



February 22, 2016

Hon. David Heurtel

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and President, Canadian Council of Ministers of the Environment

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**Re: Seeking a Canada-wide Standard for Extended Producer Responsibility for mercury-containing compact fluorescent lightbulbs (CFLs)**

Dear Minister:

The ten partner organizations of the Canadian Partnership for Children's Health and Environment (CPCHE) are writing today urging expanded CCME action on compact fluorescent lightbulbs (CFLs).

CPCHE is a partnership of environmental, public health, medical, child advocacy, and child care groups that, since 2001, have been working together across traditional boundaries to advance the protection of children's health and development from the risks posed by toxic chemicals and pollutants ([www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca)).

We recognize that regulatory action has been taken to reduce the mercury content of CFLs and diverse outreach activities seek to warn Canadians about the need for safe disposal and health risks associated with broken CFLs. However, despite the fact that the amount of mercury in CFLs is a small proportion of overall mercury emissions, when CFLs are broken during shipping, handling, retailing, use, disposal and/or recycling, the resulting mercury vapour is in direct contact with people. The neurodevelopmental risks of this direct exposure are greatest for the developing fetus and child, and the consequences are lifelong. Millions of these products are sold and used across Canada, yet in our experience the current efforts to educate the public on the risks and protective measures are not yet widely effective. Many parents and service providers who work with families are unfamiliar with the mercury risk associated with CFLs and are unaware of how to reduce exposures in the event of a broken bulb.

We recognize the likelihood that CFLs will gradually be replaced with the even more energy efficient light emitting diode (LED) technology. However, we are very concerned that, for the foreseeable future, there is a serious problem with inadequate disposal/recycling of CFLs including significant risks associated with mercury exposure when CFLs are broken in the home. Immediate and concerted action is needed to address this important source of mercury exposure during at least the next 5 to 10 years as this technology shifts.

**We therefore request that the CCME develop a Canada-Wide Standard (CWS) for Extended Producer Responsibility of CFLs addressing safe collection, use as well as safe and comprehensive disposal.** We seek this action as a necessary complement to the CCME CWS for mercury in CFLs, published in 2001. Nearly 15 years after creating this CWS, mercury-containing CFLs continue to be an important source of toxic mercury to the environment and a threat to public health, especially to the health of children.

As you will know, in 2014 the *CCME Progress Report on the Canada-Wide Action Plan for Extended Producer Responsibility (CAP-EPR)* found that progress on extended producer responsibility in Canada has been slow, or inadequate. The CCME CAP-EPR placed CFLs in Category 1 and thus tagged CFLs for action by 2015. However, unlike other Category 1 products, specific progress on CFLs was not reported in the 2014 CCME Progress Report. The reason for that oversight was noted as

*“Slower than anticipated progress by jurisdictions in implementing programs or requirements for some of the Phase 1 materials, including: mercury-containing lamps and other mercury-containing products.”*

The Progress Report recognized differences across jurisdictions as an ongoing challenge to harmonization and coordinated action across Canada. This reality reinforces the need for a CWS for extended producer responsibility for the collection and disposal of CFLs.

Environment Canada has estimated that approximately 10 to 15 percent of CFLs sold in Canada are recycled; the rest go to landfills.<sup>1</sup> Moreover there is widespread public ignorance about safe handling of broken CFLs and safe disposal. Our research indicates that even where CFL disposal facilities are available (often in retail locations), they can be poorly maintained. For example:



The above CFL recycling box is located in a large retail outlet in Trenton, Ontario directly adjacent to a busy row of cash registers. Both the customers lined up to pay and especially those working on the cash registers are likely continuously exposed to mercury vapour from broken CFLs in the box that is unsealed due to the incorrect, and uncorrected, use of the box for long tube fluorescent bulbs (and despite prominently displayed notices on the box to not use it for the longer bulbs).

