

EEB position Towards a robust revised EU Mercury Regulation





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EEB Position: Towards a robust revised EU mercury regulation

The European Environmental Bureau welcomes the release of European Commission's proposal for a revised EU Mercury Regulation, which aims to establishing a mercury-free Europe, and address the last intentional remaining uses of mercury in products in the Union¹.

Diffuse pollution remains a problem in Europe because of both historical and current emissions of mercury to the atmosphere and subsequently surface waters. Strong action is needed to curtail remaining mercury use and emissions under the European Green Deal, as per the Chemicals Strategy for Sustainability and as part of the Zero Pollution Action Plan. Mercury levels measured in biota continue to exceed environmental quality standards in almost all surface water bodies². Each year, a third of EU born babies have mercury levels above "the recommended safe limit". The potential impact on children's brain development is lifelong and can result in a significant reduction in Intelligence Quotient (IQ), with the estimated annual economic cost of this damage to be at least EUR 9 billion (Bellanger et al., 2013).³

Turning ambitious words into real action, the EU should lead in Europe and globally, by drastically reducing remaining mercury uses, emissions and exposure; the review of the EU Mercury regulation presents the opportunity to do so. To protect human health and the environment from mercury, the policy framework should be revised as follows:

1. Prohibiting the manufacturing and export of mercury-added products not allowed in the EU

Under the European Green Deal, the European Commission (EC) has pledged 'to ensure a toxic-free environment', to 'help to protect citizens and the environment better against hazardous chemicals and encourage innovation for the development of safe and sustainable alternatives'. Furthermore, under the Chemicals Strategy for Sustainability, the EU has committed to lead by example and ensure that hazardous chemicals banned in the EU are not exported.

In addition, while measures are taken to decrease mercury emissions and exposure in the EU, global emissions have been increasing, with an impact to the European environment because of the global nature of mercury pollution: around 50 % of the anthropogenic mercury deposited annually in Europe originates from outside Europe, with 30 % originating from Asia alone⁴.

³ <u>https://www.eea.europa.eu/highlights/soer2020-europes-environment-state-and-outlook-report</u>

Chemicals Strategy for Sustainability - <u>https://ec.europa.eu/environment/strategy/chemicals-strategy_en</u>

EC study on the feasibility of phasing out dental amalgam <u>https://circabc.europa.eu/sd/a/4fd46a0f-54aa-48c6-8483-288ad3c1c281/Dental%20Amalgam%20feasbility%20study%20-%20Final%20Report.pdf</u>

Commission report to the European Parliament and to the Council: <u>https://circabc.europa.eu/sd/a/bcfa68b1-d382-</u>4e25-a5d2-eb8c7c07a2e4/COM%202020%20378%20F1%20REPORT%20FROM%20COMMISSION%20EN.pdf

¹ See p.4 of the EU proposal: <u>https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2023:395:FIN</u>

² EEA 2018 Mercury in Europe's environment, <u>https://www.eea.europa.eu/publications/mercury-in-europe-s-</u> environment

⁴ EEA 2018 Mercury in Europe's environment, <u>https://www.eea.europa.eu/publications/mercury-in-europe-s-</u> <u>environment</u>

It is therefore imperative to prohibit exports of products containing mercury and annex II of the current EU Mercury regulation should be updated accordingly:

- To avoid double standards and prohibit export to countries with no or less stringent regulations. In fact, a dynamic link should be established: when EU legislation prohibits the putting on the market of mercury added products, the Mercury regulation should ban their manufacture and export automatically.
- **To protect the environmental and people's health:** Mercury containing products contribute significantly to mercury spills and releases, especially in the waste stream, and therefore result in both direct health risks and environmental contamination.
- To curtail global emissions: continuing such exports can lead to further mercury pollution, emissions and exposure, with the risk that it 'returns' back in the EU. Due to its global cycling, moving through air, water and land continuously and globally, it would take many centuries for mercury levels in the environment to reduce significantly even if anthropogenic sources stopped today⁵.

Alternatives to mercury added fluorescent lamps

Equivalent products with no mercury are widely available in the European marketplace and around the globe as lamp makers often advertise. They are listed in the online catalogues of multiple large and small lighting manufacturers such as Osram, Tungsram and Philips. Most importantly, drop-in replacement light-emitting diode (LED) *mercury-free* lamps, retrofit kits and fixtures are not only widely available but are also more energy-efficient and have a longer rated life than most types of fluorescent and high intensity discharge (HID) lamps used for general lighting applications. In addition, LEDs are now cost competitive, giving consumers the opportunity to save money when cut energy, replacement, and waste disposal costs are considered.

The lighting sector is a fast improving one in term of availability, performance, and price of LED lamps; therefore, policy decisions can and should go beyond the current market as relevant.

Moreover, LEDs are more acceptable to consumers than CFLs and other types of mercury-added lamps because they are more easily dimmable, give off a higher quality of light, do not flicker, and come on instantly. They also last longer, which benefits consumers' pocketbooks because LEDs don't have to be replaced as often. In addition, they don't break as easily. According to *Business Matters Magazine*⁶, there are many benefits to using LEDs, including:

- 1. LED lights last far longer than incandescent or halogen bulbs.
- 2. They are highly energy-efficient, converting most of their energy into light, rather than heat.
- 3. They are ecologically sound because they are mercury-free and have a long life, reducing the user's carbon footprint.
- 4. LEDs are very tough and durable, making them able to "stand up to harsh weather, vibrations, shocks, and abrasions."
- 5. LEDs are a safe light source, that can offer excellent colour rendering and great quality light; they have almost no UV emissions, making them good options for museums and food pantries,

⁵ EEA 2018 Mercury in Europe's environment (pp. 9-10), <u>https://www.eea.europa.eu/publications/mercury-in-</u> europe-s-environment

⁶ "The Top Nine Benefits of Using LED Bulbs," *Business Matters Magazine*, 10 November 2016, <u>https://www.bmmagazine.co.uk/in-business/top-nine-benefits-using-led-bulbs/</u>

- 6. LEDs offer great design flexibility: "LED light arrays can be placed and combined in an infinite number of ways to produce efficient but also controllable illumination. The colour, shade, brightness and distribution of light can be controlled to perfection, which makes for not only technically-useful lighting, but also soothing, uplifting, or energising mood lighting."
- 7. They work well in extreme temperatures, including freezers, unlike most fluorescent lamps.
- 8. They work instantly with no warm-up time and can be turned on an off many times without reducing their performance.
- 9. They work on low-voltage power, so they can be used outside.

Compact Fluorescent Lamps (CFLs)

We welcome the proposal from the Commission to insert the following entry 3b: "All other compact fluorescent lamps (CLFs) for general lighting purposes not already covered by entries 3 and 3a".

