

**For information**

**LEGISLATIVE COUNCIL  
PANEL ON ENVIRONMENTAL AFFAIRS**

**Progress Report on the Cleaner Production  
Partnership Programme (2011/2012)**

**PURPOSE**

This paper reports on the progress of the Cleaner Production Partnership Programme (the Programme) from 1 April 2011 to 31 March 2012.

**BACKGROUND**

2. The Programme was launched by the Environmental Protection Department (EPD) in collaboration with the Economic and Information Commission of Guangdong Province (GDEIC)<sup>1</sup> in April 2008. With a funding commitment of HK\$93.06 million for five years from Government, the Programme aims at promoting the use of cleaner production (CP) technologies and practices<sup>2</sup> amongst Hong Kong-owned factories in the Pearl River Delta (PRD) region.

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

- (a) awareness promotion activities;
- (b) on-site improvement assessment for participating factories;
- (c) demonstration projects on CP technologies and practices; and

---

<sup>1</sup> GDEIC is the lead department of the Guangdong Provincial Government for promoting voluntary cleaner production to enterprises in Guangdong. The Environment Bureau signed a “Co-operation Agreement to Promote Energy Efficiency, Cleaner Production and Comprehensive Utilisation of Resources to Enterprises in Hong Kong and Guangdong” with GDEIC in August 2007.

<sup>2</sup> Cleaner production is a preventive, integrated strategy that applies to the entire production cycle to increase productivity by promoting a more efficient use of raw materials, energy and water, and to enhance environmental performance through reduction of waste and emissions at source.

- (d) third party verification on improvement projects implemented by participating factories.

Annex Details of the key initiatives are at **Annex**.

4. The Programme aims to encourage and facilitate Hong Kong-owned factories in the PRD region to adopt CP technologies and practices to reduce air pollutant emissions and energy consumption. In the light of feedback collected from the trades and support by this Panel on 21 January 2010, the coverage of the Programme has been widened to also provide professional advice and technical support in the treatment and reduction of effluent discharges to these factories to facilitate reduction, reuse, recycling and treatment of wastewater arising from their operations.

5. The Administration undertook to report annually to the LegCo Panel on Environmental Affairs on the progress of the Programme. This is the fourth annual report submitted to this Panel.

## **MANAGEMENT OF THE PROGRAMME**

6. To oversee the implementation of the Programme, we have set up a Project Management Committee (PMC) comprising representatives from the four major trade and industry associations, namely, the Hong Kong General Chamber of Commerce (HKGCC), Federation of Hong Kong Industries (FHKI), Chinese Manufacturers' Association of Hong Kong (CMA) and Chinese General Chamber of Commerce (CGCC), EPD, Trade and Industry Department as well as an academic. During the report period, the PMC held four meetings to provide steer to the operation of the Programme and scrutinise funding applications.

7. The HKPC has established a programme management team and a programme quality assurance team to coordinate and ensure effective implementation of the Programme. In addition, two support teams based in PRD (in Shenzhen and Dongguan respectively) have been set up for local liaison work and co-ordination of programme activities.

## **PROGRESS IN 2011/2012**

8. To arouse and sustain interests of Hong Kong-owned factories in the benefits of cleaner production and joining the Programme, we continued to carry out in conjunction with trade and industry associations and municipal authorities in the PRD on awareness promotion and publicity activities in the past year, including seminars, workshops, briefings, factory visits, etc.

9. During the report period, we organised a total of 54 awareness promotion activities with the participation of some 4 100 factory owners and staff. In addition, we took part in two trade exhibitions on environmental technology to introduce the Programme to some 1 800 visitors. The cumulative number of awareness promotion activities organised since the launch of the Programme in 2008 reached 265 with some 24 900 participants. We also publicised the Programme widely through various channels including interviews and reports by the media, posting event notices and promotional advertisements on newspapers. In addition, we operate a dedicated CP website showcasing success stories and a resources area for downloading CP related materials. We also operate an enquiry hotline to enhance information dissemination on Programme activities and sharing of the related experience.

10. To widely share CP technologies adopted by participating factories, we published four guidebooks on CP measures for printing industry, paint spraying process, industrial boiler system as well as generic energy saving measures for industries. In addition, six CP guidebooks are under preparation which will cover wastewater treatment and reuse, as well as five other industries, namely, textile, metal and metal products, food and beverage, plastic products, and furniture manufacturing. Furthermore, 24 site visits to factories were organised for factory owners and staff to view completed demonstration projects. We have also continued to collaborate with the relevant trade associations, PRD municipal governments and environmental technology (ET) service providers under the Programme to encourage factories to adopt CP technologies and practices with a view to cultivating a cleaner production culture in the region.

11. During the report period, a total of 695 funding applications were approved. The cumulative number of funding applications approved since the launch of the Programme reached 1 802 by 31 March 2012.

