene*	205-99-2	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Benzo(j)fluoranthene*	205-82-3	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Benzo(k)fluoranthene*	207-08-9	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Benzyl chloride	100-44-7	115. Benzene, (chloromethyl)-, which has the molecular formula C7H7Cl	**Part 2,** 102 Benzene, (chloromethyl)-, which has the molecular formula C7H7Cl
Bis(2-ethylhexyl) phthalate	117-81-7	30. Bis(2-ethylhexyl)phthalate	**Part 2,** 26 Bis(2-ethylhexyl)phthalate
Cadmium (and its compounds)	--	31. Inorganic cadmium compounds	**Part 2,** 27 Inorganic cadmium compounds
Carbon tetrachloride	56-23-5	18. Tetrachloromethane (carbon tetrachloride) CCl4	**Part 2,** 14 Tetrachloromethane (carbon tetrachloride, CCl4)
Chromium (and its compounds)	--	33. Hexavalent chromium compounds	**Part 2,** 29 Hexavalent chromium compounds

Cobalt (and its compounds)	--	142. Cobalt and soluble cobalt compounds	**Part 2,** 124 Cobalt and soluble cobalt compounds
Dibenzo(a,h)anthracene*	53-70-3	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Dibenzo(a,i)pyrene*	189-55-9	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Dibenzo(a,j)acridine*	224-42-0	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Dichloromethane	75-09-2	37. Dichloromethane	**Part 2,** 33. Dichloromethane
Dioxins and furans	--	16. Polychlorinated dibenzo-para-dioxins that have the molecular formula C12H(8-n)O2Clnin which "n" is greater than 2 17. Polychlorinated dibenzofurans that have the molecular formula C12H(8-n)OCln in which "n" is greater than 2	**Part 1,** 3 Polychlorinated dibenzo-para-dioxins that have the molecular formula C12H(8-n)ClnO2 in which “n” is greater than 2 4 Polychlorinated dibenzofurans that have the molecular formula C12H(8-n)ClnO in which “n” is greater than 2
Epichlorohydrin	106-89-8	99. Oxirane, (chloromethyl)-, which has the molecular formula C3H5ClO	**Part 2,** 89 Oxirane, (chloromethyl)-, which has the molecular formula C3H5ClO
Ethylene oxide	75-21-8	57. Ethylene oxide, which has the molecular formula H2COCH2	**Part 2,** 52 Ethylene oxide, which has the molecular formula H2COCH2
Formaldehyde	50-00-0	58. Formaldehyde, which has the molecular formula CH2O,	**Part 2,** 53 Formaldehyde, which has the molecular formula CH2O
Hexachlorobenzene	118-74-1	39. Hexachlorobenzene	**Part 1** 5 Hexachlorobenzene

Hydrazine (and its salts)	302-01-2	126. Hydrazine, which has the molecular formula N2H4	**Part 2,** 110 Hydrazine, which has the molecular formula N2H4
Indeno(1,2,3-c,d)pyrene*	193-39-5	43. Polycyclic aromatic hydrocarbons	**Part 2,** 38 Polycyclic aromatic hydrocarbons
Isoprene	78-79-5	98. 1,3-Butadiene, 2-methyl-, which has the molecular formula C5H8,	**Part 2,** 4 Asbestos
Lead (and its compounds)	--	7. lead	**Part 2,** 5 Lead
Mercury (and its compounds)	--	8. Mercury and its compounds	**Part 2,** 6 Mercury and its compounds
Naphthalene	91-20-3	88. Naphthalene, which has the molecular formula C10H8, 43. Polycyclic aromatic hydrocarbons,	**Part 2,** 78 Naphthalene, which has the molecular formula C10H8
Nickel (and its compounds)	--	42. Oxidic, sulphidic and soluble inorganic nickel compounds	**Part 2,** 37 Oxidic, sulphidic and soluble inorganic nickel compounds
Quinoline (and its salts)	91-22-5	128. Quinoline, which has the molecular formula C9H7N, 43. Polycyclic aromatic hydrocarbons	**Part 2,** 111 Quinoline, which has the molecular formula C_9H_7N
Selenium (and its compounds)	--	146. Selenium and its compounds	**Part 2,** 126 Selenium and its compounds
Tetrachloroethylene	127-18-4	44. Tetrachloroethylene	**Part 2,** 39 Tetrachloroethylene
Toluene diisocyanate (mixed isomers)	26471-62-5	89. Toluene diisocyanates, which have the molecular formula C9H6N2O2	**Part 2,** 79 Toluene diisocyanates, which have the molecular formula C9H6N2O2
Trichloroethylene	79-01-6	45. Trichloroethylene	**Part 2,** 40 Trichloroethylene
Vinyl chloride	75-01-4	9. Vinyl chloride	**Part 2,** 8.Vinyl chloride

Source: CEC, Taking Stock, 2022

Table D.2 clearly shows that three substances (hexachlorobenzene, dioxins and furans - highlighted in yellow, above) out of the 43 (or about 7 percent) of CEPA-toxic cancer-causing substances or classes of substances would appear in Part 1 of the proposed new Schedule 1 to CEPA and be subject to total, partial, or conditional prohibition if Bill S-5 were enacted as currently drafted.