By doing so, the EU aligns with the Decisions taken at the Fourth COP of the Minamata Convention concerning the CLF.i (integrated ballast), during which Parties agreed to ban their manufacture, import and export by 2025, but it also goes one step further by proposing to ban all the remaining CLFs lamps of all types. In fact, the African region is also proposing the same phase out date for global manufacture and trade, for this category, in its proposed amendment submitted to COP5 of the Minamata Convention. Based on the availability, economic justification, and environmental and public health benefits of eliminating mercury-added CFLs, and to be in line with the decision made at COP-4 to phase out integrally ballasted CFLs (CFL.i) that are \leq 30 watts by 2025, this whole product category should be banned from manufacture, import and export by the end of 2025. CFLs are rapidly declining in sales around the world and many governments have started moving to phase them out – all wattages – with several bans already in effect.

In the past, high wattage CFLs were commonly used in offices, retail shops, streetlights and area security lighting - but in all these applications they are increasingly being replaced by LED. Mercury-free LED replacements for high wattage CFLs are widely available in lighting markets everywhere. [...] When interviewed about product availability, manufacturers of LED lamps based in China said there are no technical impediments for manufacturing LED retrofit lamps for all base types and confirm they can be produced within a few months on placement of an order for 10,000 units or more.⁷

Given that the Ecodesign and RoHS directives had already banned, from putting on the EU market, all CFLi and CFLnis, since September 2021 and September 2023 respectively, the export of those types of lamps should have already been banned. As mentioned above, we strongly believe that for ethical reasons and to avoid double standards, the export of mercury added products should be automatically banned when an EU domestic ban is agreed upon.

Therefore, all compact fluorescent lamps should be phased out as soon as possible and latest by 2025, considering that they are mercury free, cost effective and more efficient alternatives, known as light emitting diode (LED).

Linear and non-linear triband phosphor fluorescent lamps (LFLs, nLFL)

Following the release for the proposal, we comment on the Commission for taking responsibility for what it exports to developing countries. However, most of the LFL categories were already banned from being put on the EU market since September 2021 and September 2023. As such, the ban on linear (LFL) and eventually non-linear fluorescent lamps should take place much faster and latest by

⁷ See: <u>https://minamataconvention.org/sites/default/files/documents/2023-</u>

^{04/}EN_Africa_Amendment%20Proposal_Fluorescent%20lighting_March_2023.pdf

2025, considering domestic bans per category, and irrespective of global decisions, in line with EU commitments.

From a health and environmental perspective, mercury containing products contribute significantly to mercury spills and releases, especially in the waste stream, and therefore result in both direct health risks and environmental contamination If the EU bans exports of these fluorescent lamps from the EU-27 in 2025, according to CLASP estimates, it will avoid 470 million lamps from being shipped between 2026 and 2035⁸. The ban would therefore eliminate 2.6 metric tonnes of mercury from the environment through lamps and avoided power station emissions. With the date pushed back to the end of 2027, around 35% of this mercury will go into the environment. With the lack of an effective and safe collection and recycling system for mercury-bearing lamps in the developing countries, such imports from the EU represent a real menace to people's health and the environment. Countries in the EU should not further expose communities and the environment in low- and middle-income countries to the toxicity of mercury by exporting mercury added products deemed too dangerous and therefore banned in the EU. Moreover, considering the transboundary nature of this heavy metal, mercury released elsewhere is mercury that can be found back into the EU air, soil, water and citizens' body.

Leading to that, we have some concerns over the way data have been analysed and presented in the Impact Assessment. This is explained in the box below:

i. EU export substitution and impacts on revenues

The numbers of fluorescent lamps (FLs) to be 'substituting' EU exports and the relevant potential losses from these exports appear to be overstated according to us.

Indeed, it has to be seen in conjunction with current policies in the importing countries.

- <u>California</u>, which represents around 15% of the US economy and would be the 5th largest economy in the world if it were independent, just banned (sales ban) integrally ballasted CFLs starting on 1 January 2024 and everything else (LFL and CFLni) starting 1 January 2025. Please <u>click here</u> to see a copy of the law, including scope of coverage and phase-out date.
- <u>UK, Norway and Switzerland</u> are expected to follow EU RoHS decisions to phase-out virtually all fluorescent lamps.
- The <u>Southern Africa Development Community –16 African countries</u> adopted <u>regionally</u> <u>harmonised</u> quality and performance standard HT 109:2021 in June 2021, which sets an efficacy level in that regional standard that is above what fluorescent lamps can achieve – effectively a phase-out of fluorescent.
- <u>East African Community 7 countries</u> also adopted on 1 July 2022 a phase-out of fluorescent through a technology-neutral minimum energy performance standards⁹.

Moreover, only four manufacturers across the EU continue to produce fluorescent lamps, but knowing that this is a dying market, all of them focus more on LED production. One of them has already confirmed that they will be closing by end of 2022 as per the Impact Assessment. In fact,

⁸ According to the impact assessment p. 210, if all exports would end from 2025, 412 to 693 million FLs would not be exported. P. 212 An EU export ban from 2025 would avoid the use of about 1.21 to 2.17 t of mercury in European lamp products between 2025 and 2030.

⁹ EAS 1064-1:2022, Lighting Products - Minimum Energy Performance Standard - Part 1 - Lamps (1st Edition). This East African standard covers the energy efficiency and functional performance requirements, sampling and test methods for general service lamps and tubular lamps

growth in LED revenues, more than exceeds the decline in fluorescents and LED European exports are expected to rise as trends show¹⁰. Signify Lighting (formerly Philips) – the global #1 lighting company and owner of the Pila, Poland fluorescent lamp manufacturing lines has clearly stated that the transition to LED lighting is urgent and benefits everyone. Eric Rondolat, CEO of Signify said "One of the quickest wins within energy renovation is lighting," he said. "Replacing the EU's 2.3 billion conventional light points with energy-efficient LED would save €40 billion per 2 year and eliminate 50.9 million tons of CO2 emissions per year. It's a quick, non-intrusive intervention that benefits everyone, with an unparalleled payback in speed, cost, and effectiveness."

Concerning countries importing fluorescent lamps from the EU, CLASP made an analysis showing more than half of the value of the revenue from EU-27 sourced exports are going to countries which in 2022 are moving to phase-out fluorescent lamps through legislation that either aligns them with the EU-27 decision on RoHS in February 2022 (including the UK, Switzerland and Norway), or through their own legislation which is based on a decision to eliminate toxic mercury-containing fluorescent lamps (including the USA). Recently, the states of California and Vermont have both adopted state-wide legislation to phase-out fluorescent lamps, followed by Colorado, Rhode Island, Maine, Hawaii, and Oregon.

It is also critical to note the fact that half of the EU-27 exports of fluorescent lamps will anyway stop as those importing countries have bans in place, and that other countries in the remaining half including Canada, Australia and Singapore are all actively working on legislation to phase-out fluorescent lamps as well. These national initiatives are of course above and beyond what is happening through the Minamata Convention on Mercury. The trend to phase-out fluorescent is important and urgent, and the EU-27 has an opportunity to lead the world by making a responsible decision to ban exports.

