

Current Criminal Law

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Contents -

Current Criminal Law, Volume 11 Issue 1 September 2018

**Foreign employees' exposure to mercury poison through
Total Reclaim's deceptive and dangerous long-term practices
in the United States of America** pgs 2 - 20

Technology worthless without trained police personnel pgs 20-23

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Foreign employees' exposure to mercury poison through Total Reclaim's deceptive and dangerous long-term practices in the United States of America

By
SALLY RAMAGE

1. Large scale mercury poisoning of Hong Kong labourers who were exposed over many years to United States mercury without knowledge or consent

These repeated environmental and international human rights crimes were committed over at least eight years. A large recycling company in the richest country in the world committed these heinous crimes and it *is an affront to humanity* and a shocking love of money over and above human lives on this planet. It is a blatant contravention of the 2013 binding *Minamata Convention of Mercury*, which was signed by over 230 countries, including the United States of America. The United States of America has, for years, acted with double standards, not caring about the lives of far-away Asians polluted by United States mercury.

2. The 2013 Minamata Convention against Mercury

The Parties to this Convention, Recognizing that mercury is a chemical of global concern owing to its long-range atmospheric transport, its persistence in the environment once anthropogenically introduced, its ability to bio accumulate in ecosystems and its significant negative effects on human health and the environment, Recalling decision 25/5 of 20 February 2009 of the Governing Council of the United Nations Environment Programme to initiate international action to manage mercury in an efficient, effective and coherent manner, Recalling paragraph 221 of the outcome document of the United Nations Conference on Sustainable Development "The future we want", which called for a successful outcome of the negotiations on a global legally binding instrument on mercury to address the risks to human health and the environment, Recalling the United Nations Conference on Sustainable Development's reaffirmation of the principles of the Rio Declaration on Environment and Development, including, inter alia, common but differentiated responsibilities, and acknowledging States' respective circumstances and capabilities and the need for global action, Aware of the health concerns, especially in developing countries, resulting from exposure to mercury of vulnerable populations, especially women, children, and, through them, future generations, Noting the particular vulnerabilities of Arctic ecosystems and indigenous communities because of the biomagnification of mercury and contamination of traditional foods, and concerned about indigenous communities more generally with respect to the effects of mercury, Recognizing the substantial lessons of Minamata Disease, in particular the serious health and environmental effects resulting from the mercury pollution, and the need to ensure proper management of mercury and the prevention of such events in the future, Stressing the importance of financial, technical, technological, and capacity-building support, particularly for developing countries, and countries with economies in transition, in order to strengthen national capabilities for the management of mercury and to promote the effective implementation of the Convention, Recognizing also the activities of the World Health Organization in the protection of human health related to mercury and the roles of relevant multilateral environmental agreements, especially the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* and the *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, Recognizing that this Convention and other international agreements in the field of the environment and trade are mutually supportive,

Emphasizing that nothing in this Convention is intended to affect the rights and obligations of any Party deriving from any existing international agreement,
Understanding that the above recital is not intended to create a hierarchy between this Convention and other international instruments,
Noting that nothing in this Convention prevents a Party from taking additional domestic measures consistent with the provisions of this Convention in an effort to protect human health and the environment from exposure to mercury in accordance with that Party's other obligations under applicable international law,
Have agreed as follows:

Article 1

Objective

The objective of this Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.

Article 2

Definitions For the purposes of this Convention:

- (a) "Artisanal and small-scale gold mining" means gold mining conducted by individual miners or small enterprises with limited capital investment and production;
- (b) "Best available techniques" means those techniques that are the most effective to prevent and, where that is not practicable, to reduce emissions and releases of mercury to air, water and land and the impact of such emissions and releases on the environment as a whole, taking into account economic and technical considerations for a given Party or a given facility within the territory of that Party. In this context:
 - (i) "Best" means most effective in achieving a high general level of protection of the environment as a whole;
 - (ii) "Available" techniques means, in respect of a given Party and a given facility within the territory of that Party, those techniques developed on a scale that allows implementation in a relevant industrial sector under economically and technically viable conditions, taking into consideration the costs and benefits, whether or not those techniques are used or developed within the territory of that Party, provided that they are accessible to the operator of the facility as determined by that Party; and
 - (iii) "Techniques" means technologies used, operational practices and the ways in which installations are designed, built, maintained, operated and decommissioned;
- (c) "Best environmental practices" means the application of the most appropriate combination of environmental control measures and strategies;
- (d) "Mercury" means elemental mercury (Hg(0), CAS No. 7439-97-6);
- (e) "Mercury compound" means any substance consisting of atoms of mercury and one or more atoms of other chemical elements that can be separated into different components only by chemical reactions;
- (f) "Mercury-added product" means a product or product component that contains mercury or a mercury compound that was intentionally added;
- (g) "Party" means a State or regional economic integration organization that has consented to be bound by this Convention and for which the Convention is in force;
- (h) "Parties present and voting" means Parties present and casting an affirmative or negative vote at a meeting of the Parties;
- (i) "Primary mercury mining" means mining in which the principal material sought is mercury;
- (j) "Regional economic integration organization" means an organization constituted by sovereign States of a given region to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to this Convention; and
- (k) "Use allowed" means any use by a Party of mercury or mercury compounds consistent with this Convention, including, but not limited to, uses consistent with Articles 3, 4, 5, 6 and 7.

Article 3

Mercury supply sources and trade

1. For the purposes of this Article:
 - (a) References to "mercury" include mixtures of mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95 per cent by weight; and
 - (b) "Mercury compounds" means mercury (I) chloride (known also as calomel), mercury (II) oxide, mercury (II) sulphate, mercury (II) nitrate, cinnabar and mercury sulphide.
2. The provisions of this Article shall not apply to:

- (a) Quantities of mercury or mercury compounds to be used for laboratory-scale research or as a reference standard; or
- (b) Naturally occurring trace quantities of mercury or mercury compounds present in such products as non-mercury metals, ores, or mineral products, including coal, or products derived from these materials, and unintentional trace quantities in chemical products; or (c) Mercury-added products.

3. Each Party shall not allow primary mercury mining that was not being conducted within its territory at the date of entry into force of the Convention for it.

4. Each Party shall only allow primary mercury mining that was being conducted within its territory at the date of entry into force of the Convention for it for a period of up to fifteen years after that date. During this period, mercury from such mining shall only be used in manufacturing of mercury-added products in accordance with Article 4, in manufacturing processes in accordance with Article 5, or be disposed in accordance with Article 11, using operations which do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

5. Each Party shall:

(a) Endeavour to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons, as well as sources of mercury supply generating stocks exceeding 10 metric tons per year, that are located within its territory;

(b) Take measures to ensure that, where the Party determines that excess mercury from the decommissioning of chlor-alkali facilities is available, such mercury is disposed of in accordance with the guidelines for environmentally sound (i) A use allowed to the importing Party under this Convention; or (ii) Environmentally sound interim storage as set out in Article 10; or

(c) To a non-Party that has provided the exporting Party with its written consent, including certification demonstrating that: (i) The non-Party has measures in place to ensure the protection of human health and the environment and to ensure its compliance with the provisions of Articles 10 and 11; and management referred to in paragraph 3 (a) of Article 11, using operations that do not lead to recovery, recycling, reclamation, direct re-use or alternative uses.

6. Each Party shall not allow the export of mercury except: (a) To a Party that has provided the exporting Party with its written consent, and only for the purpose of: (i) A use allowed to the importing Party under this Convention; or (ii) Environmentally sound interim storage as set out in Article 10; or (ii) Such mercury will be used only for a use allowed to a Party under this Convention or for environmentally sound interim storage as set out in Article 10.

7. An exporting Party may rely on a general notification to the Secretariat by the importing Party or non-Party as the written consent required by paragraph 6. Such general notification shall set out any terms and conditions under which the importing Party or non-Party provides its consent. The notification may be revoked at any time by that Party or non-Party. The Secretariat shall keep a public register of all such notifications.