VIII. APPENDIX C – SELECTED INTERNATIONAL COMPARISON OF ON-SITE RELEASES TO AIR AND ON-SITE DISPOSAL/LAND RELEASES OF CEPA-TOXIC CANCER-CAUSING AGENTS IN ONTARIO AND NEW JERSEY– 2006-2018

Note: CELA's February 2022 submissions on Bill C-28 (now Bill S-5), used data from Ontario to illustrate the level of on-site air emissions of CEPA-toxic carcinogens from a major provincial economy in Canada. To put in perspective Ontario's emissions set out in the above submissions, below we compare emissions between Ontario and New Jersey. The reason CELA has chosen this comparison is two-fold. First, in testimony given on June 14, 2016 to the House Standing Environment Committee during the review of *CEPA, 1999* conducted by that committee, a senior chemical industry representative suggested that to conduct an apples-to-apples comparison of emissions from Ontario and another jurisdiction it would be appropriate to compare Ontario to states like Michigan, New Jersey, or Louisiana that have an economic, manufacturing, and industrial base similar to Ontario.[18] Second, in testimony given on October 6, 2016 to the House Standing Environment Committee during the review of *CEPA, 1999* conducted by that committee, a senior official from Environment and Climate Change Canada testified that New Jersey is a jurisdiction that the department has long tried to benchmark itself against, and which the official described as having "an extremely effective toxics initiative".[19] CELA has compared Ontario and New Jersey releases of substances that are both carcinogens and CEPA-toxic for the period 2006-2018. This largely overlaps with the period Canada's Chemicals Management Plan has been in force. See Table D for the substances considered in this Appendix.

Table A sets out the respective populations of Ontario and New Jersey in 2018:

Table A: 2018 Populations of Ontario and New Jersey

Province or State	Population (millions)
Ontario	14.3
New Jersey	8.9

Source: Statistics Canada; United States Census Bureau

Table B / Figure B, below, compares on-site releases to air of CEPA-toxic carcinogens common to Canada and the United States that were released in Ontario and New Jersey during the period 2006 to 2018:

[18] Canada, House of Commons Standing Committee on Environment and Sustainable Development, 42nd Parl., 1st Sess., No. 023 (14 June 2016) (Testimony of Michael Burt, Corporate Director, Regulatory and Government Affairs, Dow Chemical Canada Inc.) at 12.

[19] Canada, House of Commons Standing Committee on Environment and Sustainable Development, 42nd Parl., 1st Sess., No. 028 (6 October 2016) (testimony of John Moffet (Director General, Legislative and Regulatory Affairs Directorate, Department of the Environment) at 8.

Table B: On-site Releases to Air of CEPA-toxic Carcinogens Common to Canada and the United States Released in Ontario and New Jersey – 2006-2018

Year	Ontario (kg)	New Jersey (kg)
2006	2,255,604.50	103,889.31
2007	1,501,281.83	94,290.50
2008	1,297.176.56	89,287.24
2009	948,433.87	65,441.02
2010	843,793.34	73,030.80
2011	889,239.61	46,590.59
2012	907,107.99	48,066.71
2013	919,411.62	46,940.60
2014	913,432.75	43,713.67
2015	867,126.33	41,067.30
2016	821,556.21	36,067.39
2017	776,767.96	34,356.00
2018	986,132.88	34,715.59

Source: Commission for Environmental Cooperation (CEC), Taking Stock, 2022

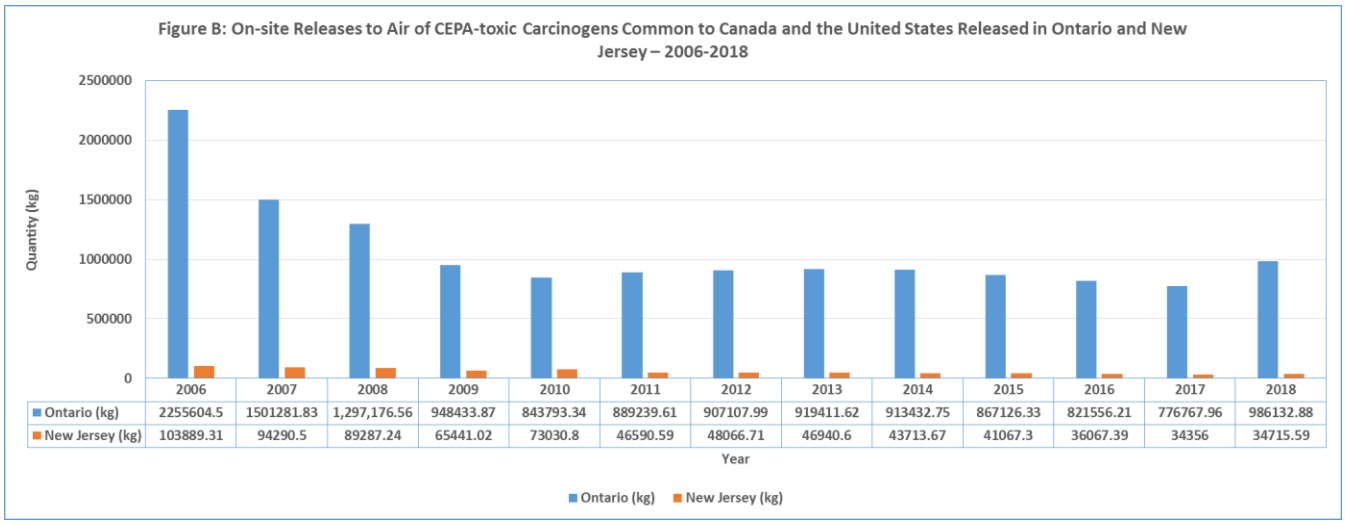


Table B / Figure B, above, shows that in 2018 Ontario's on-site releases to air of "CEPA-toxic"[20] carcinogens common to both countries were more than **28 times** greater than those of New Jersey. If one were to double both New Jersey's population (from 8.9 to 17.8 million) and, thereby, its releases in 2018 (from 34,715 kg to 69,430 kg) but kept constant Ontario's 2018 on-site releases to air of "CEPA-toxic" carcinogens common to both countries, Ontario's releases would still be more than **14 times** greater than those of New Jersey. Ontario's on-site releases to air of "CEPA-toxic" carcinogens common to both countries, even in 2018, were still **9.5 times** greater than what New Jersey released thirteen years earlier in 2006.