We found the same problem (see below, left) at another large retail location in a suburb of Toronto with long tube bulbs sticking out of a (thus, no longer sealed) recycling box located immediately adjacent to a busy customer service desk. We found one retail location where a recycling station was well-equipped with plastic bags available for CFLs (as well as batteries and other hazardous materials) for placement in sealed units located well away from customers and workers.

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1 Environment Canada (2014) Discussion Paper: Proposed elements for a code of practice for environmentally-sound management for end of life mercury-containing lamps.



The above examples arise from canvassing dozens of retail locations. In many cases, we found that no recycling facility was available. Often we were told that such facilities had been removed. Occasionally, we were told that the recycling facility was located away from public areas. Although this survey was quite small, it illustrated an overall lack of awareness about the hazard of mercury vapour arising from broken CFLs.

Where mercury-vapour standards or guidance exist, for example at the federal level in the United States and in some US states, they recommend that indoor airborne levels are tolerable from a risk standpoint if they do not exceed 200 or 300 nanograms of mercury per cubic metre of air ( $\text{ng}/\text{m}^3$ ). Canada does not appear to have any such guidance. US state-level guidance for acute short-term exposure levels run to  $1800 \text{ ng}/\text{m}^3$ , for example in California. Multiple studies, for example conducted by the New Jersey and Maine Departments of Environmental Protection, indicate that broken CFLs can result in hazardous levels of airborne mercury many times higher than these tolerable risk levels and can even exceed the California short-term acute hazard standard. While airborne levels resulting from broken CFLs will vary depending on the CFL, the ventilation, clean-up methods, and so on, it is clear from several studies that in all cases broken CFLs present a hazard, particularly for brief periods after the breakage.<sup>2</sup> More important, where clean-up is inadequate, the cumulative exposure levels of mercury can exceed  $1 \text{ mg}/\text{m}^3$  (or  $1,000,000 \text{ ng}/\text{m}^3$ ) and once a CFL is broken mercury vapour release can last over 10 weeks.<sup>3</sup>

The fact that short-term mercury exposure can be over 15 times greater than tolerable risk levels is a serious problem given that there is widespread lack of knowledge about appropriate clean-up of broken CFLs (as discussed further below) alongside an apparent lack of understanding in retail outlets about safe handling practices. Hazards will arise for those working in garbage collection, or in stores with unsafe collection boxes, and those living in homes where a bulb has broken.

In addition to our brief survey of retail outlets, within the public outreach activities and workshops run by CPCHE partners over the past 10 years, we have found a profound lack of public awareness about mercury in

<sup>2</sup> Rice, D., 2007. Health Issues Associated with Exposure to Elemental mercury from Compact Fluorescent Bulbs.

Presentation at a Workshop on Clean-Up Advice for Compact Fluorescent Lamps, sponsored by the Northeast Waste Management Officials Association, held at University of Southern Maine, Portland, November 7, 2007.

<sup>3</sup> Li, Yadong, and Li Jin. "Environmental Release of Mercury from Broken Compact Fluorescent Lamps." *Environmental Engineering Science* 28, no. 10 (October 2011): 687–91. doi:10.1089/ees.2011.0027.

CFLs, about the risk of mercury vapour from broken CFLs, and about proper disposal methods. Workshop participants frequently express surprise and dismay about this common exposure source to a highly toxic substance.

We conclude that there is an undocumented but potentially serious problem of

- household mercury exposure when CFLs are broken;
- mercury exposure from broken CFLs in the proximity of retail take-back facilities resulting in both public and occupational exposures; and
- many tonnes of mercury from CFLs going to landfill due to disposal in household trash.

We trust that our request for a CCME Canada Wide Standard for CFL Extended Producer Responsibility will be considered as an important national requirement to protect children and pregnant women from exposures to mercury. We welcome the opportunity to work with you to address this concern, and look forward to hearing from you on the intended strategy and timeline for addressing this important issue.

Yours sincerely,



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#### Canadian Partnership for Children's Health and Environment (CPCHE) – Partner Organizations

