

The Canadian Environmental Protection Act, “Toxicity” and Greenhouse Gases
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- The definition of “toxic” substances under s.64 of the Canadian Environmental Protection Act, 1999, has been one of the most contentious issues in relation to the Act.
- The assessment of substances against the definition of toxicity in the CEPA is the centerpiece of the act’s structure. Once substances are classified as “toxic” and added to the list of toxic substances (Schedule 1), the federal government is able to exercise a wide range of regulatory authority over their production, import, export, use, release into the environment and disposal.
- In recent years, the classification of a number of substances that are produced and released into the environment in large quantities, but which do not have high inherently toxic properties, as ‘toxic’ for the purposes of CEPA, has been a source of major controversy. These substances have included road salt, certain criteria air pollutants, ammonia, and greenhouse gases. The substances were classified as ‘toxic’ on the basis of the severe cumulative effects of their releases on the environment and human health.
- It has been argued by some that due to their lower inherent toxic properties relative to other substances, such as persistent organic pollutants and heavy metals, which have been added to the list of toxic substances, these lower inherent toxicity substances should not be described as ‘toxic’ substances. Arguments have followed from this contention that the lower inherent toxicity substances should be removed from CEPA schedule 1 and dealt with under separate legislation, or that substances meeting the definition provided in s.64 of the act be relabeled with some other term.
- In approaching this issue, it is important to consider the legislative history behind the definition of ‘toxic’ substances provided in s.64 of the Act. When CEPA was originally drafted, the legislation’s authors sought to achieve a balance between a number of factors. These included the need, flowing from the Supreme Court of Canada’s 1988 *R. v. Crown Zellerbach* decision, to ensure that the scope of federal regulatory activity under the act was of a nature that obtained a “singleness, distinctiveness and indivisibility that clearly distinguished it from matters of provincial concern, and a scale of impact on provincial jurisdiction that is reconcilable with the fundamental distribution of legislative power under the constitution.” This implied that federal regulatory activity under the Act would need to be bounded in some way,

and could not simply cover all matters related to “environmental protection.” The establishment of a limited list of substances, whose development was subject to a series of extremely rigorous tests, in relation to which federal regulatory activity would occur, was seen as a way of addressing the need to bound the scope of federal regulatory activity with respect to the environment.

- At the same time, the drafters of CEPA wished to establish a definition of toxicity that was broad enough to provide a basis for federal regulatory action in relation to global environmental threats, or other serious threats to human health and the environment that did not fit within the traditional model of exposures of individual organisms to substances with inherently toxic properties. Rather they sought to provide a legislative basis for the federal government to address threats to the structure and function of the ecological and global systems on which life depends. Indeed, at the time CEPA was being drafted, its authors wanted to be certain that the Act would provide a basis for federal action on a class of pollutants with low inherent toxicity but that were having a severe adverse effect on the global atmosphere, and were subject to a major international agreement – CFCs.
- It is also important to understand how difficult it is for substances to meet the definition of toxicity laid out in s.64 of the Act. Substances are required to be identified and assessed by Environment Canada and Health against the s.64 criteria, a process that itself usually requires several years. The departments’ assessment is then subject to extensive external review, and may be challenged before a board of review. Decisions to add substances to schedule 1 of CEPA are ultimately made by the cabinet, not individual ministers.
- In practice, Health Canada and Environment Canada have applied an extremely high standard of proof in their assessment of the toxicity of substances, with the result that in order for a substance to be found to be ‘toxic’ it would almost certainly have to be causing actual harm, rather than merely presenting a risk of harm, to human health or the environment. In fact, very strong arguments have been made that the current process for assessing substances and adding them to the list of toxic substances is excessively cautious and time-consuming. As a result, substances that should be assessed have not been, or when substances have been found by Health Canada and Environment Canada to meet the definition of toxicity they have not been added to schedule 1. Road salt has been one of the most prominent examples of such a situation.
- It is also important to recall that the addition of substances to schedule 1 of CEPA does not mean that the federal government will actually regulate their use, production, release or disposal. Rather, the addition of a substance to schedule 1

merely provides the basis for federal action – it does not in and of itself mean that the use, production or release of a substance has been restricted or controlled. This again has been identified as a major weakness in CEPA’s structure.

The status of Greenhouse Gases (GHGs) under CEPA

- Under CEPA 1999 (Part 6, section 64), “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.”