If, as the senior ECCC witness stated in his testimony, New Jersey has "an extremely effective toxics initiative" what does it say about the effectiveness of Canada's initiative under *CEPA, 1999* when we see **28 times** more on-site air releases in Ontario compared to New Jersey of CEPA-toxic carcinogens common to both countries (Table B)?

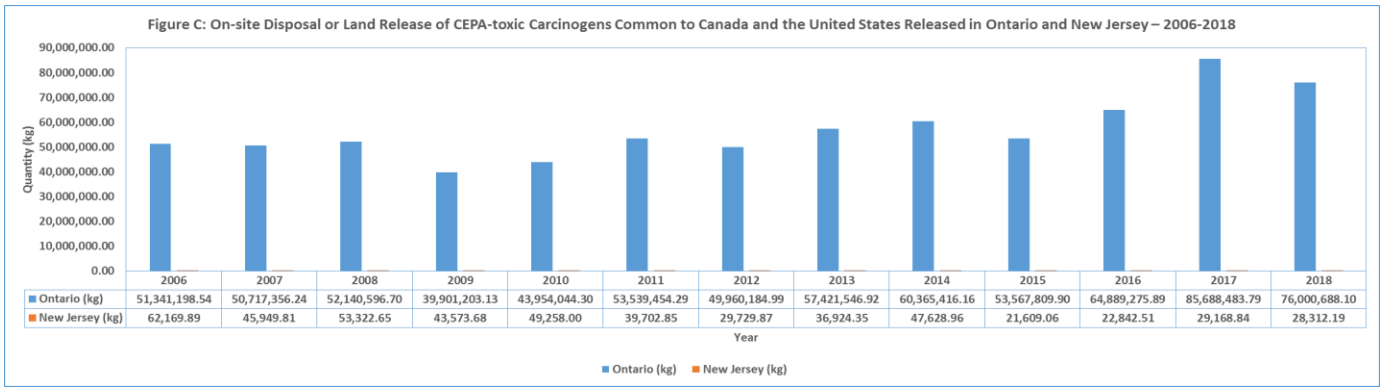
Furthermore, there is one additional issue to consider when looking at the CEC data. Table B shows a decline in the on-site releases to air of CEPA-toxic carcinogens in Ontario and New Jersey for the period 2006-2018. One might, therefore, argue that: (1) Ontario is reducing its on-site air releases of carcinogens (even if not as quickly as New Jersey); and (2) *CEPA, 1999* should take the credit for that, at least in part. However, CELA suggests that conclusion might not be the correct one to reach due to what Table C / Figure C, below, shows:

Table C: On-site Disposal or Land Release of CEPA-toxic Carcinogens Common to Canada and the United States Released in Ontario and New Jersey – 2006-2018

Year	Ontario (kg)	New Jersey (kg)
2006	51,341,198.54	62,169.89
2007	50,717,356.24	45,949.81
2008	52,140,596.70	53,322.65
2009	39,901,203.13	43,573.68
2010	43,954,044.30	49,258.00
2011	53,539,454.29	39,702.85
2012	49,960,184.99	29,729.87
2013	57,421,546.92	36,924.35
2014	60,365,416.16	47,628.96
2015	53,567,809.90	21,609.06
2016	64,889,275.89	22,842.51
2017	85,688,483.79	29,168.84
2018	76,000,688.10	28,312.19

Source: CEC, Taking Stock, 2022

[20] "CEPA-toxic" refers to a substance that meets one or more of the requirements of section 64 of *CEPA, 1999* and, as a result, has been listed under the Act's Schedule 1 List of Toxic Substances.



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ontario (kg)	51,341,198.54	50,717,356.24	52,140,596.70	39,901,203.13	43,954,044.30	53,539,454.29	49,960,184.99	57,421,546.92	60,365,416.16	53,567,809.90	64,889,275.89	85,688,483.79	76,000,688.10
New Jersey (kg)	62,169.89	45,949.81	53,322.65	43,573.68	49,258.00	39,702.85	29,729.87	36,924.35	47,628.96	21,609.06	22,842.51	29,168.84	28,312.19

Table C / Figure C shows a significant **increase** in Ontario (**+48.03%**) of on-site disposal or land release of the same CEPA-toxic known or suspected carcinogens as in Table B over the period 2006-2018, while New Jersey experienced a significant **decrease** (**-54.46%**) in the release of these same substance over the same period. On a per capita basis, Ontario's on-site disposal / land releases of these substances was over **1300 times** greater than New Jersey's over this period. What Table C also shows is that Ontario may have been merely shifting the release of these CEPA-toxic known or suspected carcinogens from one medium (air) to another (land) over this thirteen-year period. Moving cancer-causing substances from one exposure pathway to another does not represent progress in protecting human health and the environment. It merely represents putting a different part of the environment and a different group of people at risk.

