

For information

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

**Updated Hong Kong Implementation Plan for the
Stockholm Convention on Persistent Organic Pollutants**

INTRODUCTION

This paper informs Members of the updated Hong Kong Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (the Convention).

BACKGROUND

2. The Convention is an international environmental treaty that aims to protect human health and the environment from Persistent Organic Pollutants (POPs). POPs are toxic to humans and the wildlife. They will remain intact in the environment for a long period of time, move long distances in the global environment and accumulate in the body of living organisms. The Convention first identified 12 POPs¹ when it entered into force in 2001. It became effective to the People's Republic of China (China), including the Hong Kong Special Administrative Region (HKSAR), on 11 November 2004.

3. As required under the Convention, each Party to the Convention shall develop and implement a National Implementation Plan (NIP) for discharging its obligations under the Convention. Parties shall submit the NIP to the Conference of the Parties (COP) after the Convention has come into operation, which shall be reviewed and

¹ The 12 initial POPs include pesticides (aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex and toxaphene), industrial chemicals (HCB and polychlorinated biphenyls) and unintentionally produced by-products (polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (dioxins/furans)).

updated periodically as appropriate. The Convention Secretariat has provided guidance notes for developing a NIP, which includes the outline format and the elements to be contained in a NIP. China's first NIP, which had incorporated the Hong Kong Implementation Plan (HKIP) prepared by the HKSAR Government, was submitted to the COP in April 2007. The Panel was briefed in February 2006 before the first HKIP was submitted to the Central People's Government (CPG).

THE FIRST HONG KONG IMPLEMENTATION PLAN

4. When preparing the first HKIP in 2006, there was no legislation enacted specifically for regulating the import, export, manufacture and use of non-pesticide hazardous chemicals including POPs. An inventory on the status of POPs in Hong Kong was then compiled in 2006. The inventory provided a scientific basis for assessing the environmental and human impacts of POPs. It facilitated the prioritization of the proposed actions in the first HKIP to reduce or eliminate POPs. Existing data on emission sources, environmental contamination levels, dietary exposure and human body burden of the relevant POPs were also collated and assembled from all available sources.

5. The first HKIP identified areas that needed to be strengthened to ensure compliance with the Convention requirements. It also set out strategies and action plans which reflected local priorities. The key issues identified in the first HKIP to be taken forward included:

- (a) developing an integrated and transparent legislative framework and institutional system to effectively control, minimise and prevent the possible adverse impact of POPs on human health and the environment;
- (b) compiling a robust and reliable POPs inventory to facilitate planning and development of practical action plans to effectively reduce POPs in Hong Kong. The inventory should be validated and refined from time to time taking account of relevant developments;
- (c) introducing systematic monitoring of all 12 initial POPs in the environment, locally consumed foods and human breast milk;

- (d) introducing measures to reduce emission of unintentional POPs² to the local environment;
- (e) raising public awareness of POPs-related issues, with a view to enhancing local community participation in the global effort to reduce and eliminate POPs in the environment; and
- (f) enhancing regional collaboration with the Mainland for information exchange, knowledge sharing and harmonisation of POPs monitoring approaches.

UPDATED HONG KONG IMPLEMENTATION PLAN

6. At the 4th and the 5th COP held in 2009 and 2011 respectively, the Parties agreed to add 10 new POPs³ to the Annexes of the Convention. China accepted the amendments to list the 10 new POPs on 26 December 2013. As required by the Convention, China shall submit an updated NIP, which shall include an updated HKIP, by 26 March 2016. In this connection, we have updated the HKIP with a view to submitting it to the CPG in January 2016.