8. Each Party shall not allow the import of mercury from a non-Party to whom it will provide its written consent unless the non-Party has provided certification that the mercury is not from sources identified as not allowed under paragraph 3 or paragraph 5 (b).

9. A Party that submits a general notification of consent under paragraph 7 may decide not to apply paragraph 8, provided that it maintains comprehensive restrictions on the export of mercury and has domestic measures in place to ensure that imported mercury is managed in an environmentally sound manner. The Party shall provide a notification of such decision to the Secretariat, including information describing its export restrictions and domestic regulatory measures, as well as information on the quantities and countries of origin of mercury imported from non-Parties. The Secretariat shall maintain a public register of all such notifications. The Implementation and Compliance Committee shall review and evaluate any such notifications and supporting information in accordance with Article 15 and may make recommendations, as appropriate, to the Conference of the Parties.

10. The procedure set out in paragraph 9 shall be available until the conclusion of the second meeting of the Conference of the Parties. After that time, it shall cease to be available, unless the Conference of the Parties decides otherwise by simple majority of the Parties present and voting, except with respect to a Party that has provided a notification under paragraph 9 before the end of the second meeting of the Conference of the Parties.

11. Each Party shall include in its reports submitted pursuant to Article 21 information showing that the requirements of this Article have been met.

12. The Conference of the Parties shall at its first meeting provide further guidance in regard to this Article, particularly in regard to paragraphs 5 (a), 6 and 8, and shall develop and adopt the required content of the certification referred to in paragraphs 6 (b) and 8.

13. The Conference of the Parties shall evaluate whether the trade in specific mercury compounds compromises the objective of this Convention and consider whether specific mercury compounds should, by their listing in an additional annex adopted in accordance with Article 27, be made subject to paragraphs 6 and 8.

ARTICLE 4

MERCURY-ADDED PRODUCTS

1. Each Party shall not allow, by taking appropriate measures, the manufacture, import or export of mercury-added products listed in Part I of Annex A after the phase-out date specified for those products, except where an exclusion is specified in Annex A or the Party has a registered exemption pursuant to Article 6.

2. A Party may, as an alternative to paragraph 1, indicate at the time of ratification or upon entry into force of an amendment to Annex A for it, that it will implement different measures or strategies to address products listed in Part I of Annex A. A Party may only choose this alternative if it can demonstrate that it has already reduced to a de minimis level the manufacture, import, and export of the large majority of the products listed in Part I of Annex A and that it has implemented measures or strategies to reduce the use of mercury in additional products not listed in Part I of Annex A at the time it notifies the Secretariat of its decision to use this alternative. In addition, a Party choosing this alternative shall:

- (a) Report at the first opportunity to the Conference of the Parties a description of the measures or strategies implemented, including a quantification of the reductions achieved;
- (b) Implement measures or strategies to reduce the use of mercury in any products listed in Part I of Annex A for which a de minimis value has not yet been obtained;
- (c) Consider additional measures to achieve further reductions; and
- (d) Not be eligible to claim exemptions pursuant to Article 6 for any product category for which this alternative is chosen. No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall, as part of the review process under paragraph 8, review the progress and the effectiveness of the measures taken under this paragraph.

- 4. Each Party shall take measures for the mercury-added products listed in Part II of Annex A in accordance with the provisions set out therein.
- 5. The Secretariat shall, on the basis of information provided by Parties, collect and maintain information on mercury-added products and their alternatives, and shall make such information publicly available. The Secretariat shall also make publicly available any other relevant information submitted by Parties. 5. Each Party shall take measures to prevent the incorporation into assembled products of mercury-added products the manufacture, import and export of which are not allowed for it under this Article.
- 6. Each Party shall discourage the manufacture and the distribution in commerce of mercury-added products not covered by any known use of mercury-added products prior to the date of entry into force of the Convention for it, unless an assessment of the risks and benefits of the product demonstrates environmental or human health benefits. A Party shall provide to the Secretariat, as appropriate, information on any such product, including any information on the environmental and human health risks and benefits of the product. The Secretariat shall make such information publicly available.

7. Any Party may submit a proposal to the Secretariat for listing a mercury-added product in Annex A, which shall include information related to the availability, technical and economic feasibility and environmental and health risks and benefits of the non-mercury alternatives to the product, taking into account information pursuant to paragraph 4.

8. No later than five years after the date of entry into force of the Convention, the Conference of the Parties shall review Annex A and may consider amendments to that Annex in accordance with Article 27.

9. In reviewing Annex A pursuant to paragraph 8, the Conference of the Parties shall take into account at least: (a) Any proposal submitted under paragraph 7; (b) The information made available pursuant to paragraph 4; and (c) The availability to the Parties of mercury-free alternatives that are technically and economically feasible, taking into account the environmental and human health risks and benefits.

Article 6

Exemptions available to a Party upon request

1. Any State or regional economic integration organization may register for one or more exemptions from the phase-out dates listed in Annex A and Annex B, hereafter referred to as an "exemption", by notifying the Secretariat in writing: (a) On becoming a Party to this Convention; or (b) In the case of any mercury-added product that is added by an amendment to Annex A or any manufacturing process in which mercury is used that is added by an amendment to Annex B, no later than the date upon which the applicable amendment enters into force for the Party. Any such registration shall be accompanied by a statement explaining the Party's need for the exemption.

2. An exemption can be registered either for a category listed in Annex A or B or for a sub-category identified by any State or regional economic integration organization.

3. Each Party that has one or more exemptions shall be identified in a register. The Secretariat shall establish and maintain the register and make it available to the public.

4. The register shall include: (a) A list of the Parties that have one or more exemptions; (b) The exemption or exemptions registered for each Party; and (c) The expiration date of each exemption.

5. Unless a shorter period is indicated in the register by a Party, all exemptions pursuant to paragraph 1 shall expire five years after the relevant

6. The Conference of the Parties may, at the request of a Party, decide to extend an exemption for five years unless the Party requests a shorter period. In making its decision, the Conference of the Parties shall take due account of:

(a) A report from the Party justifying the need to extend the exemption and outlining activities undertaken and planned to eliminate the need for the exemption as soon as feasible;

(b) Available information, including in respect of the availability of alternative products and processes that are free of mercury or that involve the consumption of less mercury than the exempt use; and

(c) Activities planned or under way to provide environmentally sound storage of mercury and disposal of mercury wastes. An exemption may only be extended once per product per phase-out date.

1. A Party may at any time withdraw an exemption upon written notification to the Secretariat. The withdrawal of an exemption shall take effect on the date specified in the notification.

2. Notwithstanding paragraph 1, no State or regional economic integration organization may register for an exemption after five years after the phase-out date for the relevant product or process listed in Annex A or B, unless one or more Parties remain registered for an exemption for that product or process, having received an extension pursuant to paragraph 6. In that case, a State or regional economic integration organization may, at the times set out in paragraphs 1 (a) and (b), register for an exemption for that product or process, which shall expire ten years after the relevant phase-out date.

3. No Party may have an exemption in effect at any time after 10 years after the phase-out date for a product or process listed in Annex A or B.

Article 7

Artisanal and small-scale gold mining

1. The measures in this Article and in Annex C shall apply to artisanal and small-scale gold mining and processing in which mercury amalgamation is used to extract gold from ore.

2. Each Party that has artisanal and small-scale gold mining and processing subject to this Article within its territory shall take steps to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.

3. Each Party shall notify the Secretariat if at any time the Party determines that artisanal and small-scale gold mining and processing in its territory is more than insignificant. If it so determines the Party shall: (a) Develop and implement a national action plan in accordance with Annex C; (b) Submit its national action plan to the Secretariat no later than three years after entry into force of the Convention for it or three years after the notification to the Secretariat, whichever is later; and (c) Thereafter, provide a review every three years of the

progress made in meeting its obligations under this Article and include such reviews in its reports submitted pursuant to Article 21.