These numbers are the result of either ineffective federal or Ontario law, or both. However, because the Table/Figure B and C analyses are for CEPA-toxic substances, the federal government cannot avoid responsibility for emissions of substances it has itself designated as problems and placed under the *CEPA, 1999* Schedule 1 List of Toxic Substances. If nothing else, the information contained in this Appendix provides strong support for revamping *CEPA, 1999*, Part 4 (Pollution Prevention) along the lines suggested by CELA in Tab 3 of our March 2022 proposed amendments document.

As noted above, Table D contains the list of CEPA-toxic carcinogens common to Canada and the United States that were released in Ontario and New Jersey during the period 2006 to 2018:

Table D: CEPA-toxic Carcinogens Common to Canada and the United States Released in Ontario and New Jersey – 2006-2018

Pollutant Name	CAS Number
1,2-Dichloroethane	107-06-2
1,3-Butadiene	106-99-0
7H-Dibenzo(c,g)carbazole	194-59-2
Acetaldehyde	75-07-0
Acrylamide	79-06-1
Acrylonitrile	107-13-1
Arsenic (and its compounds)	--
Asbestos (friable form)	1332-21-4
Benzene	71-43-2
Benzo(a)anthracene	56-55-3
Benzo(a)phenanthrene (Chrysene)	218-01-9
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Bis(2-ethylhexyl) phthalate	117-81-7
Cadmium (and its compounds)	--
Carbon tetrachloride	56-23-5
Chromium (and its compounds)	--
Cobalt (and its compounds)	--
Dibenzo(a,h)anthracene	53-70-3
Dibenzo(a,i)pyrene	189-55-9
Dibenzo(a,j)acridine	224-42-0
Dichloromethane	75-09-2
Dioxins and furans	--
Epichlorohydrin	106-89-8
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Hexachlorobenzene	118-74-1
Hydrazine (and its salts)	302-01-2
Indeno(1,2,3-c,d)pyrene	193-39-5
Isoprene	78-79-5
Lead (and its compounds)	--
Mercury (and its compounds)	--
Naphthalene	91-20-3
Nickel (and its compounds)	--
Quinoline (and its salts)	91-22-5
Selenium (and its compounds)	--
Tetrachloroethylene	127-18-4
Toluenediisocyanate (mixed isomers)	26471-62-5
Trichloroethylene	79-01-6
Vinyl chloride	75-01-4

Source: CEC, Taking Stock, 2022

IX. APPENDIX D – CELA CONCERNS WITH BILL S-5 AND PROPOSED SOLUTIONS

SELECTED SUMMARY OF CELA CONCERNS WITH BILL S-5 AND PROPOSED SOLUTIONS

Concerns	Proposed Solutions
1. Changes to Schedule 1 of *CEPA, 1999* ♦ Sch. 1 no longer to be identified as list of "toxic substances" ♦ S-5 divides Sch. 1 into two Parts; placing small number of chemicals in new Part 1 (19) - only these may be prohibited from Canadian commerce; ♦ Most Sch. 1 chemicals to be in new Part 2 (132) and not subject to prohibition; ♦ Two-tiered approach risks Act's constitutionality	♦ Restore "List of Toxic Substances" title to Schedule 1; ♦ Do not create two Parts to Sch. 1; ♦ Any substance in Sch. 1 should be eligible for full risk management (e.g., bans, substitution, etc.) ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 12-16; and CELA March 2022 proposed amendments to Bill S-5, Tab 6, pages 1-2
2. Pollution Prevention Planning Still Discretionary ♦ Minister still not required to compel persons to create pollution prevention plans (PPP) for every substance in Sch. 1 ♦ Since 2000, only one-sixth of Sch. 1 toxic substances have a PPP (25 out of 150) ♦ At the rate of 25 substances every 20 years it will take Canada well into 22nd century to impose PPP on existing Sch. 1 chemicals, let alone those added over next 80+ years	♦ Make PPP mandatory for all Sch. 1 substances ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 17-18; and CELA March 2022 proposed amendments to Bill S-5, Tab 3, pages 1-11
3. Pollution Abatement is Not Pollution Prevention ♦ PPP is about eliminating creation and use of toxic substances ♦ Pollution abatement is about controlling releases, emissions, discharges ♦ Canada has allowed industry to use pollution abatement as a substitute for PPP majority of time a PPP has been prepared under *CEPA, 1999* ♦ Some substances subject to PPP have still seen their emissions increase	♦ Strictly limit use of pollution abatement measures as substitutes for PPP ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 18-25; and CELA March 2022 proposed amendments to Bill S-5, Tab 3, page 10 of 11
4. Bill S-5 Repeals Virtual Elimination Authority ♦ Authority for virtual elimination of toxic substances under *CEPA, 1999* to be repealed ♦ "Failure" of virtual elimination authority due to federal government wanting to reduce releases of toxic substances instead of eliminating their generation and use ♦ Government's substitute approach of using existing prohibition regulations has in fact permitted uses of toxics to continue in commerce and industry	♦ Retain virtual elimination authority; ♦ Make it focus on elimination of substances, not releases below level of quantification ♦ Inorganic substances (e.g., lead, mercury, arsenic) should be eligible for virtual elimination from industrial-commercial activity ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 27-31; and CELA March 2022 proposed amendments to Bill S-5, Tab 4, pages 1-4