7. To prepare for the updated HKIP, we have consulted government departments concerned and conducted questionnaire surveys on relevant industrial operators, traders, trade associations and the academia. We also interviewed them to gauge the use, trading and manufacture of POPs listed in the Convention in Hong Kong. We have also reviewed the updated POPs data available from government and academic sources and worked out the estimated current environmental levels of POPs in Hong Kong. We then further assessed the risks associated with the current POPs level and reviewed the strategies and action plans for implementing the Convention as contained in the HKIP. The result indicated that the impacts and risks associated with POPs in Hong Kong are within an acceptable level and are generally on par with those of other developed countries and regions. The latest situation of implementing the Convention is:

² Unintentional POPs include dioxins and furans which are very toxic by nature.

³ The 10 new POPs include pesticides (α -hexachlorocyclohexane, β -hexachlorocyclohexane, chlordecone, lindane and technical endosulfan and its related isomers) and industrial chemicals (hexabromobiphenyl, hexabromodiphenyl ether and heptabromodiphenyl ether, pentachlorobenzene, tetrabromodiphenyl ether and pentabromodiphenyl ether and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride).

- (a) No import, export, manufacture, use, stockpiling nor transshipment of pesticide POPs in Hong Kong was found in the past few years. There was also no production of industrial POPs in Hong Kong. Two companies were found to be importing in total up to 300 grams industrial POPs each year for providing laboratory testing service and also for selling to other local and overseas laboratories. Meanwhile, about 30 companies were found to be each importing less than 10 grams industrial POPs each year for use in laboratories as testing reference standards;
- (b) The level of POPs contamination in the local environment⁴ was generally comparable to the ranges reported in most countries and regions⁵ in Asia (e.g. South Korea, Taiwan) and Europe (e.g. France, Germany, Italy, Spain);
- (c) There was unlikely to be any unacceptable ecological risk associated with the exposure of local marine life to the current level of POPs contamination in the marine environment of Hong Kong;
- (d) POPs' levels in local marine biota were well below the national Food Safety Standards / Action Levels of the Mainland as well as those of the USA and the European Commission⁶;
- (e) According to the latest available information, on a per capita basis, the amount of dioxin/furan released as unintentionally produced POPs by-products in Hong Kong in 2012 as estimated by using the "Toolkit for Identification and Quantification of Releases of Dioxins, Furans and Other Unintentional POPs" (the "Toolkit") published by the United Nations Environment

⁴ The contamination is caused by the release and accumulation of unintentional POPs (dioxins/furans) from anthropogenic sources to the environment (e.g. incineration). As POPs can travel long distance and remain intact in the environment for a very long time, this "background" POPs are not necessarily generated in Hong Kong.

⁵ Latest data from 2013 indicated that the mean local ambient air dioxin concentration was 0.044 pg I-TEQ m⁻³, which is comparable to the range reported in most other countries / regions, like France (0.067-1.7 pg I-TEQ m⁻³), Germany (0.017-0.024 pg I-TEQ m⁻³), Italy (0.061-0.081pg I-TEQ m⁻³), Spain (0.018 pg I-TEQ m⁻³), South Korea (0.028 pg I-TEQ m⁻³) and Taiwan (0.01-0.065 pg I-TEQ m⁻³, where "pg I-TEQ m⁻³" stands for "picogram international toxic equivalents per cubic metre".

⁶ The levels of POPs contamination in marine fish and shellfish from Hong Kong waters were found to be below the Food Safety Standards / Action Levels set by the USA and the European Commission by 1–2 orders of magnitude.

Programme (UNEP) was similar to that of Australia, the USA and the EU countries⁷;

- (f) Daily exposure of local residents to dioxins/furans was estimated to be well below the World Health Organization's Tolerable Daily Intake⁸. Dietary intake was the major route, accounting for 98.6% of total exposure of local residents to dioxins/furans; and
- (g) There was no unacceptable inhalation or dietary chronic/carcinogenic risk associated with a lifetime exposure to the current levels of POPs contamination in the local environment and in locally consumed foods.

