

# Resolution in Support of Transitioning to Mercury-free Lamps for General Purpose Lighting

[country]

## Whereas:

Mercury and mercury-added products, including mercury-added lamps, flow throughout the [Region], including into [country]. Mercury pollution from any one country contributes to the load in the ecosystem that is affecting our fish, natural resources and the health of our people.

Mercury, a neurotoxin, is highly toxic to humans and is listed by the World Health Organization as one of the 10 chemicals or groups of chemicals of major public health concern.

Mercury is used in certain lamps for general lighting purposes, and when the mercury is released, it contributes to the buildup of mercury in the local and global environment, in seafood and in consumers who eat fish.

After manufacturing, mercury releases from lamp breakage may occur during use, when discarded with general household waste, during collection and transport of discarded lamps, during recycling operations, and from landfill and other disposal practices. Due to low recycling rates, most mercury from lamps is released to the environment when disposed of.

A lamp broken indoors can result in mercury vapor levels far in exceedance of government guidelines, posing an acute exposure risk to pregnant women, infants, children and other sensitive populations. After breakage, a government lamp breakage study confirmed that mercury releases are likely to be elevated for at least 10 minutes and toddlers can experience the highest exposures<sup>1</sup>.

Workers can be exposed to mercury throughout the life cycle of a lamp. The organs most affected by the inhalation of elemental mercury vapor are the brain and kidneys. Various studies have observed impaired neurobehavioral functions associated with long-term occupational exposure to mercury vapor at relatively low levels. Weakened memory, insomnia, dizziness and tremors, among other symptoms, have been observed in workers with high levels of exposure to mercury.

Drum top crushers reduce the volume of lamps but their use can result in significant releases of mercury particularly when the carbon filters are not changed regularly and always when the cover is removed to dispose of the crushed material. Those workers who are breaking and crushing lamps on a regular basis without personal protective equipment are most at risk particularly when exposed to mercury releases from indoor lamp breakage.<sup>2</sup>

Until a several years ago, there was a positive trade-off between mercury in lamps and how much mercury emissions from power plants these lamps could reduce. Fluorescent lighting used to be the most efficient and cost-effective option for lighting homes and offices, so allowing mercury in lamps actually saved power – and cut associated power plant emissions of mercury – compared to other less-efficient light sources that didn't contain mercury.

However, developments in light-emitting diode (LED) technology over the last 3–4 years have completely changed the game: LED lamps are now 2–3 times more efficient than fluorescent lamps – and LED lamps don't contain any mercury. Based on technical and economic feasibility analysis into LED products and drivers alike, there are drop-in direct replacements and strong justification for eliminating certain mercury-

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<sup>1</sup> <https://www.maine.gov/dep/homeowner/cflreport.html>

<sup>2</sup> [https://www.osha.gov/sites/default/files/publications/mercuryexposure\\_fluorescentbulbs\\_factsheet.pdf](https://www.osha.gov/sites/default/files/publications/mercuryexposure_fluorescentbulbs_factsheet.pdf)

added lamps. These lamps can operate on the existing fluorescent ballast, whether it is magnetic (line frequency) or high frequency.

There are thousands of mercury-free LED replacement lamps available today to replace fluorescent lamps – different sizes, lengths, ballast types (i.e., magnetic/starter and high frequency electronic), color temperatures, and regular, high output and ultra-high light output levels. Lamps are also available which are “universal” and can operate on a variety of input power configurations.

The societal benefits in terms of energy and cost savings are significant, as are the reduction of greenhouse gas emissions and the environmental release of mercury both from lamps and from coal-fired power plant operations driven by the higher energy use of mercury-added lamps.

**Considering that:**

The Minamata Convention on Mercury<sup>3</sup> has demonstrated that sufficient scientific evidence exists regarding the adverse global effects of mercury and its compounds. Ratified by 138 Parties (by December 2022), the Convention is designed to protect human health and the environment through controlling the anthropogenic releases of mercury throughout its lifecycle.

The Fourth Conference of the Parties (COP4) to the Minamata Convention decided in March 2022 to ban the manufacture, export and import of additional mercury-added lamp categories. The full list of mercury-added lamps to be phased out include the following:

<b>Mercury added products [update as relevant]</b>	<b>Date after which the manufacture, import or export of the product shall not be allowed (phase out date)</b>
Compact fluorescent lamps (CFLs) for general lighting purposes that are ≤ 30 watts with a mercury content exceeding 5 mg per lamp burner	2020
Compact fluorescent lamps with an integrated ballast (CFL.i) for general lighting purposes that are ≤ 30 watts with a mercury content not exceeding 5 mg per lamp burner	2025
Linear fluorescent lamps (LFLs) for general lighting purposes: (a) Triband phosphor < 60 watts with a mercury content exceeding 5 mg per lamp; (b) Halophosphate phosphor ≤ 40 watts with a mercury content exceeding 10 mg per lamp	2020
High pressure mercury vapour lamps (HPMV) for general lighting purposes	2020
Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays: (a) short length (≤ 500 mm) with mercury content exceeding 3.5 mg per lamp (b) medium length (> 500 mm and ≤ 1,500 mm) with mercury content exceeding 5 mg per lamp (c) long length (> 1,500 mm) with mercury content exceeding 13 mg per lamp	2020
Cold cathode fluorescent lamps (CCFL) and external electrode fluorescent lamps (EEFL) of all lengths for electronic displays, not included in the listing directly above	2025

<sup>3</sup> <https://www.mercuryconvention.org/en>

-- [para related to the country ] The Government of [country] became a Party to the Minamata Convention on Mercury on [xxx] and has participated in several initiatives in recent years to better meet its Article 4 obligations. These initiatives have included but not limited to projects such as [adapt accordingly – refer to relevant projects]:

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**Therefore, We the institutions in the [country] Energy and Utility Sectors and our departments, acknowledge that measures are needed to reduce and ultimately eliminate mercury's risks to human health and the environment and therefore agree to:**

-- Support policies to phase out the manufacture and sale of fluorescent lamps and replace them with mercury free LED alternatives.

-- Commit to the planned and progressive replacement of mercury-added lighting used by the Energy and Utility sectors.

-- Recognize that LEDs as the most energy-efficient and environmentally preferable lighting equipment option, remove any support for fluorescent lighting from their websites, and urge government agencies and businesses to do the same.

-- Adopt procurement policies that prohibit public agencies from purchasing fluorescent lamps (except when no LED replacement is available)

--Revise the relevant standards, rules, policies and guidelines to implement the measures discussed within this resolution.

-- Secure commitments from retailers to stop selling mercury-added lamps.

-- Raise awareness by providing information, education and training for decision makers, workers, and the community, focusing on the impacts of mercury and the need to replace it.

--Work with vendors that market economically viable mercury-free alternatives.