SELECTED SUMMARY OF CELA CONCERNS WITH BILL S-5 AND PROPOSED SOLUTIONS

Concerns	Proposed Solutions
5. Substitution of Safer Alternatives Not Central Focus of Bill S-5 ♦ Few references to alternatives in Bill ♦ Only 19 substances (Sch. 1, Part 1) eligible for substitution under Bill S-5 = 13% of all toxic substances in Sch. 1 ♦ 87% of toxic substances in Sch. 1 (i.e., those in Part 2) are not – these only subject to PPP (and as PPP regime has been applied by government, they're generally only subject to pollution abatement)	♦ Make substitution central focus of *CEPA, 1999* ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 36-39; and CELA March 2022 proposed amendments to Bill S-5, Tab 3, pages 1-11
6. Recognizing Right to Healthy Environment But No Remedy ♦ Bill S-5 proposes a RTHE but with caveats (e.g., subject to balancing with economic or other factors) ♦ Existing citizen suit remedy in *CEPA, 1999* never been used in over 20 years because too many procedural barriers to its use in Act ♦ Government does not propose removal of these barriers so RTHE not enforceable	♦ Clarify RTHE and make enforceable by removing barriers to existing remedy authority ♦ Remove the language re balancing with economic factors in Bill S-5 ♦ For further discussion see CELA February 2022 submissions on Bill C-28, page 31-35; and CELA March 2022 proposed amendments to Bill S-5, Tab 2, pages 1-7
7. Lack of Mandatory Testing ♦ Bill S-5 authorizes collection of data on whether a substance an endocrine disruptor; Bill also authorizes Minister to consider available information on vulnerable populations and cumulative effects of a potential toxic substance ♦ In none of these cases does Bill direct Minister to require testing by industry when there are information gaps on whether substance toxic	♦ Make testing mandatory where available information inadequate to determine if substance toxic, or capable of becoming toxic ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 39-42; and CELA March 2022 proposed amendments to Bill S-5, Tab 5, pages 1-2
8. Ambient Air Quality Problems Posed by Toxics Not Addressed ♦ Several Sch.1 toxic substances pose national ambient air quality environmental / health problems (e.g., lead) ♦ 2017 Standing Committee report on *CEPA, 1999* recommended government develop legally binding and enforceable national air quality standards in consultation with provinces and other stakeholders ♦ Bill S-5 silent on this issue	♦ Develop legally binding and enforceable national ambient air quality standards for selected Sch. 1 toxic substances (e.g., lead) ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 25-27; and CELA March 2022 proposed amendments to Bill S-5, Tab 7, pages 1-7

SELECTED SUMMARY OF CELA CONCERNS WITH BILL S-5 AND PROPOSED SOLUTIONS

Concerns	Proposed Solutions
9. Repeal of Geographically Focused Regulatory Authority Hides Ability to Address Toxic Hot Spots ♦ Bill S-5 would repeal *CEPA, 1999* sections 330(3) and (3.1) that authorize geographically targeted regulatory authority yet government says this will help address toxic hot spots	♦ Retain and expand existing *CEPA, 1999* authority ♦ For further discussion see CELA February 2022 submissions on Bill C-28, pages 16-17; and CELA March 2022 proposed amendments to Bill S-5, Tab 8, page 1of 1

X. APPENDIX E – APRIL 2021 BLOG SUMMARIZING INITIAL CELA CONCERNS WITH BILL C-28

Long Awaited Amendments to CEPA: The Good, The Bad, and the Ugly on Chemicals and Environmental Rights

Blog by
Joseph F. Castrilli, Counsel and Fe de Leon, MPH, Researcher and Paralegal, CELA

April 15, 2021

Canada has long needed a more robust federal law to address the dramatic expansion in the use of toxic substances that has developed in Canadian and international commerce in recent decades. The stakes are high.

In 2019, the United Nations Environment Programme ("UNEP") released its latest global chemicals outlook report, which indicated that the 2002 goal of the UN World Summit on Sustainable Development, reiterated in 2006 and 2012, of achieving by 2020 the environmentally sound management of chemicals and wastes, will not be achieved. It undoubtedly was not. The UNEP report noted that trends data suggested the doubling of the global chemicals market between 2017 and 2030 will increase global chemical releases, exposures, concentrations and adverse health and environmental impacts unless the sound management of chemicals is achieved worldwide. The report adds: "Business as usual is, therefore, not an option". The UNEP report also found that:

- Production processes continue to generate significant chemical releases to air, water and soil as well as large amounts of waste, including hazardous waste;
- Chemical pollutants are ubiquitous in the environment and humans;
- The burden of disease from chemicals is high, and vulnerable populations are particularly at risk; and
- Chemical pollution threatens biota and ecosystem functions.

It is within this global context that long-awaited amendments to Canada's premier environmental law – the *Canadian Environmental Protection Act, 1999* (*CEPA*) – should be considered. Amendments to *CEPA* were expected to transition the statute to a more robust regime that could provide solutions to problems respecting the impacts of toxic substances on human health and the environment that have been accumulating over two decades since the law was last amended. Indeed, it has already been five years since a Parliamentary Standing Committee last held hearings on possible *CEPA* amendments.

As of April 13, 2021, we now have a 40-page bill of proposed amendments to *CEPA*, introduced for First Reading in Parliament as Bill C-28. What we do not have are solutions.

Numerous problems were identified and numerous solutions proposed by the Standing Committee and by those appearing before the committee in 2016 and 2017. However,

Bill C-28, with some exceptions, is vague, silent, or unhelpful on key issues of concern. Bill C-28 also purports to fix things that are not broken in the law and that now have the potential to become problems going forward – as a result of the amendments.
Among the issues identified by lawyers, scientists, policy analysts, and others in seeking material reform of the law, included:

- Control of endocrine disrupting substances;
- Establishment of enforceable national ambient air quality standards;
- Protection of vulnerable populations from toxic substances;
- Substitution of safer alternatives to toxic substances; and
- Civil enforcement of the Act by the public in the courts.