Big international markets such as India have developed a "vision" to move away from the mercuryadded lamps. <u>Elcoma Vision 2024</u> is a roadmap which was voluntarily developed by the Indian lighting industry, and which sets out a schedule of investment and research in order to position India as the world's number 2 producer of LED lighting (after China).¹¹

Furthermore, analysis CLASP conducted on exports, shows that countries around the world are consuming EU-27-sourced LED lamps faster, and at greater trade value, than they are consuming EU-27-sourced fluorescent lamps. This trend shows there is an on-going consumer preference for switching to LED, and if the EU-27 were to ban exports of fluorescent lamps, the substitution estimate would be much less than 50% and far from 90%.

¹¹ See: <u>EEB-CLASP-CLiC-Additional-information-submitted-towards-the-study-for-the-Revision-of-the-Mercury-</u> <u>Regulation-concerning-mercury-added-lamps-1.pdf</u>

- The value of the LED exports to EU-27 countries is not only multiples higher than fluorescent exports, but also replaces those revenue losses from fluorescent lamps at the same rate, so losses to EU-27 lighting companies nets to zero (N.B. all companies producing fluorescent lamps in the EU-27 also offer LED alternatives).
- The EU is earning about 50% more revenue and has done since 2018 from LED light sources compared to fluorescent. This shows that countries who import EU-sourced fluorescent lamps are switching to EU-sourced LED lamps, particularly from 2017 to 2018, and again from 2020 to 2021.

As a result, we think that the possibility for 'substitution', meaning that importers from the EU will seek to find other fluorescent lamp exporters, is far smaller than the estimates shown in the Impact Assessment.

ii. Mercury content in lamps

We further have concerns on the assumptions of mercury content in lamps to be exported by othe than the EU, which in theory may replace the EU exports. We believe that the estimations and hypothesis are overstated¹². As such one may think that if importing countries start to now import e.g. from China, the mercury content of these FLs will be higher than the content of the EU lamps, thus leading to higher mercury pollution.

However, China, which is assumed to be the main replacing exporting country if the EU is to ban fluorescent lamps, appears to use less mercury in fluorescent lamps than the EU does (find more information in our joint statement). Thereof, should substitution happen (meaning importing countries substitute the EU with another FL producer country), the amount of mercury released would be less and not more.

Within "**China's roadmap**¹³ to gradually reduce mercury content in fluorescent lamps", the table below shows a gradual phasing down of mercury content per lamp from 2013, 2014 and 2015. This 2013 China Roadmap to reduce mercury in fluorescent lighting is a policy document issued by three government ministries including Ministry of Industry and Information Technologies, Ministry of Environment and Ecology, and Ministry of Science and Technologies.

• The final levels by 31 December 2015 are as low as – 0.8mg per CFL <30W. 1.0 mg per LFL <17mm diameter. These are more than two to three times lower than the content figures in the impact assessment assumption. If such numbers were used, the total content estimated in the impact assessment would be much different.

¹² See: <u>https://eeb.org/library/joint-statement-on-mercury-added-lamps/</u>

¹³ China's <u>roadmap to gradually reduce mercury content in fluorescent lamps</u>

阶段	时间	产品		目标值 (毫克)	与现行标准比含汞量削涉
	2013年12月 31日止	紧凑型荧光灯	功率≤30W	1.5	7 0%
			功率 > 30W	2.5	5 0%
1		长效荧光灯		4.0	5 0%
		其他荧光灯	管径≤17mm	2.5	75%
			管径>17mm	3.0	7 0%
	2014年12月 31日止	紧凑型荧光灯	功率≤30W	1.0	8 0%
			功率 > 30W	1.5	7 0%
2		长效荧光灯		3.0	6 3%
		其他荧光灯	管径≤17mm	1.5	85%
			管径>17mm	2.0	8 0%
	2015年12月 31日止	紧凑型荧光灯	功率≤30W	0.8	84%
			功率 > 30W	1.0	8 0%
3		长效荧光灯		2.5	69%
		其他荧光灯	管径≤17mm	1.0	9 0%
			管径>17mm	1.5	85%

 含汞量削减效果指目标值与现行产品标准(《照明电器产品中有毒有害物质的限量要求》QB/T 2490-2008) 有关要求相比,单只荧光灯产品含汞量的削减比例。

China (in this table) appears not to differentiate between halophosphate¹⁴ and triband, thus the target values for halophosphate lamps manufactured in China may have less mercury that halophosphate in Europe. This is an extremely important point because of the assumptions being made in the analysis – China is the world's largest supplier of fluorescent lamps globally and – in addition to branding lamps for all EU-based lamp brands – they have the most advanced manufacturing lines with the lowest levels of mercury globally. For this reason, we question the assumption that phasing-out EU-supplied fluorescent lamps will increase mercury because this official roadmap from China conveys the opposite.

This shows that a 2025 phase-out date, or earlier, for all fluorescent lamps would be more beneficial than a 2027 one, from all perspectives.

Concerning the job market, the impact of an early phase-out date would be minimal. As already discussed above, the very few companies remaining in the EU, have already shifted their production lines to LEDs. More jobs are in fact expected to be created with local assembly of LEDs products. The impact assessment also confirms the minimal impact, stating that "In the case of FLs, SMEs would not be affected by an export ban since both remaining EU manufacturers belong to large company groups." Further to this, such a measure will encourage mercury-free markets and drive down the prices of mercury-free alternatives.

Furthermore, re-location of EU businesses is unlikely, considering that mercury use is going down and equivalent measures in other countries are being implemented. Based on data¹⁵ from more than 1200 lighting technologies, phasing out LFLs as early as 2025 is technologically feasible and economically justified in over 60 countries.

From a global warming perspective, there is a huge loss of further delaying the phase-out date to 2027. As calculated by the Clean Lightening Coalition, each year of delay¹⁶ after a 2025 phase out, diminishes global benefit. This is approximately 300 Mt of CO2 emissions which are lost for each year of delay¹⁷.

¹⁴To our understanding from talking to experts, the Chinese target value for halophosphate assumes that the glass tube is coated in such a way so to prevent the adsorption of mercury, thus enabling the lamp to have as low a mercury content as the typical triband phosphor lamp (which already has this necessary coating).

¹⁵ See: <u>https://cleanlightingcoalition.org/resources/global-report/</u>

¹⁶ See: https://cleanlightingcoalition.org/resources/information-document-on-linear-fluorescent-lamps-for-generallighting-purposes/

¹⁷ See: <u>https://cleanlightingcoalition.org/news/eu-commission-slows-mercury-lighting-phase-out-posing-danger-for-import-markets/</u>

The recently concluded 5th Conference of the Parties of the Minamata Convention, agreed to ban the manufacture and trade of certain remaining CFLs, and all halophosphates by end of 2026, and of linear and non-linear triband phosphor fluorescents by 2027.

Considering the comments elaborated above we still believe that the EU should keep its leadership and ban the export of fluorescents by 2025 latest.