4. Parties may cooperate with each other and with relevant intergovernmental organizations and other entities, as appropriate, to achieve the objectives of this Article. Such cooperation may include:

- (a) Development of strategies to prevent the diversion of mercury or mercury compounds for use in artisanal and small-scale gold mining and processing;
- (b) Education, outreach and capacity-building initiatives;
- (c) Promotion of research into sustainable non-mercury alternative practices;
- (d) Provision of technical and financial assistance;
- (e) Partnerships to assist in the implementation of their commitments under this Article; and
- (f) Use of existing information exchange mechanisms to promote knowledge, best environmental practices and alternative technologies that are environmentally, technically, socially and economically viable.

Article 8

Emissions

1. This Article concerns controlling and, where feasible, reducing emissions of mercury and mercury compounds, often expressed as "total mercury", to the atmosphere through measures to control emissions from the point sources falling within the source categories listed in Annex D.

2. For the purposes of this Article :

- (a) "Emissions" means emissions of mercury or mercury compounds to the atmosphere;
- (b) "Relevant source" means a source falling within one of the source categories listed in Annex
- (c) A Party may, if it chooses, establish criteria to identify the sources covered within a source category listed in Annex D so long as those criteria for any category include at least 75 per cent of the emissions from that category;
- (d) "New source" means any relevant source within a category listed in Annex D, the construction or substantial modification of which is commenced at least one year after the date of: (i) Entry into force of this Convention for the Party concerned; or (ii) Entry into force for the Party concerned of an amendment to Annex D where the source becomes subject to the provisions of this Convention only by virtue of that amendment;
- (e) "Substantial modification" means modification of a relevant source that results in a
- (f) significant increase in emissions, excluding any change in emissions resulting from by-product recovery. It shall be a matter for the Party to decide whether a modification is substantial or not;
- (g) "Existing source" means any relevant source that is not a new source;
- (h) "Emission limit value" means a limit on the concentration, mass or emission rate of mercury or mercury compounds, often expressed as "total mercury", emitted from a point source.

2. A Party with relevant sources shall take measures to control emissions and may prepare a national plan setting out the measures to be taken to control emissions and its expected targets, goals and outcomes. Any plan shall be submitted to the Conference of the Parties within four years of the date of entry into force of the Convention for that Party. If a Party develops an implementation plan in accordance with Article 20, the Party may include in it the plan prepared pursuant to this paragraph.

3. For its new sources, each Party shall require the use of best available techniques and best environmental practices to control and, where feasible, reduce emissions, as soon as practicable but no later than five years after the date of entry into force of the Convention for that Party. A Party may use emission limit values that are consistent with the application of best available techniques.

4. For its existing sources, each Party shall include in any national plan, and shall implement, one or more of the following measures, taking into account its national circumstances, and the economic and technical feasibility and affordability of the measures, as soon as practicable but no more than ten years after the date of entry into force of the Convention for it: (a) A quantified goal for controlling and, where feasible, reducing emissions from relevant sources; (b) Emission limit values for controlling and, where feasible, reducing emissions from relevant sources; (c) The use of best available techniques and best environmental practices to control emissions from relevant sources; (d) A multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions; (e) Alternative measures to reduce emissions from relevant sources.

5. Parties may apply the same measures to all relevant existing sources or may adopt different measures in respect of different source categories. The objective shall be for those measures applied by a Party to achieve reasonable progress in reducing emissions over time.

6. Each Party shall establish, as soon as practicable and no later than five years after the date of entry into force of the Convention for it, and maintain thereafter, an inventory of emissions from relevant sources.

7. The Conference of the Parties shall, at its first meeting, adopt guidance on: (i) Best available techniques and on best environmental practices, taking into account any difference between new and existing sources and the need to minimize cross-media effects; and (ii) Support for Parties in implementing the measures set out in paragraph 5, in particular in determining goals and in setting emission limit values.

8. The Conference of the Parties shall, as soon as practicable, adopt guidance on: (i) Criteria that Parties may develop pursuant to paragraph 2 (b); (ii) The methodology for preparing inventories of emissions.

9. The Conference of the Parties shall keep under review, and update as appropriate, the guidance developed pursuant to paragraphs 8 and 9.

10. Parties shall take the guidance into account in implementing the relevant provisions of this Article.

11. Each Party shall include information on its implementation of this Article in its reports submitted pursuant to Article 21, in particular information concerning the measures it has taken in accordance with paragraphs 4 to 7 and the effectiveness of the measures.

Article 9

Releases

1. This Article concerns controlling and, where feasible, reducing releases of mercury and mercury compounds, often expressed as "total mercury", to land and water from the relevant point sources not addressed in other provisions of this Convention.

2. For the purposes of this Article:

- (a) "Releases" means releases of mercury or mercury compounds to land or water;
- (b) "Relevant source" means any significant anthropogenic point source of release as identified by a Party that is not addressed in other provisions of this Convention;
- (c) "New source" means any relevant source, the construction or substantial modification of which is commenced at least one year after the date of entry into force of this Convention for the Party concerned;
- (d) "Substantial modification" means modification of a relevant source that results in a significant increase in releases, excluding any change in releases resulting from by-product recovery. It shall be a matter for the Party to decide whether a modification is substantial or not;
- (e) "Existing source" means any relevant source that is not a new source;
- (f) "Release limit value" means a limit on the concentration or mass of mercury or mercury compounds, often expressed as "total mercury", released from a point source.

7. Each Party shall, no later than three years after the date of entry into force of the Convention for it and on a regular basis thereafter, identify the relevant point source categories. A Party with relevant sources shall take measures to control releases and may prepare a national plan setting out the measures to be taken to control releases and its expected targets, goals and outcomes. Any plan shall be submitted to the Conference of the Parties within four years of the date of entry into force of the Convention for that Party. If a Party develops an implementation plan in accordance with Article 20, the Party may include in it the plan prepared pursuant to this paragraph.

8. The measures shall include one or more of the following, as appropriate: Release limit values to control and, where feasible, reduce releases from relevant sources; The use of best available techniques and best environmental practices to control releases from relevant sources; A multi-pollutant control strategy that would deliver co-benefits for control of mercury releases; Alternative measures to reduce releases from relevant sources.

9.

10. Each Party shall establish, as soon as practicable and no later than five years after the date of entry into force of the Convention for it, and maintain thereafter, an inventory of releases from relevant sources.

11. The Conference of the Parties shall, as soon as practicable, adopt guidance on: (a) Best available techniques and on best environmental practices, taking into account any difference between new and existing sources and the need to minimize cross-media effects; (b) The methodology for preparing inventories of releases.

8. Each Party shall include information on its implementation of this Article in its reports submitted pursuant to Article 21, in particular information concerning the measures it has taken in accordance with paragraphs 3 to 6 and the effectiveness of the measures.

Article 10

Environmentally sound interim storage of mercury, other than waste mercury

1. This Article shall apply to the interim storage of mercury and mercury compounds as defined in Article 3 that do not fall within the meaning of the definition of mercury wastes set out in Article 11.

2. Each Party shall take measures to ensure that the interim storage of such mercury and mercury compounds intended for a use allowed to a Party under this Convention is undertaken in an environmentally sound manner, taking into account any guidelines, and in accordance with any requirements, adopted pursuant to paragraph 3.

3. The Conference of the Parties shall adopt guidelines on the environmentally sound interim storage of such mercury and mercury compounds, taking into account any relevant guidelines developed under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and other relevant guidance. The Conference of the Parties may adopt requirements for interim storage in an additional annex to this Convention in accordance with Article 27.

4. Parties shall cooperate, as appropriate, with each other and with relevant intergovernmental organizations and other entities, to enhance capacity building for the environmentally sound interim storage of such mercury and mercury compounds.

Article 12

Contaminated sites

1. Each Party shall endeavour to develop appropriate strategies for identifying and assessing sites contaminated by mercury or mercury compounds.

2. Any actions to reduce the risks posed by such sites shall be performed in an environmentally sound manner incorporating, where appropriate, an assessment of the risks to human health and the environment from the mercury or mercury compounds they contain. The Conference of the Parties shall adopt guidance on managing contaminated sites that may include methods and approaches for: (a) Site identification and characterization; (b) Engaging the public; (c) Human health and environmental risk assessments; (d) Options for managing the risks posed by contaminated sites; (e) Evaluation of benefits and costs; and (f) Validation of outcomes.