Yet, with some exceptions Bill C-28: (1) does not address these problems; (2) only scratches the surface of these problems; or (3) makes things worse. Five years, let alone twenty years, is a long time to wait for a bill that fails to address long unmet needs.
The following is a short list on the good, the bad, and the ugly of Bill C-28:

Bifurcating "Toxic Substances" in Schedule 1

- Section 58 of Bill C-28 proposes to divide the existing single list of approximately 150 toxic substances in Schedule 1 of the Act into two parts. Part 1 of the proposed revised schedule would list a few substances (19 at this time) that can be subject to prohibition and restriction. Part 2 of the proposed revised schedule would list approximately 130 substances that would only be subject to pollution prevention measures. The approach appears to be based on a federal government view, long supported by the chemical industry, that many of the substances on the current Schedule 1 are not "toxic" in the traditional sense, and therefore should not be stigmatized and subjected to the most rigorous of measures available under the Act. This view belies the fact that all of the substances on the existing Schedule 1 are there because they meet the very stringent test for being designated toxic established under s. 64 of the Act and more than a few of them merit being virtually eliminated from commerce. Instead, what the government eliminated in Bill C-28, was the existing *CEPA* provision (s. 65) authorizing virtual elimination of such toxic substances.

- Moreover, Bill C-28, by bifurcating Schedule 1 not only gives credence to the industry view it also creates legal uncertainty that has the potential for undermining the constitutionality of the Act, which was based on the criminal law power as decided by the Supreme Court of Canada in its 1997 judgment in *Hydro-Quebec*. In that case, the court was prepared to countenance the Act's approach to studying the universe of thousands of pollutants in the environment, so long as the Act only purported to control an "evil" few (i.e., the very worst actors, roughly 150 toxic substances currently out of over 23,000 in Canadian commerce). In this way, the Act left substantial room for provincial authority to address the

thousands of other "non-toxic" substances and did not otherwise upset the balance of Canadian federalism (i.e., the division of powers between Parliament and provincial legislatures under the Constitution). The Bill C-28 approach, coupled with the views of the federal government and industry that maybe some (most?) of the substances in Schedule 1 really are not toxic in the traditional sense, has the potential to undermine the constitutional foundation of *CEPA*. This is a high price to pay to make the chemical industry feel better about its products.

Right to a Healthy Environment

- Three provisions in Bill C-28 purport to address a right to a healthy environment. First, the preamble states that every individual in Canada has a right to a healthy environment (as provided under the Act). Second, Bill C-28 (creating a new subsection (a.2) for existing s. 2(1) of the Act) also requires the Government of Canada to protect the right of every individual in Canada to a healthy environment as provided under the Act, which right may be balanced with relevant factors, including social, economic, health and scientific factors. Third, s. 5.1(1) states that the Ministers must, within two years after the coming into force of the section, develop an implementation framework for how the right to a healthy environment will be "considered in the administration of this Act", including principles of environmental justice, avoidance of adverse effects that disproportionately affect vulnerable populations, and the principle of non-regression, balanced with the above-noted social, economic, health and scientific factors.

- Separately or together these provisions do not establish a right to a healthy environment. First, as a matter of law, preambles are not enforceable in and of themselves. They are merely interpretative aids.

- Second, the proposed amendments to s. 2 and s. 5.1 are so couched with caveats about balancing, for example, economic factors, that they hardly constitute an environmental Magna Carta.

- Third, the commitment to develop an "implementation framework" several years down the road is pretty vague and certainly does not on its face create a stand-alone "right" of individuals to a healthy environment. It is a regime entirely dependent on the will of government; i.e., the opposite of a rights-based approach to the law. A right requires a remedy for individuals to invoke in an independent forum (i.e., a court) when, for whatever reasons, government will not act. Such a remedy-based right is precisely what is lacking in Bill C-28. Moreover, s. 5.1 does not on its face contemplate further amendments to *CEPA* arising from development of the "implementation framework" that could result in a true "right and remedy" being established. A technical briefing by federal officials held on

the day Bill C-28 was tabled in Parliament did not leave such an impression either.

- The 2017 report of the Standing Committee recommended amendments to *CEPA* that would have enshrined both procedural and substantive rights to a healthy environment. Bill C-28 deviates significantly from these Standing Committee recommendations. The government could have amended existing s. 22 of the Act, as recommended by the Standing Committee. Section 22 authorizes any person to bring an environmental protection action in a court of competent jurisdiction where there has been an offence committed under the Act that has caused significant environmental harm. Section 22 is circumscribed by many caveats, procedural obstacles, and conflicting legal principles. As a result, it has not been invoked by any member of the public since *CEPA* came into force in 2000. However, the Standing Committee and persons appearing before the Committee believed s. 22 could be re-fashioned into a workable remedy for members of the public to use in the courts in vindicating a right to a healthy environment. CELA drafted such amendments in 2018 that were supported by over 30 organizations across the country as part of a larger set of proposed changes to *CEPA*.