Given all the reasons above and if the EU wants to remain in line with its commitment under the Chemicals Strategy to "lead by example, and, in line with international commitments, ensure that hazardous chemicals banned in the European Union are not produced for export.", there is no reason in further delaying the phase-out date of all fluorescent lamps. Therefore, we call on the co-legislators to amend the proposal and ban the exports of all linear and non-linear triband phosphor fluorescent lamps already banned in the EU, as soon as possible and latest by 2025.

High pressure mercury sodium (vapour) lamps (HPS) for general lighting purposes

High-pressure sodium lamps (HPS), which primarily have been used for street lighting and other exterior lighting applications, are rapidly becoming replaced by LEDs because HPS lamps:

- Have poor colour quality many HPS lamps appear yellow because their Colour Rendering Index (CRI) is typically in the 20s; this reduces visibility.
- Cycle on and off, which causes maintenance and safety problems; and
- Have a relatively short life (10.000 to 25.000 hours).

Manufacturers tout multiple environmental, safety and health benefits that result from -replacing HPS lamps with LED lamps. These benefits include:

- Significantly improved energy efficiency as well as interoperability with lighting controls, which can increase efficiency even more and improve performance;
- Longer life (often 50.000 hours or twice as long as HPS lamps, which translates into lower maintenance and replacement costs) as well as reduced lifecycle environmental impacts;
- Instant on (no warm-up time or "cycling");
- Effective thermal management for a wide operating temperature range;
- Effective lumen maintenance;
- Improved visibility, which increases safety (LEDs emit a higher qualify of light, which is white rather than the yellow light that is emitted from HPS lamps.); and
- Elimination of mercury, which reduces worker exposure risks and waste disposal costs.

Over the past few years, there has been a significant increase in the number of LED replacements for high-intensity discharge (HID) lamps – particularly LEDs that can replace high-pressure sodium (HPS) lamps up to 400 watts. Consequently, there are many LED lamps available in the European marketplace that can replace mercury-containing high-pressure sodium (HPS) lamps.¹⁸

To that end, we welcome the proposal from the Commission to ban the manufacture and trade of high-pressure mercury sodium (HPS) (vapour) lamps for general lighting purposes. We understand

¹⁸ https://eeb.org/library/environmental-ngos-feedback-on-draft-delegated-directives-for-rohs-exemptioncategories-2b3-3-4c-4e-as-well-as-uv-light-related-1fi-2b4ii-4a-4fiv/

that all HPS for general lighting purposes (both categories overall 4b and 4c of the RoHS) fall under this proposal. Given that some HPS categories (4bI-III of the RohS) were banned domestically since February 2023, it would be preferable that the export of those is also banned as soon as possible and latest by 2025. For those HPS which will be banned in February 2027 (4b and 4c of RohS), the proposed ban for 2027 appears appropriate. We appreciate the direct ban alignment between the putting on the market and exportation, and we believe that this dynamic link should take place in all cases, ensuring that double standards do not occur.

2. Phasing out dental amalgam by 2025

Dental amalgam should be phased out by 2025 latest, as it is the largest remaining EU mercury use. In fact, the 2012 BIOS study¹⁹ had evaluated that a full phase out would have been possible already by 2018 at the time.

Mercury (which represents 50% of the composition of dental amalgam) is highly toxic to humans, especially to the developing nervous system. It is also very harmful to ecosystems and wildlife populations.

Considering that dental amalgam represents the largest remaining intentional EU mercury use and is estimated at around 40 t in 2019 as per the impact assessment released by the Commission, a phase out is clearly needed. The earlier the phase out happens, the less 'new' mercury will be (re)entering in the EU environment. A phase-out by 2025 would avoid 10 tonnes of mercury into the environment by 2030²⁰. It will further prevent pollution and exposure of mercury via emissions from crematoria, dental clinics, waste incineration, human waste, burials, and other pathways.

Hence, we greatly welcome the proposal from the Commission to phase out dental amalgam by 1st January 2025. Phasing out amalgam is the most cost-effective way to prevent dental mercury pollution as alternatives are available, affordable, effective and preferred by most EU citizens.²¹ Moreover, it is feasible in the EU, even when considering administrative constraints. First, non-mercury alternatives are more widely used in the EU than dental amalgam (at 81-90%), showing that practices have already significantly shifted to non-mercury alternatives. Moreover, dentists have already gained experience in the handling of Hg-free materials. Mercury-free fillings do also not require additional labour costs as studies have shown that there is little, if any, difference between amalgam and alternatives when it comes to treatment time dentists spend. Lastly, numerous are the examples of developed and developing countries, which have already phased out dental amalgam or are in the process of doing so in a very short phase-out period.

Administratively/legislatively speaking, a ban within a year is feasible, as it also happened with the current regulation – published in May 2017, requesting a ban for dental amalgam in children's teeth by 1 July 2018.

²¹ Assessment on the feasibility of phasing out dental amalgam (Wood 2020) <u>https://circabc.europa.eu/sd/a/4fd46a0f-54aa-48c6-8483-</u>

288ad3c1c281/Dental%20Amalgam%20feasbility%20study%20-%20Final%20Report.pdf

Commission report to the European Parliament and to the Council: <u>https://circabc.europa.eu/sd/a/bcfa68b1-d382-</u> 4e25-a5d2-eb8c7c07a2e4/COM%202020%20378%20F1%20REPORT%20FROM%20COMMISSION%20EN.pdf

Feedback attached in World Alliance Submission for Mercury Free Dentistry <u>https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12924-Mercury-review-of-EU-law/F2164126</u>

Feedback from the European Centre for Environmental Medicine - <u>https://ec.europa.eu/info/law/better-</u> regulation/have-your-say/initiatives/12924-Mercury-review-of-EU-law/F2174464

¹⁹ See: https://op.europa.eu/en/publication-detail/-/publication/ba2b1317-a995-462d-950f-faab159561a6

²⁰ Feedback on the European Commission's Proposal to Phase Out Dental Amalgam by 2025, the European Network for Environmental Medicine (2023)

The stakeholders' interest for a full mercury ban for dental fillings is also clear from the public <u>consultation results</u>. It is evident that the EU is ready for that, and no more time should be wasted. As noted in the impact assessment, 'an EU-wide phase-out of the use of dental amalgam would ensure a uniform phase-out across all Member States and place the EU in a first-mover leadership role in relation to future international negotiations within the Minamata Convention. Absence of such action could result in global criticism and risks reduced credibility of the EGD [European Green Deal] and the EU Chemical policy at global level'.²²

More facts and reasons for phasing out dental amalgam by 2025 at the latest:

- The EC's independent consultant urged an amalgam ban: The European Commission's independent consultant BIOIS has examined all the policy options and related costs, and urged the EU to "ban the use of mercury in dentistry" because among other reasons it is "necessary to achieve mercury-related requirements of EU legislation on water quality."²³ BIOIS explicitly rejected policy options that only required separators because that "is not sufficient in itself to address the whole range of mercury releases from the dental amalgam life cycle (it does not address mercury releases from the natural deterioration of amalgam fillings in people's mouths, from cremation and burial, and residual emissions to urban WWTPs)."²⁴
- **SCHER²⁵ confirmed that amalgam poses environmental risks:** SCHER has confirmed that dental amalgam in the environment can methylate (forming the most toxic form of mercury, methylmercury), that as a result "the acceptable level in fish is exceeded" under some circumstances, and thus there is "a risk for secondary poisoning due to methylation."²⁶
- **SCENIHR**²⁷ recommended amalgam restrictions: In 2015, SCENIHR concluded that "The use of amalgam restorations is not indicated in primary teeth, in patients with mercury allergies, and persons with chronic kidney diseases with decreased renal clearance.
- The 2016 and 2022 public consultation supports phasing out amalgam use: The European Commission launched in 2016 an online public consultation whereby 88% of answering respondents voted to phase out amalgam use instead of phasing down²⁸. This question reached the highest scores of participation in the survey in terms of responses demonstrating the high public concern²⁹. In 2022, almost two-thirds of consulted stakeholder believe that an EU-wide discontinuation of dental amalgam would require a general phase-out, while 28% believe a gradual phase-down to be chosen by each Member State according to national priorities and conditions would be appropriate³⁰.
- **Many dentists prefer mercury-free fillings:** As one European dental researcher explains, the "tooth-friendly features of resinbased composites make them preferable to amalgam, which

content/EN/TXT/PDF/?uri=CELEX:52016SC0017&from=FR

²² See page 72 of the Impact assessment: <u>https://eur-lex.europa.eu/legal-</u>

²³ BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV,

http://ec.europa.eu/environment/chemicals/mercury/pdf/final_report_110712.pdfpage 20

²⁴ BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV,

http://ec.europa.eu/environment/chemicals/mercury/pdf/final_report_110712.pdf page 19

 ²⁵ European Commission's Scientific Committee on Emerging and Newly Identified Health Risks
²⁶ SCHER, Opinion on Environmental Risks and Indirect Health Effects of Mercury from Dental Amalgam (2014), http://ec.europa.eu/health/scientific_committees/environmental_risks/docs/scher_o_165.pdf, page 4

²⁷ European Commission's Scientific Committee on Emerging and Newly Identified Health Risks

²⁸ <u>https://ec.europa.eu/eusurvey/publication/MinamataConvention</u>

²⁹ Impact Assessment (2 February 2016),

http://ec.europa.eu/environment/chemicals/mercury/pdf/20151218MercuryPackageIA.pdf, p.60 ³⁰ See p.24 of the impact assessment (2023); <u>https://eur-lex.europa.eu/legal-</u>content/EN/TXT/HTML/?uri=SWD:2023:396:FIN

has provided an invaluable service but which, we believe, now should be considered outdated for use in operative dentistry." $^{31 32}$

- **Experts show phasing out amalgam use will lower costs:** As one study explains, due to the high costs of dental mercury pollution, amalgam is now recognized as "more expensive than most, possibly all, other fillings when including environmental costs."³³ Another study, conducted by Concorde East/West, concluded that an amalgam filling can cost up to \$87 more than a composite filling after costs to the environment and society are taken into account.³⁴
- Industry is already prepared for amalgam's demise: The dental industry is already anticipating the phase-out of amalgam use in the EU. At the 2013 European Dental Materials Conference, dental manufacturers devoted an entire day to discussing "The Demise of Amalgam Use".³⁵
- Member nations are already phasing out amalgam use: As the European Network for Environmental Medicine indicated, "the European trend toward reducing the use of dental amalgam underscores that Europe is ready for the transition to mercury-free dentistry by January 2025: Sweden has banned amalgam in 2009, Denmark and Lithuania have banned it with few limited exceptions; Italy adopted a plan to phase it out by 2025; Poland has withdrawn dental amalgam from the public program, effectively phasing it out; Croatia and the Czech Republic adopted a plan to facilitate uniform reimbursement for dental fillings regardless the material by 2025; in Finland, a composite restoration already costs the patient the same as an amalgam restoration; Ireland, Slovakia, Slovenia and Hungary will alter its insurance to favour mercury-free fillings in the coming years, in Spain, Finland and the Netherlands, the use of dental amalgam is already below 1% and in Germany, the use of amalgam has decreased from 3.2% in 2021 to 2.4% in 2022(KZBV 2023)."
- The continued used of dental amalgam would hinder other EU legislations: Mercury is highly volatile and deposits very easily into our water. With a continued used o dental amalgam, the EU Water Framework Directive, the EU Water Reuse Regulation, the EU Circular Economy Action Plan, would be at risks of achieving their objectives³⁶.

Therefore, we call on the co-legislators to support the Commission's proposal for a January, 1st, 2025 phase-out date for dental amalgam in order to contribute to the reduction of mercury pollution in the environment as soon as possible.

It is also greatly commendable that in line with the above, the Commission is now proposing to also ban the exports of dental amalgam by that same date. By doing so, it will further contribute to the global debate towards accelerating a global dental amalgam phase out.

³¹ Christopher D. Lynch, Kevin B. Frazier, Robert J. McConnell, Igor R. Blum and Nairn H.F. Wilson, *Minimally invasive management of dental caries: Contemporary teaching of posterior resin-based composite placement in U.S. and Canadian dental schools*, J AM DENTA Assoc 2011; 142; 612-620, <u>http://jada.ada.org/content/142/6/612.abstract</u> (emphasis added)

³² Letter singed in June 2016 by 87 German dentists

³³ Lars D. Hylander& Michael E. Goodsite, *Environmental Costs of Mercury Pollution*, SCIENCE OF THE TOTAL ENVIRONMENT 368 (2006) 352-370.

³⁴Concorde East/West, The Real Cost of Dental Mercury (March 2012),

http://www.zeromercury.org/index.php?option=com_phocadownload&view=file&id=158%3Athe-real-cost-of-dentalmercury&Itemid=70, pp.3-4

³⁵ http://www.euro.addisondental.co.uk/Programme/

³⁶ <u>https://environmentalmedicine.eu/wp-content/uploads/HaveYourSayECEM.pdf</u>

3. Controlling mercury emissions from crematoria at EU level.

Cremation is increasingly gaining popularity even in societies where religious influence on cremation is not high, due to space limitations for cemeteries. Most of the mercury released during cremation is due to the vaporisation of dental amalgam fillings that contain mercury.

The issue, however, is that most crematoria around the world still have no controls on emissions. There are currently no EU laws. Only some non-legally binding recommendations exist on the use of Best Available Techniques (BAT) adopted under both OSPAR and HELCOM Regional Seas Conventions to which the EU and some Members States are Parties.³⁷

The 2023 impact assessment confirms that it does represent a significant source of mercury pollution, and that the crematoria numbers are estimated to steadily increase across the EU, showing that already between 2010 and 2019, there was a 38% increase in annual cremation numbers³⁸. However, while there is an increasing preference for cremation over burial, some Member States do not seem to be taking control measures³⁹.