8. As stated in the first HKIP, we have formulated strategies and action plans to effectively implement the Convention in Hong Kong. In the course of updating the HKIP, we have reviewed and updated our recent initiatives and all action items contained therein which are summarized as follows:

- (a) On developing a legislative framework and institutional system, the Hazardous Chemicals Control Ordinance (Cap 595) (HCCO) was enacted in 2008 for control and regulation of the import, export, manufacture and use of non-pesticide POPs. The HCCO was amended in 2014 to include 5 new non-pesticide POPs⁹ as a result of China's acceptance of the amendments at the 4th and the 5th COP in 2009 and 2011 respectively. We shall continue to update the HCCO from time to time to ensure that all amendments to Annexes to the Convention are properly incorporated;

⁷ In 2012, Hong Kong's total annual dioxin/furan release per capita was 6,498 ng I-TEQ capita⁻¹ which is of the same order of magnitude as those of Switzerland (8,030 ng I-TEQ capita⁻¹), USA (4,403 ng I-TEQ capita⁻¹), Australia (2,686 ng I-TEQ capita⁻¹) and EU countries (3,581 ng I-TEQ capita⁻¹), where "ng I-TEQ capita⁻¹" stands for "nanogram international toxic equivalents per capita".

⁸ At 21.9 pg TEQ/kg bw/month when compared with the World Health Organization's Tolerable Monthly Intake of 70 pg TEQ/kg bw/month, where "pg TEQ/kg bw/month" stands for "picogram toxicity equivalents per kilogram body weight per month".

⁹ The new POPs include (i) hexabromobiphenyl, (ii) hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octabromodiphenyl ether), (iii) pentachlorobenzene, (iv) tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial pentabromodiphenyl ether) and (v) perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF).

- (b) On validation and refinement of POPs inventory, we have updated the source inventory, environmental levels, dietary exposure and human body burden of POPs with a view to providing more representative information for analysis and assessments. We shall continue to refine the local dioxin/furan source inventory by using the “Toolkit” published by the UNEP to validate annual production activities and estimate the exposure levels;
- (c) On systematic monitoring of POPs, a comprehensive monitoring system was established and we shall continue to closely monitor all listed POPs in the environment, locally consumed foods and human breast milk;
- (d) On measures to reduce emissions of unintentionally produced POPs, we have used and shall continue to employ the best available techniques and best environmental practices to control and reduce emissions of dioxins/furans from stationary sources to the local environment. We have reduced release of POPs to the marine environment by substantially completing a territory-wide sewage improvement programme, including the completion of Harbour Area Treatment Scheme Stage 2A, Yung Shue Wan and Sok Kwu Wan Sewage Treatment Works. We have also taken suitable measures when implementing integrated waste management (e.g. proper treatment of clinical waste) to abate dioxins/furans emitting therefrom;
- (e) On raising public awareness, we have developed a dedicated POPs thematic website, produced and distributed information pamphlets to the public and organized relevant public education activities. While these work will continue, we will gear up publicity with a view to further enhancing public awareness of POPs-related issues; and
- (f) On regional collaboration with the Mainland, we have organized technical workshops and joint monitoring programmes with environmental authorities in the Pan-Pearl River Delta and joined technical meetings organized by the Ministry of Environmental Protection, with a view to strengthening collaboration with the Mainland especially within the Pearl River Delta region. We shall continue to enhance regional collaboration with the Mainland to harmonize POPs monitoring approaches and improve data comparability within the region.

PUBLIC CONSULTATION

9. We organized a consultation session on updating the HKIP on 23 March 2015. About 100 stakeholders from different sectors including the academia, trade associations and industries utilizing POPs in their businesses attended the consultation session. They were briefed on the updated HKIP and raised no objection to the latest updated strategies and action plans to implement the Convention in Hong Kong. The attendees only raised a few questions on issues relating to the control of POPs newly listed in the Convention, such as on the licensing requirements and the time-frame for making applications.

WAY FORWARD

10. We plan to submit the updated HKIP to the CPG for incorporation into the NIP. We will inform Members on further updating of the HKIP when new POPs are added to the Convention in the future.

**Environmental Protection Department
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