- Finally, the proposed Global Pact for the Environment, currently under discussion at the UN, also provides guidance on what a true right to, and remedy to ensure, a healthy environment would look like. Article 1 of the Pact (Right to an ecologically sound environment) states: “Every person has the right to live in an ecologically sound environment adequate for their health, well-being, dignity, culture and fulfilment”. Moreover, Article 11 of the Pact (Access to environmental justice) states: “Parties shall ensure the right of effective and affordable access to administrative and judicial procedures, including redress and remedies, to challenge acts or omissions of public authorities or private persons which contravene environmental law, taking into consideration the provisions of the present Pact”. In short, Canada can do much better than what is currently in Bill C-28 on the issue of a right to a healthy environment.

Endocrine Disruption

- For the purpose of assessing whether a substance is toxic or capable of becoming toxic under s. 68 of the Act, amendments in Bill C-28 authorize the Minister of Environment to collect data and conduct investigations in relation to whether a substance has the ability to disrupt the endocrine system of an organism. This will improve existing law in relation to endocrine disrupting substances. The failure to explicitly mention disruption of the endocrine system in the existing law up to now allowed many substances to escape scientific review at the categorization and chemicals management stages under the Act if they did not exhibit any other type of toxicity.

- However, even with the proposed Bill C-28 amendments, the Minister is not authorized under s. 68 to require testing by industry with respect to endocrine disruption. The lack of a requirement to direct that testing be performed has often been the Achilles heel of the statute's approach to assessing the toxicity of substances. Indeed, under the existing Act even where a requirement to test does exist (such as in s. 71) actual instances of requiring industry to test have been rare. Hence the need for third party enforcement by persons with a right to a healthy environment to ensure that testing does occur when, for whatever reasons, government does not require it. But Bill C-28 does not provide such a right.

Vulnerable Populations

- Bill C-28 amendments also will allow the Ministers of Environment and Health to consider available information on vulnerable populations in relation to a substance when engaging in a weight of evidence evaluation for a screening assessment or other risk analysis under proposed s. 76.1(2). This too would improve existing law. However, there often is not any (or not adequate) information available and the s. 76.1(2) amendments do not require that the Ministers direct that testing be undertaken by industry where there is an information gap. Again, an appropriate situation for third party enforcement by persons with a right to a healthy environment, but Bill C-28 does not provide such a mechanism.

In the weeks and months ahead, we will return to other aspects of Bill C-28 as the bill works its way through the Parliamentary process.

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XI. APPENDIX F – EXCERPTS FROM YUKON ENVIRONMENT ACT, R.S.Y. 2002, C. 76, SECTIONS 6-8, 12(1) ON ENVIRONMENTAL RIGHTS

PART 1
ENVIRONMENTAL R IGHTS

6 Environmental right
The people of the Yukon have the right to a healthful natural environment.

[S.Y. 2002, c. 76, s. 6]

7 Declaration
It is hereby declared that it is in the public interest to provide every person resident in the Yukon with a remedy adequate to protect the natural environment and the public trust.

[S.Y. 2002, c. 76, s. 7]

8 Right of action
(1) Every adult or corporate person resident in the Yukon who has reasonable grounds to believe that

(a) a person has impaired or is likely to impair the natural environment; or
(b) the Government of the Yukon has failed to meet its responsibilities as trustee of the public trust to protect the natural environment from actual or likely impairment

may commence an action in the Supreme Court.
….

[S.Y. 2002, c. 76, s. 8]

….
12 Remedies

(1) In respect of an action under subsection 8(1), the Supreme Court may

(a) grant an interim, interlocutory, or permanent injunction;

(b) grant a declaration;

(c) award damages;

(d) award costs; and

(e) grant any other remedy that the Supreme Court considers just.

….
[S.Y. 2014, c. 6, s. 3][S.Y. 2002, c. 76, s. 12]

XII. APPENDIX G – EXCERPTS FROM MARCH 2022 CELA BLOG ON BILL S-5

BLOG

CELA Proposes Amendments to Fix Federal Toxic Substances Law

By

Joseph F. Castrilli
CELA Counsel

March 4, 2022

CELA urges the Government of Canada to adopt amendments CELA drafted to strengthen Bill S-5, the first major bill in Parliament in over two decades that addresses the *Canadian Environmental Protection Act, 1999*, Canada's key law controlling toxic substances. The amendments CELA is proposing follow lengthy submissions it provided to the federal environment and health ministers last month, which cataloged major problems with the government's bill.

….

CELA's amendments on [the need to continue identifying Schedule 1 substances as "toxic"] are particularly important. Bill S-5 would: (1) eliminate the word "toxic" from CEPA's current Schedule 1 List of Toxic Substances; and (2) divide the Schedule into two parts and result in almost 90 percent of the substances being potentially subject to less stringent controls. In CELA's view these proposed changes by Bill S-5 risk undermining the foundation of the statute as valid federal legislation under the criminal law power of the Constitution as established by the Supreme Court of Canada in the 1997 *Hydro-Quebec* case. While the chemical industry has applauded the decision to change the title of Schedule 1 to remove the reference to toxic substances, the federal government has provided no compelling reason for its proposed changes to Schedule 1. It is also contrary to the advice the House Standing Committee on the Environment provided Parliament and the Government of Canada in 2007. At that time the House Committee stated in part:

> "The constitutional authority for CEPA was narrowly upheld by the Supreme Court in the [*Hydro-Quebec*] case as a valid exercise of the federal criminal law power. The removal of the word "toxic" would almost certainly invite litigation and, though unlikely, could tip the balance of the court on the issue of constitutionality".

Bill S-5 goes even further than what the 2007 House Committee warned against doing because the Bill not only removes the word “toxic” from the title of Schedule 1 of CEPA but also creates two-tiers of substances one tier of which is subject to less stringent controls. This kind of change sends the wrong message to the public and the courts. It falls into the category of fixing what isn’t broken and may have the unintended consequence of making what was settled constitutional law up to now, uncertain going forward.

