

**For discussion on  
25 February 2015**

**LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**EXTENSION OF THE CLEANER PRODUCTION PARTNERSHIP  
PROGRAMME**

**PURPOSE**

This paper –

- (a) informs Members of the progress and environmental benefits of the Cleaner Production Partnership Programme (the Programme) since its commencement in April 2008; and
- (b) briefs Members on our plan to extend the Programme for five years upon completion of the current phase on 31 March 2015.

**BACKGROUND**

2. The Programme was first launched as a five-year programme by the Environmental Protection Department (EPD) in collaboration with the Economic and Information Commission of Guangdong Province (GDEIC)<sup>[1]</sup> in April 2008. It aims to encourage and facilitate Hong Kong-owned factories in both Hong Kong and the Pearl River Delta (PRD) region to adopt cleaner production (CP) technologies and practices, thereby contributing to the improvement of the regional environment, in particular air quality. The Finance Committee (FC) of the Legislative Council (LegCo) approved \$93.06 million for the Programme in January 2008.

3. In the light of the environmental benefits brought by the Programme, it was extended for two years from 1 April 2013 to 31 March 2015

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<sup>1</sup> GDEIC is the lead department of the Guangdong Provincial Government for promoting voluntary cleaner production to enterprises in Guangdong.

with \$50 million approved by the LegCo FC in December 2012. During the two-year extension period, the Programme focuses on the adoption of technologies for reducing volatile organic compounds (VOC) and nitrogen oxide (NOx), which are the culprits for the smog problem of the region. The geographical coverage of the Programme has also been widened to cover the entire Guangdong Province.

4. The Programme is implemented by the Hong Kong Productivity Council (HKPC). It comprises four key initiatives, namely –

- (a) providing on-site improvement assessments for participating factories;
- (b) conducting demonstration projects on CP technologies and practices;
- (c) providing third party verification services for improvement projects implemented by participating factories; and
- (d) organising technology promotion activities.

EPD submits a progress report on the Programme to this Panel annually. The last progress report was submitted in August 2014. As of end 2014, about 86% of the total funding under the extension Programme were committed.

## **ENVIRONMENTAL BENEFITS FROM THE PROGRAMME**

5. The Programme has been making good progress in facilitating Hong Kong-owned factories to adopt CP technologies and practices. From April 2008 to December 2014, a total of 2 427 funding applications from about 1 500 Hong Kong-owned factories had been approved. These include 1 349 on-site assessments, 231 demonstration projects and verification services for 847 improvement measures implemented by participating factories. Over 380 technology and awareness promotion activities, mainly in the form of seminars, workshops, factory visits, and exhibitions, were organised and they attracted over 33 000 participants from some 8 000 factories.

6. One of the key objectives of the Programme is to enhance factories' understanding of CP. Before the commencement of the Programme, the industries of Hong Kong generally had little idea about CP. Nowadays, CP is commonly known as a pragmatic approach for factories to improve their environmental performance and enhance their competitiveness. Trade and

industry associations are also more actively involved in promoting CP technologies and practices.

7. The Programme has also served as a platform for demonstrating CP technologies and sharing of experiences by participating factories. The demonstration projects have contributed to a sizable database of proven CP technologies with sound business case. So far, 10 guidebooks on CP technologies have been published. These guidebooks and other CP related information, such as reports on demonstration projects and factory visits have been publicised in the Programme’s website. They help foster technical support to factories for identifying potential areas of improvements, and sharing of knowledge on improvement options and measures.

8. While the Programme is primarily a technology promotion initiative, the demonstration projects sponsored by the Programme as well as follow-up investment made by factories have brought about significant environmental and economic benefits to the region. It has contributed to the reduction of emissions/discharges, as detailed in the table below –

<b>Pollutants</b>	<b>Annual Emission / Discharges Reduction (tonne)</b>
Volatile Organic Compounds (VOC)	11 300
Sulphur Dioxide (SO <sub>2</sub> )	5 100
Nitrogen Oxides (NO <sub>x</sub> )	11 800
Carbon Dioxide (CO <sub>2</sub> )	1 500 000
Effluent discharges	17 800 000

Furthermore, an annual energy saving of some 10 700 tera-joules has been achieved and the annual saving in production cost of the participating factories is over \$1.7 billion.