Parties are encouraged to cooperate in developing strategies and implementing activities for identifying, assessing, prioritizing, managing and, as appropriate, remediating contaminated sites.

Article 13

Financial resources and mechanism

Each Party undertakes to provide, within its capabilities, resources in respect of those national activities that are intended to implement this Convention, in accordance with its national policies, priorities, plans and programmes. Such resources may include domestic funding through relevant policies, development strategies and national budgets, and bilateral and multilateral funding, as well as private sector involvement. 2. The overall effectiveness of implementation of this Convention by developing country Parties will be related to the effective implementation of this Article. 3. Multilateral, regional and bilateral sources of financial and technical assistance, as well as capacity-building and technology transfer, are encouraged, on an urgent basis, to enhance and increase their activities on mercury in support of developing country Parties in the implementation of this Convention relating to financial resources, technical assistance and technology transfer.

4. The Parties, in their actions with regard to funding, shall take full account of the specific needs and special circumstances of Parties that are small island developing States or least developed countries.

A Mechanism for the provision of adequate, predictable, and timely financial resources is hereby defined. The Mechanism is to support developing country Parties and Parties with economies in transition in implementing their obligations under this Convention.

The Mechanism shall include: (a) The Global Environment Facility Trust Fund; and (b) A specific international Programme to support capacity-building and technical assistance.

The Global Environment Facility Trust Fund shall provide new, predictable, adequate and timely financial resources to meet costs in support of implementation of this Convention as agreed by the Conference of the Parties. For the purposes of this Convention, the Global Environment Facility Trust Fund shall be operated under the guidance of and be accountable to the Conference of the Parties. The Conference of the Parties shall provide guidance on overall strategies, policies, programme priorities and eligibility for access to and utilization of financial resources. In addition, the Conference of the Parties shall provide guidance on an indicative list of categories of activities that could receive support from the Global Environment Facility Trust Fund. The Global Environment Facility Trust Fund shall provide resources to meet the agreed incremental costs of global environmental benefits and the agreed full costs of some enabling activities.

In providing resources for an activity, the Global Environment Facility Trust Fund should take into account the potential mercury reductions of a proposed activity relative to its costs.

For the purposes of this Convention, the Programme referred to in paragraph 6 (b) will be operated under the guidance of and be accountable to the Conference of the Parties. The Conference of the Parties shall, at its first meeting, decide on the hosting institution for the Programme, which shall be an existing entity, and provide guidance to it, including on its duration. All Parties and other relevant stakeholders are invited to provide financial resources to the Programme, on a voluntary basis.

The Conference of the Parties and the entities comprising the Mechanism shall agree upon, at the first meeting of the Conference of the Parties, arrangements to give effect to the above paragraph.

The Conference of the Parties shall review, no later than at its third meeting, and thereafter on a regular basis, the level of funding, the guidance provided by the Conference of the Parties to the entities entrusted to operationalize the Mechanism established under this Article and their effectiveness, and their ability to address the changing needs of developing country Parties and Parties with economies in transition. It shall, based on such review, take appropriate action to improve the effectiveness of the Mechanism.

All Parties, within their capabilities, are invited to contribute to the Mechanism. The Mechanism shall encourage the provision of resources from other sources, including the private sector, and shall seek to leverage such resources for the activities it supports.

Article 14

Capacity-building, technical assistance and technology transfer

Parties shall cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties, in particular Parties that are least developed countries or small island developing States, and Parties with economies in transition, to assist them in implementing their obligations under this Convention.

Capacity-building and technical assistance pursuant to paragraph 1 and Article 13 may be delivered through regional, subregional and national arrangements, including existing regional and subregional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector. Cooperation and coordination with other multilateral environmental agreements in the field of chemicals and wastes should be sought to increase the effectiveness of technical assistance and its delivery.

Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by the private sector and other relevant stakeholders as appropriate, development, transfer and diffusion of, and access to, up-to-date environmentally sound alternative technologies to developing country Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition, to strengthen their capacity to effectively implement this Convention.

The Conference of the Parties shall, by its second meeting and thereafter on a regular basis, and taking into account submissions and reports from Parties including those as provided for in Article 21 and information provided by other stakeholders:

Consider information on existing initiatives and progress made in relation to alternative technologies;
Consider the needs of Parties, particularly developing country Parties, for alternative technologies; and
Identify challenges experienced by Parties, particularly developing country Parties, in technology transfer.

The Conference of the Parties shall make recommendations on how capacity-building, technical assistance and technology transfer could be further enhanced under this Article.

Article 15

Implementation and Compliance Committee

A mechanism, including a Committee as a subsidiary body of the Conference of the Parties, is hereby established to promote implementation of, and review compliance with, all provisions of this Convention. The mechanism, including the Committee, shall be facilitative in nature and shall pay particular attention to the respective national capabilities and circumstances of Parties.

The Committee shall promote implementation of, and review compliance with, all provisions of this Convention. The Committee shall examine both individual and systemic issues of implementation and compliance and make recommendations, as appropriate, to the Conference of the Parties.

The Committee shall consist of 15 members, nominated by Parties and elected by the Conference of the Parties, with due consideration to equitable geographical representation based on the five regions of the United Nations; the first members shall be elected at the first meeting of the Conference of the Parties and thereafter in accordance with the rules of procedure approved by the Conference of the Parties pursuant to paragraph 5; the members of the Committee shall have competence in a field relevant to this Convention and reflect an appropriate balance of expertise.

The Committee may consider issues on the basis of: (a) Written submissions from any Party with respect to its own compliance; (b) National reports in accordance with Article 21; and (c) Requests from the Conference of the Parties.

The Committee shall elaborate its rules of procedure, which shall be subject to approval by the second meeting of the Conference of the Parties; the Conference of the Parties may adopt further terms of reference for the Committee.

The Committee shall make every effort to adopt its recommendations by consensus. If all efforts at consensus have been exhausted and no consensus is reached, such recommendations shall as a last resort be adopted by a three-fourths majority vote of the members present and voting, based on a quorum of two-thirds of the members.

Article 16

Health aspects

Parties are encouraged to: (a) Promote the development and implementation of strategies and programmes to identify and protect populations at risk, particularly vulnerable populations, and which may include adopting science-based health guidelines relating to the exposure to mercury and mercury compounds, setting targets for mercury exposure reduction, where appropriate, and public education, with the participation of public health and other involved sectors; (b) Promote the development and implementation of science-based educational and preventive programmes on occupational exposure to mercury and mercury compounds; (c) Promote appropriate health-care services for prevention, treatment and care for populations affected by the exposure to mercury or mercury compounds; and (d) Establish and strengthen, as appropriate, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.

The Conference of the Parties, in considering health-related issues or activities, should: (a) Consult and collaborate with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate; and (b) Promote cooperation and exchange of information with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate.

Article 17**Information exchange**

Each Party shall facilitate the exchange of: (a) Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, ecotoxicological and safety information; (b) Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds; (c) Information on technically and economically viable alternatives to: (i) Mercury-added products; (ii) Manufacturing processes in which mercury or mercury compounds are used; and (iii) Activities and processes that emit or release mercury or mercury compounds; including information on the health and environmental risks and economic and social costs and benefits of such alternatives; and (d) Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate.

Parties may exchange the information referred to in paragraph 1 directly, through the Secretariat, or in cooperation with other relevant organizations, including the secretariats of chemicals and wastes conventions, as appropriate.

The Secretariat shall facilitate cooperation in the exchange of information referred to in this Article, as well as with relevant organizations, including the secretariats of multilateral environmental agreements and other international initiatives. In addition to information from Parties, this information shall include information from intergovernmental and non-governmental organizations with expertise in the area of mercury, and from national and international institutions with such expertise.

Each Party shall designate a national focal point for the exchange of information under this Convention, including with regard to the consent of importing Parties under Article 3.

For the purposes of this Convention, information on the health and safety of humans and the environment shall not be regarded as confidential. Parties that exchange other information pursuant to this Convention shall protect any confidential information as mutually agreed.