We regret that the Commission does not foresee to regulate mercury emissions from crematoria and only proposes to establish a non-binding guidance document. It is a missed opportunity to effectively address mercury pollution and exposure.

First of all, the cremation of the dead is a significant source for the releases of mercury in the atmosphere, with yearly emissions to air estimated at 1.6 tonnes in 2018⁴⁰. While in the 2023 impact assessment the annual figures have been re-estimated to 0.69 in 2019, given that mercury is bioacummulating and biomagnifying, any quantity emitted will be spread to the environment. Given the direct link between dental amalgam and mercury release from crematoria, a dental amalgam phase-out by 2025 would be greatly beneficial and is imperative, if the EU wants to reduce the level of future mercury emissions. However, it does not eliminate the over 1000 tonnes of mercury 'walking' around on peoples' mouths that would yet be released in the next decades to come, threatening EU's objective to reduce pollution to air, water and soil to levels no longer considered harmful to health and natural ecosystems as per its zero-pollution action plan.

Looking at the analysis made in the impact assessment, we regret that estimated emissions of mercury from crematoria are calculated in a single year (2019, 2025 and 2030), and did not consider nor calculate the cumulative emissions expected, given that people with mercury in their mouths would still be cremated from now till 2045. As noted in the impact assessment⁴¹, most dental amalgam will be removed from people's mouths by 2045 (if a 2025 dental amalgam phase out is adopted), considering that the average lifetime of dental amalgam fillings is 15 to 20 years.

The co-benefits of abatement technology were recognised, but in our view, not so much looked at. While there is a cost for installing abatement technologies to capture mercury from crematoria, such technologies can also reduce emissions from other dangerous pollutants such as PM2.5, lead,

³⁹ Assessment on the feasibility of phasing out dental amalgam (Wood 2020) <u>https://circabc.europa.eu/sd/a/4fd46a0f-54aa-48c6-8483-</u>

³⁷ See p. 8: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN</u>

³⁸ See p.15: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN</u>

²⁸⁸ad3c1c281/Dental%20Amalgam%20feasbility%20study%20-%20Final%20Report.pdf

⁴⁰ <u>https://circabc.europa.eu/ui/group/19e66753-84ca-4e4e-a4a1-73befb368fc2/library/d862c135-5602-4f21-9abf-4bb26fc024b2?p=1&n=10&sort=modified_DESC</u>

⁴¹ See p.33: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN</u>

cadmium, arsenic, chromium, nickel and dioxins and furans⁴². The human health benefits were calculated in year 2030 and estimated at 36.000 EUR⁴³, but did not consider the cumulative benefit for the period 2025-2045.

Furthermore, the local effect was not considered. Crematoria can be located in areas with high density of population, near schools or residential areas. Their chimneys are usually not very high, meaning that the deposition will usually happen rather fast after emission. Without appropriate measures, mercury emissions will be released closer to the ground and surrounding communities, exposing directly those living there.

Considering the operational and installation related costs, the impact assessment highlighted that those "will be passed on to consumers by using environmental premiums/fees and thus impacts on crematoria are expected to be limited."⁴⁴ And in turn, that "The extent to which crematoria operators would pass on these costs is not known, although information provided by stakeholders indicated that operators had introduced an 'environmental fee' to offset their abatement costs, and that this was largely accepted by customers." Therefore, it is rather expected that the burden of installation and operating costs would be minimal for the operators as well as for the customers. This appears to enter in contradiction with the conclusion made in the proposal of the Commission stating that "the costs and administrative burdens would not be proportionate vis-à-vis the environmental objectives pursued"⁴⁵.

The Commission also claims that "the costs and administrative burdens would not [...] also unevenly spread across Member States". While it is true that the costs and administrative burdens might not be unevenly spread, so are the human and environmental costs, and hence the human and environmental health benefits that can be gained from installing abatement technologies.

Further to this, it appears that the majority of respondents who participated to the consultation process supported EU-wide policy to control mercury emissions from crematoria⁴⁶.

As far as crematoria is concerned, we would prefer to see an EU-wide mercury specific emission limit value (ELV), that should be applied to facilities of all sizes, or set up appropriate measures that would prevent the emissions of dental amalgam from deceased people to reach the environment. Derogation could be considered when a country/operator can guarantee that the cremated inputs are free from amalgam (e.g. teeth filling removed/no fillings from the dentist records). Such measures would complement the dental amalgam ban.

4. Further regulating mercury compounds

Alongside with the three points of revision on the agenda, we believe that one key revision is yet missing and should be urgently taken into consideration by the co-legislators.

To this date, the EU bans the export of a number of mercury compounds, but it does not cover them all. The compounds targeted and listed at the time, were the ones through which elemental mercury could potentially be recovered.

While the EU Prior Informed Consent (PIC) regulation 2012/649 covers many other mercury compounds, these are not banned; and the Minamata Convention does not regulate nor control mercury compounds' trade until now. However, recent reports, studies and investigations revealed the growing

⁴² See p.53 and p.49: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN

⁴³ See p.49: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN</u>

⁴⁴ See p. 52: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN</u>

⁴⁵ See p. 7 of the EU proposal: <u>https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2023:395:FIN</u>

⁴⁶ See p.10: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=SWD:2023:396:FIN</u>

concern when it comes to the trade of mercury compounds for use in mercury added skin lightening creams – a use banned at EU level and not allowed by the Minamata Convention.

For the first time ever, an 2023 <u>undercover investigation</u> by the Environmental Investigation Agency (EIA) has exposed key companies deliberately adding toxic mercury to skin lightening products (SLPs) and the mercury compound supply sources serving these producers. The illicit production, trade, and sale of mercury-added SLPs have continued despite legal prohibitions, including a global ban under the Minamata Convention. The Zero Mercury Working Group also confirms these findings in its fourth market surveillance exercise carried out in 2023⁴⁷.

The report reveals that it is indeed standard practice for SLP producers across the globe to manufacture SLP products consisting of 3-4% of a mercury compound, most often ammoniated mercury (CAS number 10124-48-8). The production of these products is facilitated by the unregulated trade of most mercury compounds. Those who trade in mercury compounds can operate with impunity across jurisdictions, even while openly and plainly stating that the compounds are intended to be used in SLPs. Furthermore, it appears that several Parties to the Minamata Convention, including Spain, UAE, and the United States have all been used as intermediary transit ports, facilitating the transportation of mercury-added SLPs and/or mercury compounds to their final destinations abroad⁴⁸. The report confirms that a Spanish company has been repeatedly exporting ammoniated mercury for SLP production⁴⁹.

Furthermore, and as per the EIA report, merbromin / merchurochrome (often spelled as "Merbromine N.F XII" in trade data) warrants further investigation at the EU level and for the Convention; while Annex A bans its use as a topical antiseptic, there is no confirmation that it is indeed the only use, and that is not present in other production streams, as ingredient.