9. The Programme has also provided a sound platform for Hong Kong and Guangdong authorities to work together in reducing pollution arising from industrial sources. EPD has established partnership with nine PRD municipalities in publicising the Programme and promoting CP. As of end 2014, over 100 events had been jointly organised with the Mainland authorities to take forward the Programme. In 2009, we also launched the joint Hong Kong-Guangdong Cleaner Production Partners Recognition Scheme (JRS) with

GDEIC. Commendations have been given to 416 enterprises under the JRS to recognise their achievements in pursuing CP. Synergy between the Programme and relevant policies of the Guangdong authorities have also been attained, such as Guangdong 12-5 Cleaner Production Plan (《廣東省十二五清潔生產規劃》) and Guangdong Air Pollution Control Plan (《廣東省大氣污染防治行動方案(2014-2017年)》), as well as Shenzhen Air Quality Enhancement Plan (《深圳市大氣環境質量提升計劃》). To reinforce this cooperation, we signed with GDEIC a Guangdong-Hong Kong Cooperation Agreement on Cleaner Production at the 17<sup>th</sup> Plenary of the Hong Kong-Guangdong Cooperation Joint Conference held on 6 November 2014. A Hong Kong-Guangdong Joint Working Group on Cleaner Production has been established and its first meeting was held on 5 February 2015.

10. The Programme has also facilitated local environmental technology (ET) services providers to gain access to the growing environmental market in Guangdong. These services providers have been supporting the Programme by providing on-site assessments, consultancy services and installation services, etc. to factories in Guangdong Province and Hong Kong. So far, 191 ET services providers have been registered under the Programme, which is a two-fold increase as compared with the number in 2008. Among the registered ET services providers, 106 are Hong Kong companies and they have been in charge of about half of the on-site assessments and demonstration projects funded under the Programme. The Programme has reinforced the development of the environmental industry in Hong Kong.

## **PROPOSAL FOR THE NEW PHASE**

11. The two-year extension of the Programme will end on 31 March 2015. As stated in the 2015 Policy Address, we recommend extending the Programme for another five years up to 31 March 2020 with an additional funding of \$150 million. This will tie in with the National 13<sup>th</sup> Five-Year Plan whereby the promotion of CP and strengthening of pollution control measures are expected to continue.

### ***Key Initiatives***

12. We recommend that in the new phase, the Programme should continue to provide funding support to on-site improvement assessments, demonstration projects and technology promotion. In addition, we propose to introduce a new organisation support initiative (OSI), and to enhance the JRS

for promoting the wider adoption of CP technologies and practices. The proposed framework for the new phase is set out below –

- (a) *On-site improvement assessments* – to assist participating factories to commence CP in a systematic and holistic manner, ET services providers will continue to conduct on-site assessments for about 625 factories (an annual average of 125 factories) to identify their problems and propose practical improvement solutions. These assessments will continue to focus on reduction of air pollutant emissions, energy efficiency as well as effluent reduction and control, while other areas of improvement such as reuse or recycling of waste and efficient utilisation of production materials can also be considered. The assessment cost will continue to be equally shared between the Government and the participating factories. We propose to raise the funding ceiling for each on-site assessment from \$25,000 to \$28,000 to meet cost increases over the years. Costs exceeding the ceiling will be borne by the participating factories;
- (b) *Demonstration projects* – to demonstrate and evaluate the effectiveness of new CP technologies, we plan to support around 225 projects (an annual average of 45 projects) during the new phase. The participating enterprises will be required to share their experiences gained from the demonstration projects with other enterprises. The project cost will continue to be equally shared between participating factories and the Government. We propose to raise the funding ceiling from \$300,000 to \$330,000 per project to meet cost increases over the years. Independent evaluation will also be carried out for each project to verify the effectiveness of the CP technologies under demonstration;
- (c) *Technology promotion* – to organise promotion and publicity activities to facilitate sharing of knowledge and successful experience in adoption of CP technologies and practices. These activities can either be held in Hong Kong or key industrial cities of the Guangdong Province. The dedicated CP website and the three enquiry hotlines will continue to be maintained;
- (d) *OSI* – this will be a new initiative to facilitate the wider adoption of proven CP technologies in different industries. We propose to offer funding support to non-profit-making trade and industry