Article 18**Public information, awareness and education**

Each Party shall, within its capabilities, promote and facilitate: (a) Provision to the public of available information on: (i) The health and environmental effects of mercury and mercury compounds; (ii) Alternatives to mercury and mercury compounds; (iii) The topics identified in paragraph 1 of Article 17; (iv) The results of its research, development and monitoring activities under Article 19; and (v) Activities to meet its obligations under this Convention; (b) Education, training and public awareness related to the effects of exposure to mercury and mercury compounds on human health and the environment in collaboration with relevant intergovernmental and non-governmental organizations and vulnerable populations, as appropriate. 2. Each Party shall use existing mechanisms or give consideration to the development of mechanisms, such as pollutant release and transfer registers where applicable, for the collection and dissemination of information on estimates of its annual quantities of mercury and mercury compounds that are emitted, released or disposed of through human activities.

Article 19**Research, development and monitoring**

Parties shall endeavour to cooperate to develop and improve, taking into account their respective circumstances and capabilities: (a) Inventories of use, consumption, and anthropogenic emissions to air and releases to water and land of mercury and mercury compounds; (b) Modelling and geographically representative monitoring of levels of mercury and mercury compounds in vulnerable populations and in environmental media, including biotic media such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples; (c) Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts,

particularly in respect of vulnerable populations; (d) Harmonized methodologies for the activities undertaken under subparagraphs (a), (b) and (c); (e) Information on the environmental cycle, transport (including long-range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition; (f) Information on commerce and trade in mercury and mercury compounds and mercury-added products; and (g) Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques and best environmental practices to reduce and monitor emissions and releases of mercury and mercury compounds. 2. Parties should, where appropriate, build on existing monitoring networks and research programmes in undertaking the activities identified in paragraph 1.

Article 20

Implementation plans

Each Party may, following an initial assessment, develop and execute an implementation plan, taking into account its domestic circumstances, for meeting the obligations under this Convention. Any such plan should be transmitted to the Secretariat as soon as it has been developed. 2. Each Party may review and update its implementation plan, taking into account its domestic circumstances and referring to guidance from the Conference of the Parties and other relevant guidance. 3. Parties should, in undertaking work in paragraphs 1 and 2, consult national stakeholders to facilitate the development, implementation, review and updating of their implementation plans. 4. Parties may also coordinate on regional plans to facilitate implementation of this Convention.

Article 21

Reporting

Each Party shall report to the Conference of the Parties, through the Secretariat, on the measures it has taken to implement the provisions of this Convention and on the effectiveness of such measures and the possible challenges in meeting the objectives of the Convention. 2. Each Party shall include in its reporting the information as called for in Articles 3, 5, 7, 8 and 9 of this Convention. 3. The Conference of the Parties shall, at its first meeting, decide upon the timing and format of the reporting to be followed by the Parties, taking into account the desirability of coordinating reporting with other relevant chemicals and wastes conventions.

Article 22

Effectiveness evaluation

The Conference of the Parties shall evaluate the effectiveness of this Convention, beginning no later than six years after the date of entry into force of the Convention and periodically thereafter at intervals to be decided by it.

To facilitate the evaluation, the Conference of the Parties shall, at its first meeting, initiate the establishment of arrangements for providing itself with comparable monitoring data on the presence and movement of mercury and mercury compounds in the environment as well as trends in levels of mercury and mercury compounds observed in biotic media and vulnerable populations. 3. The evaluation shall be conducted on the basis of available scientific, environmental, technical, financial and economic information, including: (a) Reports and other monitoring information provided to the Conference of the Parties pursuant to paragraph 2; (b) Reports submitted pursuant to Article 21 ; (c) Information and recommendations provided pursuant to Article 15; and (d) Reports and other relevant information on the operation of the financial assistance, technology transfer and capacity-building arrangements put in place under this Convention.

Article 23

Conference of the Parties

1. A Conference of the Parties is hereby established. 2. The first meeting of the Conference of the Parties shall be convened by the Executive Director of the United Nations Environment Programme no later than one year after the date of entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be decided by the Conference. 3. Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at

the written request of any Party, provided that, within six months of the request being communicated to the Parties by the Secretariat, it is supported by at least one third of the Parties. 4. The Conference of the Parties shall by consensus agree upon and adopt at its first meeting rules of procedure and financial rules for itself and any of its subsidiary bodies, as well as financial provisions governing the functioning of the Secretariat.

The Conference of the Parties shall keep under continuous review and evaluation the implementation of this Convention. It shall perform the functions assigned to it by this Convention and, to that end, shall: (a) Establish such subsidiary bodies as it considers necessary for the implementation of this Convention; (b) Cooperate, where appropriate, with competent international organizations and intergovernmental and non-governmental bodies; (c) Regularly review all information made available to it and to the Secretariat pursuant to Article 21; (d) Consider any recommendations submitted to it by the Implementation and Compliance Committee; (e) Consider and undertake any additional action that may be required for the achievement of the objectives of this Convention; and (f) Review Annexes A and B pursuant to Article 4 and Article 5. 6. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not a Party to this Convention, may be represented at meetings of the Conference of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, that is qualified in matters covered by this Convention and has informed the Secretariat of its wish to be represented at a meeting of the Conference of the Parties as an observer may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

Article 24 **Secretariat**

A Secretariat is hereby established.

The functions of the Secretariat shall be: (a) To make arrangements for meetings of the Conference of the Parties and its subsidiary bodies and to provide them with services as required; (b) To facilitate assistance to Parties, particularly developing country Parties and Parties with economies in transition, on request, in the implementation of this Convention; (c) To coordinate, as appropriate, with the secretariats of relevant international bodies, particularly other chemicals and waste conventions; (d) To assist Parties in the exchange of information related to the implementation of this Convention; (e) To prepare and make available to the Parties periodic reports based on information received pursuant to Articles 15 and 21 and other available information; (f) To enter, under the overall guidance of the Conference of the Parties, into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and (g) To perform the other secretariat functions specified in this Convention and such other functions as may be determined by the Conference of the Parties.

The secretariat functions for this Convention shall be performed by the Executive Director of the United Nations Environment Programme, unless the Conference of the Parties decides, by a three-fourths majority of the Parties present and voting, to entrust the secretariat functions to one or more other international organizations. 4. The Conference of the Parties, in consultation with appropriate international bodies, may provide for enhanced cooperation and coordination between the Secretariat and the secretariats of other chemicals and wastes conventions. The Conference of the Parties, in consultation with appropriate international bodies, may provide further guidance on this matter.

Article 25 **Settlement of disputes**

Parties shall seek to settle any dispute between them concerning the interpretation or application of this Convention through negotiation or other peaceful means of their own choice.

When ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a Party that is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, with regard to any dispute concerning the interpretation or application of this Convention, it recognizes one or both of the following means of dispute settlement as compulsory in relation to any Party accepting the same obligation: (a) Arbitration in accordance with the procedure set out in Part I of Annex E; (b) Submission of the dispute to the International Court of Justice.

A Party that is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with paragraph 2.

A declaration made pursuant to paragraph 2 or 3 shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary. 5. The expiry of a declaration, a notice of revocation or a new declaration shall in no way affect proceedings pending before an arbitral tribunal or the International Court of Justice, unless the parties to the dispute otherwise agree.

If the parties to a dispute have not accepted the same means of dispute settlement pursuant to paragraph 2 or 3, and if they have not been able to settle their dispute through the means mentioned in paragraph 1 within twelve months following notification by one Party to another that a dispute exists between them, the dispute shall be submitted to a conciliation commission at the request of any party to the dispute. The procedure set out in Part II of Annex E shall apply to conciliation under this Article.

Article 26

Amendments to the Convention

Amendments to this Convention may be proposed by any Party.

Amendments to this Convention shall be adopted at a meeting of the Conference of the Parties. The text of any proposed amendment shall be communicated to the Parties by the Secretariat at least six months before the meeting at which it is proposed for adoption. The Secretariat shall also communicate the proposed amendment to the signatories to this Convention and, for information, to the Depositary.