The recently concluded COP5 further decided that on the basis of the above reports and the NRDC feasibility study⁵⁰, a study should be initiated on the global supply, production, trade and use of mercury compounds.

We call on co-legislators to update Annex I of the EU Mercury regulation, and prohibit the manufacture, import and export of all mercury compounds that may be intended for not allowed uses such as in cosmetics. Mercury compounds should be added as a minimum under PIC provisions at EU and global level, and further information would be necessary to regulate this mercury supply source.

5. Other areas where the EU mercury regulation should be further strengthened.

While we understand that the impact assessment has already considered the three points of revision in line with article 19 § 1, we believe that several key aspects of the regulation should be further strengthened, beyond the requirements of the Minamata Convention and its current revision, to adequately ensure protection of human health and the environment while sending a clear and unequivocal signal to the many other countries working toward the same objectives. Along those lines,

⁴⁷ See: <u>https://www.zeromercury.org/mercury-added-skin-lightening-creams-campaign/</u>

⁴⁸ See: <u>https://us.eia.org/press-releases/mercury-in-retrograde-pr/</u>

⁴⁹ https://us.eia.org/report/mercury-in-retrograde/

⁵⁰https://www.nrdc.org/sites/default/files/2023-10/mercury-compounds-inventory-feasibility-study-202303.pdf

we strongly urge the European Parliament and Council to strengthen the Commission's proposal in the following way, considering the points below.

As stated in the EU Mercury Regulation, "By 31 December 2024, the Commission shall report to the European Parliament and to the Council on the implementation and the review of this Regulation, inter alia, in the light of the effectiveness evaluation undertaken by the Conference of the Parties to the Convention and of the reports provided by the Member States [...]" (article 19 § 2) and "shall, if appropriate, present a legislative proposal together with its reports" (article 19 § 3). This offers another opportunity for the EU to catch up and put an end to anthropogenic mercury pollution in the EU.

Our priorities into strengthening the regulation are summarised below:

5.1 Mercury-containing wastes should be prohibited from export to countries outside the EU.

According to EU legislation⁵¹, mercury-containing wastes can be exported with the consent of the receiving country only to OECD countries⁵²: Norway, Switzerland, Iceland, Australia, Canada, Japan, Korea, Mexico, New Zealand, Turkey and the United States. These countries have facilities that can extract mercury from mercury compounds or mercury containing wastes. Therefore, the regulation has a loophole whereby mercury can still be exported indirectly from the EU, as occurred with the illegal mercury exports of DELA.⁵³ This loophole needs to be closed to avoid such incidents in the future.

5.2Prohibit also the import of mercury compounds unless they are intended for environmentally safe disposal and ensure that all mercury compounds fall under the Prior inform consent (PIC) process.

The allowed uses have now considerably diminished and will continue to do so in the next years with the decisions taken at both the EU and global levels. It means that there will be no need to continue imports for potentially remaining allowed uses. Article 4 should therefore be revised accordingly. Moreover, an import ban will:

- ensure that EU mercury supplies are reasonably balanced with EU demand, mandatory storage obligations, and policies, encouraging mercury recovery from wastes and products.
- better protect the EU waste/mercury recyclers by avoiding lower-cost mercury flooding the EU market.
- Lead to environmental benefits, as less mercury would be entering the EU market.

⁵¹ Regulation 1013/2006 on shipment of waste: Art. 36: <u>exports of waste (for recovery)</u> listed as hazardous in Annex V (mercury and mercury-containing wastes are included) <u>are prohibited to non-OECD countries.</u> (Therefore they are allowed to OECD countries, with the consent of the receiving country). According to EU legislation, mercury-containing wastes can then be exported for recovery with the consent of the receiving country ONLY to OECD countries: therefore to Australia, Canada, Chile, Iceland, Japan, Korea, Mexico, New Zealand, Norway, Switzerland, Turkey and the United States.

⁵² OECD countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States

⁵³ A now defunct German waste recycling company, DELA GmbH, was found to have illegally exported over 1,000 tons of excess metallic mercury mostly from the EU chlor-alkali industry, circumventing the EU export ban, with the illicit mercury making its way on to the global market. DELA disguised the mercury as "waste" and exported around 500 tonnes to Switzerland, Greece, the Netherlands and other countries. DELA was reportedly able to get around the EU mercury export ban regulation by not solidifying/stabilising the mercury for storage and disposal as they were required by contractual obligation. The authorities still do not know where all the mercury went, but it is clear that many of the destination countries are known to trade with countries where there is significant use of mercury in artisanal and small-scale gold mining (ASGM). ASGM operations are among the highest emitters of mercury to the environment, as well as exposing miners and their families to this dangerous neurotoxin.

• Reduce EU and overall mercury demand, potentially speeding closure of existing primary mercury mines, with the various environmental benefits that this entails.

We would like to point out that:

• The EU has the power to undertake targeted import prohibitions where it is necessary to implement important EU policies.⁵⁴

Together with an import ban (unless for disposal), transit of mercury and mercury compounds via the EU may also be considered for prohibition. There is no need to facilitate the trade of a substance for which the official EU policy is to reduce and, where feasible, eliminate its use.

In all cases, there is a need to improve the accuracy of reporting for mercury and mercury compounds overall and of those that that pass through a country that is not the final destination; some customs agencies may record the original source of the commodity, while others may record the final country.

5.3 Phase out the use of mercury in porosimetry with justified, time limited exemptions. In the interim, take measures to ensure 100% of the mercury used in porosimetry is recycled.

Important information was gathered on this issue in the COWI/Concorde 2008 report. This is one of the areas where policy recommendations had been put forward by the consultants. Mercury consumption for porosimetry is substantially larger than previously expected and may be among the largest remaining uses in the EU today. Although mercury usage takes place in laboratory conditions, which tend to ensure a certain containment of the mercury, direct releases to the environment are expected, however, and due to the substantial amounts of mercury involved, the generated mercurycontaining waste contributes significantly to the mercury input to waste in the EU. Alternatives to mercury porosimetry are commercially available today, though with some limitations, but unless mercury use for porosimetry is regulated, it is likely that the further development and implementation of alternatives will be slow. These preliminary findings indicate that it might be useful to investigate this mercury usage in more detail in future work, and that regulation may be warranted in the longer perspective. Also it appears that at least for some uses/types of instruments mercury use can be phased out.

Based on earlier research,⁵⁵ we would strongly recommend that steps should be taken to ensure that 100% of the mercury used is recycled, and to phase out mercury use in porosimetry as soon as and where possible, creating incentives for the development of mercury free alternatives for the remaining uses.

5.4Phase out the use of mercury in new lighthouses and ensure safe disposal of relevant waste mercury.

⁵⁴ With respect to the purely legal question of confronting trade obstacles, we note the promulgation of Council Regulation No. 1236/2005, restricting trade in products used for torture and other inhuman punishment. We specifically note the import prohibition of equipment that can only be used for capital punishment, torture, or other similar purposes in Article 4 of this regulation. This import prohibition suggests the EU can undertake very targeted import bans where it is necessary to implement important EU policies.