associations to carry out trade-specific promotion and publicity activities during the new phase. This includes organising seminars and factory visits for enhancing the understanding of CP technologies specific to the trade, participating in sectoral trade exhibitions to showcase CP technologies, and preparing promotional materials and references for different trades through the online platform, etc.. Government will provide funding support up to 90% of each approved project budget, and the applicant will have to contribute at least 10% of the project cost. Through this initiative, we can leverage on trade associations' networks and connections with factories and open up new promotion channels for the Programme. We are drawing up the detailed funding guidelines with reference to other Government funding schemes of similar nature. We have earmarked some \$11 million for this new initiative; and

- (e) *Enhancement of the JRS* – we will explore with the Guangdong authorities ways to enhance the JRS with a view to encouraging wider participation of Hong Kong-owned factories in CP and sustaining their momentum in pursuing continuous improvements.
13. Verification service was introduced at the start of the Programme in order to help collect relevant information on CP technologies to support the promotional activities. The demonstration projects and verification projects approved over the years have contributed to a sizable database of proven CP technologies. While new demonstration projects to be supported under the extension of the Programme will continue to demonstrate new CP technologies and contribute to the database, funding support for verification service for other projects will cease to be provided.
14. A rough cost breakdown of the key initiatives in the new phase is at **Annex**. This budget is for preliminary planning purpose and we might fine tune the allocations having regard to feedback from the factories and the prevailing market conditions.

### ***Implementation of the New Phase***

15. We will continue to engage HKPC as the implementation agent of the new phase of the Programme. It is responsible for receiving and vetting applications, reaching out to potential applicants, monitoring the progress of approved projects, drawing up annual implementation plans, as well as

planning and organising publicity and technology promotion activities, etc.. The following considerations are relevant to the unique positioning of HKPC–

- (a) HKPC is a statutory organisation specifically set up to provide technical support to the Hong Kong industries and enhance their competitiveness. It has more than 30 years' experience in providing expertise in industrial pollution prevention and control, as well as cleaner production and energy efficiency which are essential for supporting the continued operation of the Programme;
- (b) HKPC has built up a wide network, mutual trust and partnership with the manufacturing sector, trade and industry associations, and the Mainland authorities. These strengths are essential in securing the confidence of the prospective participants during the new phase; and
- (c) the Programme involves partnership with ET services providers in delivering technology solutions and technical services to a large number of targeted factories. As a public organisation, HKPC is best placed to give an impartial assessment on the work of ET services providers from the private sector.

### ***Control and Review Mechanism***

16. Following the arrangement of the current Programme, a Project Management Committee (PMC) will be set up to oversee the implementation of the Programme. It will be responsible for drawing up project administration guidelines and selection criteria for applications; considering applications and monitoring the implementation of approved projects; and reviewing and monitoring the overall progress of the Programme, etc.. HKPC will also draw up an annual implementation plan and submit regular progress reports to the PMC. The PMC will continue to be chaired by the Under Secretary for the Environment and comprise representatives from four major chambers of commerce, namely, the Hong Kong General Chamber of Commerce, the Federation of Hong Kong Industries, the Chinese Manufacturers' Association of Hong Kong and the Chinese General Chamber of Commerce. Relevant departments including the Trade and Industry Department, Innovation and Technology Commission, related organisations as well as independent experts will also be invited to join as members or co-opt members as appropriate. EPD will continue to provide progress reports to this Panel on an annual basis.

### ***Timing***

17. We plan to roll out the new phase as soon as the funding required (i.e. \$150 million) is approved by the LegCo in the context of the Appropriation Bill.

### ***Expected Benefits***

18. Implementing the new phase will bring about environmental benefits similar to the current phase as outlined in paragraphs 5 to 10 above. Moreover, the introduction of OSI will encourage a wider adoption of proven CP technologies in different trades through the engagement of relevant trade and industry associations. The enhancement of the JRS in collaboration with Guangdong authority will also encourage wider and sustainable participation of Hong Kong factories in CP.