- The Governor in Council added GHGs to schedule 1 of CEPA 1999 on November, 22, 2005, citing “the worldwide scientific consensus that there is sufficient and compelling evidence to conclude that greenhouse gases constitute or may constitute a danger to the environment on which life depends.”¹

- Environment Canada based that conclusion on the Third Assessment Report (TAR) of the Intergovernmental Panel on Climate Change (IPCC). The IPCC TAR assesses the state of peer-reviewed climate science by drawing on literally thousands of expert reviewers in some 120 countries. It is considered the world’s pre-eminent authority on climate change science.²

- Based on the IPCC TAR, Environment Canada concluded that:
 - “diversity in ecological systems will continue to be affected by climate change and sea-level rise in the future, with an increased risk of extinction for some species currently listed as “critically endangered” and of currently “endangered or vulnerable” species becoming even rarer in the 21st century;
 - there are threats to humans and ecosystems from an increase in sea level rise, extreme events and abrupt climate and ecological changes;
 - the Arctic region is extremely vulnerable to climate change, and major physical and ecological impacts are expected to appear rapidly there as warming in northern high latitudes is expected to appear rapidly there as

¹ “The Government of Canada Takes a Significant Step to Implement Its Climate Change Plan and Reduce Greenhouse Gas Emissions” Environment Canada, November 22, 2005.

² The *Kyoto Protocol Greenhouse Gases (GHGs) and the Canadian Environmental Protection Act: A synthesis of relevant science from the IPCC Third Assessment Report in the Context of CEPA Section 64*. Environment Canada, 08/30/05 (available at http://www.ec.gc.ca/CEPARRegistry/documents/part/kyoto_ghg/CEPA_GHG_e.pdf). p. 2.

- warming in northern high latitudes is expected to be greater than the global average;
 - vector-borne diseases, including malaria and dengue fever, may expand their ranges in the United States and may develop in Canada; and
 - adverse impacts will become increasingly negative with increasing temperature”³
- The Canada Gazette Part 2 notice regulating GHGs also noted the risks of “large scale losses of unique contemporary ecosystems”; water shortages for 5 billion people by 2025; exposure to flooding and displacement for tens of millions of people; and increased risk of hunger for 80 million people by 2080 due to climate change.⁴
- Based on this evidence, the government concluded that climate change poses a risk to the environment on which life depends. The evidence cited also clearly shows a harmful effect on biological diversity (s.64(a)) and a danger in Canada to human life or health (s.64(c)), the other two tests that determine toxicity under CEPA.
- Canadian GHG emissions continue to rise, and heavy industry is now responsible for 53% of Canada’s total emissions.⁵ Given the impacts of climate change outlined above, there is clearly an urgent need to limit GHG emissions from heavy industry via regulation.
- The Canada Gazette Notice that added GHGs to CEPA noted that “CEPA 1999 is the only existing federal legislation with authorities that target the substances (i.e. the GHGs) to be reduced and the specific sectors.”⁶
- Given the absence of other legislative options, and given that GHGs meet the toxicity tests established in s.64, CEPA 1999 can be considered a very appropriate legislative vehicle that allows the Government of Canada to regulate GHG emissions in a timely manner.

³ *The Kyoto Protocol Greenhouse Gases (GHGs) and the Canadian Environmental Protection Act: A synthesis of relevant science from the IPCC Third Assessment Report in the Context of CEPA Section 64*. Environment Canada, 08/30/05. p. 12.

⁴ Canada Gazette Part 2, Wednesday, November 30, pp. 2568 to 2649.

⁵ National Inventory Report: Greenhouse Sources and Sinks in Canada 1990-2004 (Environment Canada, April 2006). p. xxii.

⁶ Canada Gazette Part 2, Wednesday, November 30, p. 2638.

Conclusion

- It is clear that GHGs meet the definition of toxic substances provided in s.64 of CEPA 1999.
- Indeed, no serious challenge has been mounted to that basic conclusion.
- The presence of GHGs, criteria air pollutants and other high priority substances on the list of toxic substances lays the groundwork for action by the federal government under the existing provisions of CEPA.
- Opening the definition of 'toxic' in s.64 of CEPA, or relabelling substances that meet the definition of toxicity, runs the risk of undermining the constitutional basis for Parts 5 and 6 of CEPA, as established through the Supreme Court of Canada's *Crown Zellerbach* and *Hydro Quebec* decisions.
- Attempting to deal with substances like GHGs and criteria air pollutants through separate legislation would do nothing but introduce unnecessary delay.
- Although some modifications to CEPA to strengthen the federal government's ability to act on international air pollutants would be useful, such modifications are not essential for early regulatory action on these substances.

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