The Parties shall make every effort to reach agreement on any proposed amendment to this Convention by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a three-fourths majority vote of the Parties present and voting at the meeting.

An adopted amendment shall be communicated by the Depositary to all Parties for ratification, acceptance or approval. Ratification, acceptance or approval of an amendment shall be notified to the Depositary in writing. An amendment adopted in accordance with paragraph 3 shall enter into force for the Parties having consented to be bound by it on the ninetieth day after the date of deposit of instruments of ratification, acceptance or approval by at least three-fourths of the Parties that were Parties at the time at which the amendment was adopted. Thereafter, the amendment shall enter into force for any other Party on the ninetieth day after the date on which that Party deposits its instrument of ratification, acceptance or approval of the amendment.

Article 27

Adoption and amendment of annexes

Annexes to this Convention shall form an integral part thereof and, unless expressly provided otherwise, a reference to this Convention constitutes at the same time a reference to any annexes thereto.

Any additional annexes adopted after the entry into force of this Convention shall be restricted to procedural, scientific, technical or administrative matters.

The following procedure shall apply to the proposal, adoption and entry into force of additional annexes to this Convention: (a) Additional annexes shall be proposed and adopted according to the procedure laid down in paragraphs 1-3 of Article 26; (b) Any Party that is unable to accept an additional annex shall so notify the Depositary, in writing, within one year from the date of communication by the Depositary of the adoption of such annex. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time notify the Depositary, in writing, that it withdraws a previous notification of non-acceptance in respect of an additional annex, and the annex shall thereupon enter into force for that Party subject to subparagraph (c); and (c) On the expiry of one year from the date of the communication by the Depositary of the adoption of an additional annex, the annex shall enter into force for all Parties that have not submitted a notification of non-acceptance in accordance with the provisions of subparagraph (b). 4. The proposal, adoption

and entry into force of amendments to annexes to this Convention shall be subject to the same procedures as for the proposal, adoption and entry into force of additional annexes to the Convention, except that an amendment to an annex shall not enter into force with regard to any Party that has made a declaration with regard to amendment of annexes in accordance with paragraph 5 of Article 30, in which case any such amendment shall enter into force for such a Party on the ninetieth day after the date it has deposited with the Depositary its instrument of ratification, acceptance, approval or accession with respect to such amendment. If an additional annex or an amendment to an annex is related to an amendment to this Convention, the additional annex or amendment shall not enter into force until such time as the amendment to the Convention enters into force.

Article 28

Right to vote

Each Party to this Convention shall have one vote, except as provided for in paragraph 2. 2. A regional economic integration organization, on matters within its competence, shall exercise its right to vote with a number of votes equal to the number of its member States that are Parties to this Convention. Such an organization shall not exercise its right to vote if any of its member States exercises its right to vote, and vice versa.

Article 29

Signature

This Convention shall be opened for signature at Kumamoto, Japan, by all States and regional economic integration organizations on 10 and 11 October 2013, and thereafter at the United Nations Headquarters in New York until 9 October 2014.

Article 30

Ratification, acceptance, approval or accession

This Convention shall be subject to ratification, acceptance or approval by States and by regional economic integration organizations. It shall be open for accession by States and by regional economic integration organizations from the day after the date on which the Convention is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary.

Any regional economic integration organization that becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to this Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

In its instrument of ratification, acceptance, approval or accession, a regional economic integration organization shall declare the extent of its competence in respect of the matters governed by this Convention. Any such organization shall also inform the Depositary, who shall in turn inform the Parties, of any relevant modification of the extent of its competence.

Each State or regional economic integration organization is encouraged to transmit to the Secretariat at the time of its ratification, acceptance, approval or accession of the Convention information on its measures to implement the Convention.

In its instrument of ratification, acceptance, approval or accession, any Party may declare that, with regard to it, any amendment to an annex shall enter into force only upon the deposit of its instrument of ratification, acceptance, approval or accession with respect thereto.

Article 31
Entry into force

Article 30 Capacity-building, technical assistance and technology transfer 1.

Parties shall cooperate to provide, within their respective capabilities, timely and appropriate capacity-building and technical assistance to developing country Parties, in particular Parties that are least developed countries or small island developing States, and Parties with economies in transition, to assist them in implementing their obligations under this Convention.

Capacity-building and technical assistance pursuant to paragraph 1 and Article 13 may be delivered through regional, subregional and national arrangements, including existing regional and subregional centres, through other multilateral and bilateral means, and through partnerships, including partnerships involving the private sector. Cooperation and coordination with other multilateral environmental agreements in the field of chemicals and wastes should be sought to increase the effectiveness of technical assistance and its delivery.

Developed country Parties and other Parties within their capabilities shall promote and facilitate, supported by the private sector and other relevant stakeholders as appropriate, development, transfer and diffusion of, and access to, up-to-date environmentally sound alternative technologies to developing country Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition, to strengthen their capacity to effectively implement this Convention. The Conference of the Parties shall, after the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the date of deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.

For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of that organization. Parties shall, by its second meeting and thereafter on a regular basis, and taking into account submissions and reports from Parties including those as provided for in Article 21 and information provided by other stakeholders: (a) Consider information on existing initiatives and progress made in relation to alternative technologies; (b) Consider the needs of Parties, particularly developing country Parties, for alternative technologies; and (c) Identify challenges experienced by Parties, particularly developing country Parties, in technology transfer.

Article 32
Reservations

No reservations may be made to this Convention.

Article 33
Withdrawal

At any time after three years from the date on which this Convention has entered into force for a Party, that Party may withdraw from the Convention by giving written notification to the Depository. 2. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depository of the notification of withdrawal, or on such later date as may be specified in the notification of withdrawal.

Article 34
Depositary

The Secretary-General of the United Nations shall be the Depository of this Convention.

Article 35
Authentic texts

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Depository.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention. Done at Kumamoto, Japan, on this tenth day of October, two thousand and thirteen.

Products subject to Article 4, paragraph 1 Mercury-added products Date after which the manufacture, import or export of the product shall not be allowed (phase-out date) Batteries, except for button zinc silver oxide batteries with a mercury content < 2% and button zinc air batteries with a mercury content < 2% 2020 Switches and relays, except very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per bridge, switch or relay 2020 Compact fluorescent lamps (CFLs) for general lighting purposes that are < 30 watts with a mercury content exceeding 5 mg per lamp burner 2020 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 Cosmetics (with mercury content above 1ppm), including skin lightening soaps and creams, and not including eye area cosmetics where mercury is used.

Mercury-added products Date after which the manufacture, import or export of the product shall not be allowed (phase-out date) Pesticides, biocides and topical antiseptics 2020 The following non-electronic measuring devices except non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available: (a) barometers; (b) hygrometers; (c) manometers; (d) thermometers; (e) sphygmomanometers. 2020

Part II: Products subject to Article 4, paragraph 3 Mercury-added products Provisions Dental amalgam Measures to be taken by a Party to phase down the use of dental amalgam shall take into account the Party's domestic circumstances and relevant international guidance and shall include two or more of the measures from the following list: (i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration; (ii) Setting national objectives aiming at minimizing its use; (iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration; (iv) Promoting research and development of quality mercury-free materials for dental restoration; (v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices; (vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration; (vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration; (viii) Restricting the use of dental amalgam to its encapsulated form; (ix) Promoting the use of best environmental practices in dental facilities to reduce releases of m dental facilities to reduce releases of mercury and mercury compounds to water and land.