19. The new phase of the Programme will also create business and job opportunities for local ET services providers. It is estimated that about 110 full-time jobs will be created. Through participation in the technology promotion activities, on-site improvement assessments and demonstration projects, the programme will also help open up business opportunities for ET services providers in the Guangdong market.

20. The adoption of CP will help Hong Kong businesses in the upgrade process and foster the sustainable development of cleaner production in the region. This will in turn bring more environmental, economic and social benefits in terms of energy-efficient operations, better air and water quality, and a more liveable region.

### **CONSULTATION**

21. We held exchange sessions with the chambers of commerce as well as the Mainland authorities in planning for the new phase. The industry sector welcomed the proposed extension of the Programme and agreed that there was a considerable demand from Hong Kong-owned factories in Guangdong for technical support and know-how in applying CP technologies and practices. These factories would need to make continuous improvement in environmental performance in order to sustain their businesses in the Mainland.



22. The industry sector also supported that while the Programme had been implemented for some years, greater success and benefits would hinge on the wider adoption of proven CP technologies. They supported the introduction of OSI to enhance promotional efforts in different industries and welcomed the opportunity for trade and industry associations to participate in this new initiative.

23. Four major chambers of commerce wrote in to register their support for extending the Programme. They hope to roll out the extension as early as possible to minimise any gap and disruption to the factories in carrying out CP improvement projects.

## **FINANCIAL AND CIVIL SERVICE IMPLICATIONS**

24. The total government funding required for the new phase of the programme is \$150 million over the five-year period, which has been included in the 2015-16 Draft Estimates for EPD for consideration by the LegCo in the context of the Appropriation Bill. Of the \$150 million, EPD will disburse a total of \$29 million to HKPC to cover the costs for implementing the programme. Participating factories and trade and industry associations will contribute around \$92 million and \$1.2 million respectively through the established cost-sharing arrangements. As the implementation agent, HKPC will make contributions in terms of manpower support, office rentals and other ancillary, technical and support services at an estimated value of around \$16 million in five years.

25. EPD will continue to deploy a dedicated professional team led by a Senior Environmental Protection Officer to render support to the new phase of the Programme. The necessary staffing cost will be absorbed by the existing provision of the Department.

## **ADVICE SOUGHT**

26. Members are invited to note our plan on the extension of the Programme.

**Environmental Protection Department  
February 2015**

**Estimated Cost Breakdown for the New Phase of the Programme  
(2015 – 2020)**

	Planned number of projects / activities	Funding by Government (\$ million)	Contributions by HKPC (\$ million)	Contributions by Industry (\$ million)	Total (\$ million)
<b>1. On-site Improvement Assessments</b>					
Project Implementation Costs	625	17.5	0	17.5	35.0
<b>2. Demonstration Projects</b>					
Project Implementation Costs	225	80.0	0	74.0	154.0
<b>3. Technology Promotion</b>					
Cross-Trade Promotion and Publicity Activities	110 - 140	6.5	0	0	6.5
<b>4. Organisation Support Initiative</b>					
Trade-Specific Promotion and Publicity Activities	100 - 130	11.0	0	1.2	12.2
<b>5. Joint Recognition Scheme (JRS)</b>					
Operation of JRS and Award Ceremony	-	6.0	0	0	6.0
<b>6. Programme Management &amp; Technical Support</b>					
(i) Programme Director (5% staff time)	-	0	0.9	0	0.9
(ii) Programme Manager	-	4.5	3.7	0	8.2
(iii) Programme Management Team					
- Programme Officer (1)	-	1.5	1.2	0	2.7
- Mainland Supporting Staff (3)	-	10.0	0	0	10.0
- HK Office Accommodation and Project Administration		0	0.8	0	0.8
- Mainland Office Accommodation	-	1.5	0	0	1.5
<b>Sub Total</b>	<b>-</b>	<b>13.0</b>	<b>2.0</b>	<b>0</b>	<b>15.0</b>
(iv) Technical Support Team					
- Team Members (4)	-	11.5	9.4	0	20.9
<b>TOTAL</b>	<b>-</b>	<b>150</b>	<b>16.0</b>	<b>92.7</b>	<b>258.7</b>