⁵⁵ From the discussions during the EEB, HCWH, ZMWG conference on 'EU Mercury phase out in Measuring and Control Equipment', October 2009

Evidence on the use and potential impacts of mercury in lighthouses has been extensively discussed in the COWI/Concorde 2008 report.

The report concludes that it would be consistent with the objectives of the regulation to include mercury that is no longer used in light houses in an amendment to the 2017/852 regulation. The relatively large amounts of mercury stored in each light house makes it feasible to send the mercury directly for safe disposal if no longer needed.

This proposal should be further pursued and included as a provision of the revised EU mercury regulation.

5.5Mercury added products still circulating in society for which relevant laws are in place should be collected separately and safely; better labeling of such products will also facilitate separate collection, and awareness should be raised thereof.

For non-electric and electronic mercury-added product waste the collection of which is not explicitly required by law (e.g., for mercury thermometers), additional measures need to be taken.

This was also one of the conclusions of the 2011 REACH Socio Economic Analysis and Risk Assessment Committees while evaluating the ban of mercury added measuring devices,⁵⁶ which stated that, "a proper collection system for these devices may also be necessary to avoid mercury emissions into society from these devices."

Mercury containing wastes are also generally discussed in the COWI/Concorde 2008 (p.192) report; separate collection rates are rather low, resulting in secondary emissions from landfills and waste incinerators, showing the need for improved waste collection and awareness raising.

5.6An expert assessment should be undertaken to determine the extent to which mercury can be appropriately eliminated from vaccines to better protect public health.

The EEB, together with other NGOs, have discussed the need to investigate further the use of mercury in vaccines in their 2005 publication, "Zero Mercury: Key issues and policy recommendations for the EU Strategy on Mercury."⁵⁷ More information can be found in this publication.

Mercury use as a preservative in vaccines, called thimerosal or thiomersal, was not addressed in the 2005 EU Mercury Strategy, nor in the current revision. However, back in June 2005, the Council on the Commission's Mercury Strategy highlighted the need to address vaccines.⁵⁸

No relevant action has taken place in the EU to our knowledge between 2005 and the present. Our proposals for action since 2005 are therefore still valid. Note that the kinds of vaccines covered should not only include childhood disease vaccines but seasonal flu vaccines given to women before and during pregnancy and during breastfeeding.

The Commission should undertake a review of vaccines to ensure that thimerosal-containing vaccines are not in use in Europe, where alternatives are available. An agreement with manufactures should be sought to eliminate the use of thimerosal in vaccines where not necessary. Wherever needed, vaccines should be labelled to declare any mercury content. Furthermore, the EMEA should publish a

⁵⁶ SEAC and RAC opinion on an Annex XV dossier proposing restrictions on mercury in measuring devices <u>http://echa.europa.eu/documents/10162/13641/compiled_rac_and_seac_opinions_mercury_en.pdf</u>

⁵⁷ http://www.zeromercury.org/Zero_Mercury_Policy_Paper_EN.pdf

⁵⁸ Council Conclusions on the Community strategy concerning mercury, 2670th Environment Council meeting, Luxembourg, 24 June 2005.

comprehensive list of all vaccines licensed in Europe and their thimerosal content, as the FDA does in the United States. In addition, the Commission should issue guidelines calling on the EMEA and other health organizations to work with manufacturers to reduce and/or eliminate mercury in vaccines. To that end, priority should be given to the research and development of safe, mercury-free, multi-dose vaccines.

5.7Set limits for mercury emissions to air/releases to water from the main point sources (i.e. Large Combustion Plants, Iron and Steel, Cement and Lime, Non-ferrous metals production)⁵⁹

For the highest point source emitting sectors covered by the Industrial Emissions Directive, there are Best Available Techniques Reference Documents (BREFs) at EU level which set out emission ranges achievable under economically and technically viable conditions with BAT (so-called BAT-AEL). However, long implementation deadlines and excessive flexibilities set in those frameworks would not ensure a level playing field for industry, nor necessarily reduce the mercury emissions from these industries. For most cases the upper BAT-AEL correspond to negotiated emission levels that are already met by the majority of EU installations, not what is actually technically feasible to achieve under acceptable costs. This is also due to the fact that no dedicated mercury techniques have been implemented across the sector when the BREFs where reviewed (e.g. LCP BREF, Iron and Steel and Cement plants). As the review of this Directive by the European Commission has found, in 80% of the cases national permit writers simply align to the most lax and permissive levels of those BAT (upper lenient BAT-AEL), or even grant derogations despite this pollutant being a Priority Hazardous Substance for which a 2028 phase out has been set via the Water Framework Directive requirements. In order to provide for legal certainty and to deliver mercury reductions from these sectors in a timely manner, the proposed regulation should incorporate adequate BAT benchmarks for the most relevant emission sources the permit writers should implement across the EU, since mercury emissions travel long distances. This means the following

- For <u>Large Combustion Plants</u> (LCP): a maximum ELV to air emissions set to 1µg/Nm³ (annual average) is to be set for any coal/lignite fired combustion plant operating after 2030. The discharge limit for mercury to surface water should be set at 0.75µg/l, to be met by 2028 at the latest;
- For Iron and Steel industry, <u>Cement and Lime</u> production <u>and non ferrous metals</u>: a maximum emission limit of 10µg/Nm³ should be set. Furthermore, an emission limit of <5mg/Nm³ should be set for dust. Bag filters are effective in capturing mercury and various other highly hazardous pollutants such as dioxins and furans, and can easily cope with dust emission levels up to 5mg/Nm³. The same level of maximum water discharge of mercury (0.75µg/l) should be set, where waste water is released, since membrane filtration can also be implemented in this sector.

6. Conclusions

A strong EU position recognises the EU's responsibility for its share of the problem. Ensuring, among other, an EU export ban of mercury, mercury compounds and mercury-added products, is also a pragmatic acknowledgement that there is little point in simply reducing mercury demand within the

⁵⁹ More resources are available here: <u>http://www.eeb.org/index.cfm/death-ticker/</u>,

http://www.eeb.org/index.cfm/library/explaining-the-death-ticker/, http://www.eeb.org/index.cfm/news-events/news/report-weak-eu-coal-pollution-standards-could-cause-71-000-avoidable-deaths/



EU, while allowing unwanted mercury and mercury added products to be exported to the developing world under far less stringent controls, much of the mercury released there, with the risk that it will ultimately return to Europe's atmosphere and eventually be taken up by the fish we eat.

The EU's leadership in resolving global mercury problems is an economic, health, environmental and moral imperative. Strong EU leadership will encourage other countries to reduce mercury consumption as well as engage in multilateral and global trade agreements, which are clearly needed to significantly reduce mercury as a global pollutant.

The value of a strong EU commitment to tackling mercury problems on the global stage must not be underestimated. This is a straightforward opportunity to reduce the health risks to millions of EU citizens, and many more globally, that we cannot afford to miss.

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