Manufacturing processes in which mercury or mercury compounds are used Part I: Processes subject to Article 5, paragraph 2 Manufacturing processes using mercury or mercury compounds Phase-out date Chlor-alkali production 2025 Acetaldehyde production in which mercury or mercury compounds are used as a catalyst ,

Mercury using process Provisions Vinyl chloride monomer production Measures to be taken by the Parties shall include but not be limited to: (i) Reduce the use of mercury in terms of per unit production by 50 per cent by the year 2020 against 2010 use; (ii) Promoting measures to reduce the reliance on mercury from primary mining; (iii) Taking measures to reduce emissions and releases of mercury to the environment; (iv) Supporting research and development in respect of mercury-free catalysts and processes; (v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free catalysts based on existing processes have become technically and economically feasible; (vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21. Sodium or Potassium Methylate or Ethylate Measures to be taken by the Parties shall include but not be limited to: (i) Measures to reduce the use of mercury aiming at the phase out of this use as fast as possible and within 10 years of the entry into force of the Convention; (ii) Reduce emissions and releases in terms of per unit production by

50 per cent by 2020 compared to 2010; (iii) Prohibiting the use of fresh mercury from primary mining; (iv) Supporting research and development in respect of mercury-free processes; (v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free processes have become technically and economically feasible; (vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21. Production of polyurethane using mercury containing catalysts Measures to be taken by the Parties shall include but not be limited to: (i) Taking measures to reduce the use of mercury, aiming at the phase out of this use as fast as possible, within 10 years of the entry into force of the Convention; (ii) Taking measures to reduce the reliance on mercury from primary mercury mining; (iii) Taking measures to reduce emissions and releases of mercury to the environment; (iv) Encouraging research and development in respect of mercury-free catalysts and processes; (v) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury.

Global mercury emissions into the atmosphere rose by around 20% between 2010 and 2015

It is quite obvious that rich developed countries are paying lip-service to the **Minamata Convention of Mercury** and continuing their quest for money over safety because in late November 2018, a meeting was held to strengthen countries efforts to reduce and eliminate the adverse effects of mercury after a new report in the year 2018 revealed that *global mercury emissions into the atmosphere rose by around 20% between 2010 and 2015*.

Mercury poison

Mercury is a serious pollution threat and very dangerous to human health and the environment. In 2017, countries at COP1¹ committed to tackling this neurotoxin. Thousands of tons of mercury are released into air, land and water through human activity, including coal burning and artisanal and small-scale gold mining and industrial scale production of electronic equipment such as tablets, televisions, and other computer screens. Once in the environment, mercury enters the food chain, accumulates in the body and can harm the brain, heart, kidneys, lungs and immune system of people of all ages. Mercury is particularly harmful to unborn children and infants whose nervous systems are under development. Damage to the brain cannot be reversed.

United States long-term fraud against the world environment

The owners and Chief Executive Officers (“CEO”) of **Total Reclaim**, the largest recycler of electronic waste in **north-west USA**, pleaded guilty in US District Court in Seattle to the charge of *conspiracy to commit wire fraud*, as announced by US Attorney Annette L. Hayes.

I ask you, the prosecutors picked the smallest crime in this wholesale global mercury poisoning; ignoring anti-pollution regulation breaches, RICO charges, antitrust charges, Bribery charges and counterfeiting charges, embezzlement, defrauding the Inland Revenue, deceit against the consumer, to name but a few. Rather the Attorney General cleverly couched the charge as if it were ‘*just another innocuous wire fraud*’.

Directors of Total Reclaim charged and pleaded guilty

CRAIG LORCH, age 61, of Seattle, and **JEFF ZIRKLE**, age 55, of Bonney Lake, Washington, pleaded guilty to not following US federal recycling laws to recycle used electronics products domestically, instead, shipping on millions of pounds of mercury-containing flat screen monitors to Hong Kong where neither the Hong Kong environmental regulators nor the workers who dismantled the dangerous these mercury-filled flat-screen monitors, were aware of the extremely serious dangers to the environmental jurisdiction of Hong Kong, and to the workers handling such illegally dumped waste, contrary to Hong Kong Laws, US laws and United Nations Conventions.

Total Reclaim’s recycling business- a dangerous lie and misrepresentation in their Prospectus

¹ More than one year after its historical entry into force, the Minamata Convention on Mercury, hosted by UN Environment, holds its second Conference of the Parties (COP2) in Geneva, Switzerland. COP2 will aim at strengthening the recently established Convention, while countries update the various strategies to address this heavy metal pollutant throughout its life cycle.

Public agencies and other organisations were deceived into believing that Total Reclaim would recycle used electronics products domestically in an environmentally safe manner.

Rather, the defendants, corporate executives, Lorche and Zirkle, shipped millions of pounds of mercury-containing flat screen monitors to Hong Kong, non disclosing in shipping loading, departure and destination arrival documents, the true nature of the contents being shipped from the US to Hong Kong, thus putting all parties including the receiving Asian government, at risk.

In Asia, these flat-screen monitors arriving from the United States of America, complete with falsified Customs papers, were dismantled for years in a manner that risked serious health consequences to workers, and damage to the environment especially and primarily in Asia.

The two men face up to *a mere five years in prison* when sentenced by United States District Judge Richard A. Jones on February 1, 2019.

2019 sentencing date set

On February 1, 2019, LORCH and ZIRKLE will return to court in the United States for sentencing. They have already agreed to pay a fine of \$1.1 million, which will lesson their sentences.

These defendants misrepresented to the public at large that their company was a good, socially responsible corporation and they proceeded to sign for over eight years *untruthful contractual documents* promising to keep hazardous materials out of the environment. Instead, they shipped millions of flat screen monitors to Hong Kong where disposal practices endangered both the workers and the Asian environment.

Total Reclaim's eight years of deceptive practices

Motivated by profits, greed, disregard for the world's environment, and foreign workers' health and safety, this recycling company, in over eight years, misrepresented shipping declarations, lied in documents in the US and abroad and breached United Nations conventions, causing their corporate customers to unknowingly harm the environment.

Special-Agent –in-Charge Jeanne M. Proctor of EPA's Criminal Investigation Division said:

"TOTAL RECLAIM is the largest e-waste recycler in the north-western United States," "During an eight-year period, the company exported to Hong Kong millions of pounds of electronic products containing mercury, while fraudulently reporting to customers and state agencies that they were being appropriately recycled."

According to records filed in the case, TOTAL RECLAIM promoted itself as a responsible electronics recycler. TOTAL RECLAIM's website stated:

"Our commitment to environmental responsibility is at the core of everything Total Reclaim does."

No respect for United States laws shown by TOTAL RECLAIM

TOTAL RECLAIM thus signed a public pledge in which this company promised not to 'allow the export of hazardous E-waste we handle to be exported' to developing countries, where workers are known to disassemble electronics, which contain dangerous materials such as mercury, without safety precautions.

TOTAL RECLAIM signed agreements with customers, such as the City of Seattle, in which the customers agreed to pay

TOTAL RECLAIM to recycle electronics in accordance with these standards. Total Reclaim was also the biggest participant in the "E-Cycle Washington" program. E-Cycle Washington allows consumers to drop off used electronics at stations such as Goodwill Industries, and pays companies like Total Reclaim to recycle to those electronics according to Washington Department of Ecology standards.

Pure monetary greed and psychopathic non-concern for poisoning another country

In 2008, contrary to its promises to the public, Total Reclaim began secretly exporting flat screen monitors to Hong Kong to avoid the cost of safely recycling the monitors in the United States.

Flat screen monitors are known to contain mercury, which can cause organ damage, mental impairment, and other serious health consequences to people exposed to the material. LORCH and ZIRKLE caused at least 8.3 million pounds (in weight) of monitors to be shipped to Hong Kong between 2008 and 2015.

Massive fraud deserving maximum United States punishment

To prevent customers and auditors from discovering this environmental pollution on a large scale practice, **LORCH** and **ZIRKLE** committed the frauds of *falsified documents; making false statements to customers, and storing the mercury filled monitors at an undisclosed facility* awaiting illegal shipping of a long-term, long-term, large scale environmental pollution mission.

Defendants' fraud was discovered in 2014 by a *non-governmental organisation* known as the Basel Action Network (BAN). BAN studies the export of electronic waste, and places electronic trackers on flat screen monitors deposited for recycling. The trackers showed in these thousands of cases that the monitors were collected by **TOTAL RECLAIM** and then exported to Hong Kong.