In CELA’s view, there are serious, but solvable, problems with CEPA that the government has not addressed in Bill S-5. The current name of Schedule 1 is not one of those problems but Bill S-5 could turn it into one. It’s time for the public to have its say on this – and other issues – regarding what our federal toxics law should look like and address over the next twenty years.

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XIII. APPENDIX H – APRIL 2007 HOUSE STANDING ENVIRONMENT COMMITTEE REPORT EXCERPTS ON THE WORD "TOXIC"

HOUSE OF COMMONS STANDING COMMITTEE ON THE ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

THE CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999 – FIVE-YEAR REVIEW: CLOSING THE GAPS – APRIL 2007

pages 45-47

....

THE USE OF THE WORD "TOXIC"

Without a doubt, on a word for word basis, the Committee spent more time discussing the use of the word "toxic" than any other in the Act. The use of "toxic" is clearly problematic to industry. This problem has been exacerbated greatly by the lack of context in Schedule 1.

Schedule 1 is the List of Toxic Substances, as defined under the Act. Once a substance is listed, it gives the authority to the government to implement any number of CEPA "tools" in particular regulation. Substances are added based on one or more of three criteria. A substance is toxic if it is entering or may enter the environment in a quantity or concentration, or under conditions that:

> (a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity;
>
> (b) constitute or may constitute a danger to the environment on which life depends; or
>
> (c) constitute or may constitute a danger in Canada to human life or health.

Thus, the definition of "toxic" in the Act includes both the hazard that a substance poses (its inherent toxicity) and the exposure of humans and the environment to it. This is consistent with the notion of "the dose makes the poison" which the Committee was referred to on numerous occasions. It may be less consistent with the general population's concept of a "toxic" substance being one that is poisonous even at low exposure.

Thus, a substance can be placed on Schedule 1 as a result of it having deleterious effects at high exposure in certain contexts, despite the fact that it might be commonly used under different circumstances quite safely and usefully. Industry representatives repeatedly stated that because of this, their products were being given an unfair stigma.

The examples of road salt and ammonia in water came up continuously. Road salt was not added to Schedule 1, but had been found in its assessment to meet subsections (a) or

(b). Ammonia in water was added to Schedule 1 after an assessment of ammonia in the aquatic environment found that it met subsection (a). Another example, carbon dioxide, was added as a greenhouse gas after an assessment concluded that it met subsection (b). Gaseous ammonia was added as a precursor to fine particulate matter as a result of particulate matter meeting subsection (c).

Industry's main objection to the use of the word "toxic" is that it gives all Schedule 1 substances the same connotation of being something to be avoided at all costs. People see the word "toxic" and think "high hazard", and may be confused given that, for example, they may be essentially sprinkling such a substance on their french fries. Indeed, other international industries and governmental bodies apparently also need to have explained to them the meaning of the term "toxic," as defined in CEPA 1999.

But few cases of concrete harm were brought before the Committee. In the most serious case, a potassium chloride contract was apparently in jeopardy because it is a constituent of road salt. The Japanese purchaser somehow found out about the intent to list road salt and was afraid that its buyers would not be able to use it on their farms. Use of a toxic substance might have precluded labelling a product as organic, for instance. Another case involved the B.C. Buildings Corporation Cleaning Management which states that all substances that are on Schedule 1 should not be in any products.

So while it has been a problem, it does not seem to have created enormous negative impact on industry. Its heaviest impact may have been on implementing CEPA 1999, as it creates a barrier to effective negotiation and action.

Many industry representatives suggested removing the word "toxic" altogether and replacing it with "substances to be managed." This has some attractions, particularly its simplicity, but also has some disadvantages.

The constitutional authority for CEPA was narrowly upheld by the Supreme Court in the R. vs. Quebec Hydro case as a valid exercise of the federal criminal law power. The removal of the word "toxic" would almost certainly invite litigation and, though unlikely, could tip the balance of the court on the issue of constitutionality.

There have been two attempts by the government to remove "toxic" from all or parts of the Act, so presumably, lawyers from the Department of Justice who advise the government, are not terribly concerned about the constitutional authority issue. But one cannot know this for certain because such advice to departments is generally confidential.

The second problem is that removal of the word "toxic" could lead to much less concern on the part of society to control these substances.

The meaning of "toxic" should not be so difficult to explain. As the Committee was told time and again "the dose makes the poison." The real problem would seem to be the lack of context in Schedule 1.

How “ammonia in the aquatic environment” became “ammonia in water” is really incomprehensible. The greatest problem identified in the risk assessment of ammonia in the aquatic environment was ammonia releases from municipal wastewater facilities. Carbon dioxide itself can be very poisonous at high levels, but it is generally not, except that it is toxic to the environment as a greenhouse gas.

The Canadian Chemical Producers’ Association offered a compromise:

> But if it isn't acceptable to the Committee to change the “toxic” language as we've recommended, then I think something else that the Committee should recommend in its report is something that I believe there was a lot of consensus around from all parties and that's for the government to have to provide more context when a substance is listed on Schedule 1 as toxic.

Recommendation 31

That the government change Schedule 1 to include the following information pertinent to each substance on it:

- **The subsection of section 64 that was met that triggered listing**
- **A brief synopsis of the reasons why it is toxic at the doses observed; and**
- **When available, the risk management tool intended to apply to the substance.**