Altered shipping records to hide illegal transport of POISONOUS MERCURY into another country

When BAN representatives followed the tracking devices to Hong Kong, they discovered that labourers' tasks were to smash the monitors apart without any precautions to protect the workers or the environment from mercury in the monitors. After BAN notified **LORCH** and **ZIRKLE** of its findings, **LORCH** and **ZIRKLE** tried to cover up their fraud by *altering hundreds and hundreds of shipping records*.

Conspiracy to commit wire fraud

Conspiracy to commit wire fraud is punishable in the federal United States by up to five years imprisonment and a \$250,000 fine. This case was investigated by United States Environmental Protection Agency -Criminal Investigation Division (EPA-CID) and prosecuted by Assistant United States Attorney Seth Wilkinson. (My grateful thanks to United States Department of Justice)².

ENDS

Technology worthless without trained police personnel

Investing in the most up-to-date technology is worthless if police are not employing qualified analysts to exploit it.

Ryan Prox, who is responsible for the analytics programme at Vancouver Police, Canada, and was an invited speaker at the annual British Association of Public Safety Communications Officials (BAPCO) conference, said that a high proportion of analysts to regular police officers was partly responsible for his force in the state of Vancouver becoming one of the most technologically advanced police departments in Canada. He stressed that even with the best technology in the world, results will not be correct unless the correctly trained people are using the equipment and interpreting the data therefrom. He told conference that Vancouver has 1,500 sworn police officers and 30 analysts – the highest ratio in Canada. It is noted here that Her Majesty's Inspectorate of Constabulary (HMIC) had raised concerns about the National Crime Agency's limited analytical capability this year and the uncertainty over the number of people who can actually carry out the role.

Canadian serial killer Robert Pickton spurred on the Canadian effort to liaise high technology, trained interpreters of data and police intelligence

Mr Prox added that Vancouver's approach to policing changed following failures in a high-profile murder case, that of Robert Pickton, who had murdered more than 80 women. This case was the impetus for police in Canada to change the way they operated after realizing that portions of police systems were not communicating with each other. Police then used analytics to solve the case in 2010-of this prolific child sex offender. He told conference:

² Editor, 'Owners of Northwest's largest electronics recycling firm plead guilty to wire fraud conspiracy', *US Attorney's Office, (Western District of Washington)*, Friday, November 16, 2018.

'Someone was abusing young children aged between six and 14 on their way home from school and we knew we had to find him. We spent ages trying to find out who this man was – we had joint forces working on it, had no match on 561 known sex offenders. But it wasn't until we put our analysts on the case that we caught him within five weeks. Now we plug in analytics all the time and we have been constantly evolving from this initial success. The force is now leading the way in terms of predictive policing, anticipating when and where crime will happen within a short time frame of 8-12 hours. It really is the stuff of science fiction. What is key is that we then display this data on officers' mobile terminals. They can then self-deploy because of the data they have, such as increasing patrols in a particular area. It is about cultivating an intelligence-led environment and empowering officers to be proactive by giving them analytics.'

The predictions are based on a wide-range of data, including light data showing how many people are home in a neighbourhood at one time, social media trends and economic deprivation. And he added that the next generation of officers coming through should be seen as a great opportunity for forces to get ahead of the curve in terms of technology.

'Ten years ago I had a boss who had to get his secretary to print out his email because he couldn't use Outlook. That has completely changed. Now we have extremely advanced tech-savvy managers and most importantly officers from a generation where they are weaned on their I-pads from birth and can change the way we look at things. They expect to come into policing and see we are more advanced than the rest of the public but the opposite is still true, and that needs to be changed.'

ENDS

Unstable bitcoins

The United States Treasury Department has sanctioned two Iranians allegedly involved in Bitcoin (BTC) ransomware scheme *SamSam*, the Treasury reported in an official press release on 28th November 2018. The US Department of the Treasury's Office of Foreign Assets Control (OFAC) took action on 27th November 2018 against two Iranian individuals, Ali Khorashadizadeh and Mohammad Ghorbaniyan, who are accused of exchanging Bitcoin into Iranian rials (IRR). This is the first time that Bitcoin addresses have been publicly attributed to 'designated individuals' on the OFAC sanctions list.

It was reported that the *SamSam* ransomware breaks into companies' computer networks, allowing criminals to take over administrator rights in order to demand a ransom in Bitcoin in exchange for regaining network access by users. The ransomware has reportedly damaged over 200 computer systems of companies, government agencies, universities, and hospitals, the Treasury said. OFEC has identified two crypto addresses associated with the alleged Iran-based criminals, with 7,000 transactions in Bitcoin and around 6,000 BTC moved since 2013, the report states. While the Iranians Khorashadizadeh and Ghorbaniyan are allegedly responsible for the exchange of *crypto* and the deposits of *rials* into Iranian banks, the ransomware scheme also involved two Iranian players that acted as hackers and have been infecting multiple data networks with *SamSam* in the US, the UK³ and Canada since the year 2015. The US six-count indictment alleges that Faramarz Shahi Savandi and Mohammad Mehdi Shah Mansouri, both Iranian nationals, created *SamSam* and deployed it to devastating effect.

Hacking

Ransomware is malicious software that locks up computers and any computer controlled equipment until the victim pays a ransom to the criminal involved. While it's often seen as a purely criminal activity, deployed to get money from unsuspecting businesses, its deployment can cause chaos and nation-state intrigue, as well as major shutdowns in government or corporate services. Research by cybersecurity firm *Sophos* revealed that *SamSam* has amassed about \$6 million since apparently being launched in 2015. According to *Wired UK*, *SamSam*'s

³ On Friday 12 May 2017 a computer virus, known as *WannaCry*, which encrypts data on infected computers and demands a ransom payment to allow users access, was released worldwide. *WannaCry* was the largest cyber attack to affect the National Health Service in England, although individual trusts had been attacked before 12 May. See https://www.google.com/search?newwindow=1&source=hp&ei=Qkv_W4PgIorisAf7pbCACQ&q=2017+nhs+hospital+computer+systems+hacked&btnK=Google+Search&oq=2017+nhs+hospital+computer+systems+hacked&gs_l=psy-ab.3...4706.31234..33017...1.0..0.528.6398.3j33j5j5-1.....0....1..gws-wiz.....6..0j35i39j0i131j0i22i30j33i22i29i30j0i8i13i30j33i160j33i21.zFpeL_X1mK0/

performance was unsophisticated, with no automation and *SamSam* had implemented old-school hacking methods.

Follow the money

In August, 2018, a UK science and technology magazine *Wired UK* reported that *SamSam*⁴ creators were making around \$300,000 per month, and that their identities were still unknown.⁵

Los Angeles hospital computer system shut down for one week

In February 2016, long before most people had heard of ransomware, Hollywood Presbyterian Hospital near Los Angeles was hit by *SamSam*, which presented as malicious software forcing Hollywood Presbyterian Hospital to shut down computer systems across its facility and so cancer doctors in the radiation department could not turn on their devices, and other physicians reported that they could not access patient medical records, nor share MRIs, X-rays or blood tests. Patients were turned away. The shutdown lasted for more than a week, and the hospital ultimately paid criminals \$17,000 to get back online.

Colorado transport computer system disabled

Yet, Los Angeles was not alone in being hacked. *SamSam* forced the Colorado Department of Transportation to shutdown more than 2,000 machines.

Indiana hospital computer system attacked

SamSam also forced an Indiana hospital to lose access to patient histories and appointment schedules. Each day brings a new *SamSam* ransomware victim, which Peter Mackenzie, Sophos' global malware escalations manager.⁶

The ransomware had been managed manually, unlike the massive *WannaCry* ransomware which hackers had used to shut down hundreds of UK hospital and GP computer systems in 2017.



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⁴ *SamSam* is a pernicious strain of ransomware that has spent the past three years rampaging throughout the US and other countries. *SamSam* is a Trojan horse that encrypts files on the compromised computer and asks the user to pay in order to decrypt them.

⁵ Editor, 'The rise of *SamSam*, the hacker group shutting down entire cities', *Wired*, 1.8.18.

⁶ See <https://www.wired.co.uk/article/samsam-ransomware>

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