Details of the applications are as follows -

	<b>Applications as at 31 March 2012</b>				
	<b>Approved (2008/09)</b>	<b>Approved (2009/10)</b>	<b>Approved (2010/11)</b>	<b>Approved (2011/12)</b>	<b>Cumulative Total</b>
<b>On-site Assessments</b>	113	227	319	284	943
<b>Demonstration Projects</b>	25	25	38	41	129
<b>Verification Services</b>	28	178	154	370	730

12. The majority of the participating factories came from metal and metal product<sup>3</sup>, textile, chemical product, and printing and publishing industries. Among the 129 demonstration projects approved since 2008, 66 involved energy saving technologies, 39 involved technologies to abate air pollution while 24 were on effluent control and reduction. Specifically, the types of technologies so tested in these demonstration projects include:

- (a) **energy saving** through waste heat recovery, use of servo motors or variable speed drives to power production machines, application of energy management system to optimize energy performance, use of advanced insulation coating to reduce heat loss, application of electromagnetic induction or infra-red technologies in heating components of production machines;
- (b) **volatile organic compounds (VOC) reduction** through solvent recovery, use of low/no VOC substitutes for solvent-based materials, use of enclosed systems equipped with treatment or solvent recovery equipment to control fugitive emissions of VOC, application of automatic or high volume low pressure spraying equipment to reduce solvent and paint consumption in coating processes, and application of high energy ion purification or catalytic combustion technologies for treatment of VOC;
- (c) **air pollutant emissions reduction** through application of advanced flue gas treatment to reduce air pollutant emissions, alternative design of furnaces and boilers to enhance fuel combustion efficiency thus reducing air pollutant emissions, use

<sup>3</sup> The metal and metal products manufacturing industry covers a wide range of trades including electroplating, electronics and electrical products, fabricated metal products manufacturing, etc.

of cleaner energy and renewable energy such as biogas or solar energy to replace fossil fuels; and

- (d) **effluent and pollutant reduction** through recovery of metals and other materials from effluent, application of reverse osmosis and other filtration technologies to recycle industrial effluent, application of biological processes or advanced oxidation for treatment of pollutants, etc.

13. In many cases, the application of demonstrated cleaner technologies not only helps reduce emissions but also bring about economic benefits in terms of cost reduction as a result of enhanced energy efficiency and reduced material consumption. The participating factories have shared their knowledge and experience gained from these demonstration projects with other factories with a view to encouraging them to follow suit.

### **Partnership with Environmental Technology Service Providers**

14. ET service providers play an important role in providing professional advices and technical services to the participating factories for conducting on-site assessments and demonstration projects under the Programme. During the report period, 17 ET service providers joined the Programme while 14 Guangdong-based ET service providers were removed from the ET registration list of the Programme because they no longer meet the registration criterion<sup>4</sup>. As at 31 March 2012, the total number of ET service providers registered under the Programme reached 158. Amongst them, 96 were Hong Kong-based while 56 were based in PRD and six from other regions. HKPC has organised briefings and experience sharing workshops to facilitate capacity building amongst the ET service providers. It has also conducted quality checks on the work of ET service providers to ensure quality services are provided to the participating factories.

### **Collaboration with Mainland Authorities**

15. We continued to work closely with the GDEIC and municipal authorities in PRD to conduct promotional activities for the Programme and reach out to Hong Kong-owned factories in the PRD. We have also

---

<sup>4</sup> The 14 Guangdong-based ET service providers failed to continue to register with the GDEIC as the Cleaner Production Technical Services Companies of Guangdong Province in 2010, which is the registration criterion for ETs based in Guangdong Province as agreed with GDEIC at launch of the Programme.

developed joint action plans for taking forward the Programme taking account of the CP measures being spearheaded by the PRD cities.

16. To further encourage participation of Hong Kong-owned factories in the Programme and give recognition to those participating factories which have adopted CP technologies and practices, we launched the Hong Kong-Guangdong Cleaner Production Partners Recognition Scheme jointly with the GDEIC in August 2009. A total of 113 Hong Kong-owned manufacturing enterprises, 20 ET service providers and six sourcing enterprises were recognised as "Hong Kong - Guangdong Cleaner Production Partners" in 2011. We will continue to provide similar recognition to eligible factories and enterprises on an annual basis.

## **WAY FORWARD**

17. To sustain the interest of Hong Kong-owned factories toward the Programme, we will continue to reinforce awareness promotion and publicity activities to broaden our reach to them in the PRD region. At the same time, we will focus on publicising the results and experiences gained from on-site assessments, demonstration projects and verification services for wider promotion of CP technologies through collaboration with the trade and industry associations, the PRD municipal governments and ET service providers. We will also take stock of the achievements of the Programme and consult the relevant stakeholders on the future direction for promoting cleaner production.

18. Members are invited to note the latest progress in the implementation of the Programme.

**Environmental Protection Department  
July 2012**

## Key Initiatives under the Cleaner Production Partnership Programme

The overall objective of the Programme is to encourage and facilitate Hong Kong-owned factories in the Pearl River Delta (PRD) region to adopt cleaner production technologies and practices, thereby making a positive contribution to a cleaner environment by reducing pollutants and energy consumption. The Programme targets at eight industry sectors<sup>Note</sup> of Hong Kong-owned factories which generate pollution in the PRD region and are most likely to yield positive improvements.

### Key Initiatives

2. The key initiatives of the Programme include –
  - (a) *awareness promotion* – this comprises structured briefings, study missions, training seminars and workshops, conferences and exhibitions, in Hong Kong and cities in PRD region. Participation in the awareness promotion activities is normally free of charge;
  - (b) *on-site improvement assessment for about 800 to 1 000 factories (subject to response)* – the Hong Kong Productivity Council (HKPC), in conjunction with other environmental technology (ET) service providers, provide guidance and conduct on-site assessment for participating factories to identify and analyse the problems they face and propose practical improvement solutions. The Government will sponsor 50% of the assessment cost, subject to a ceiling of \$15,000. Any cost exceeding the ceiling has to be met by the participating factories;
  - (c) *demonstration projects* – HKPC will work closely with ET service providers to conduct some 120 demonstration projects

---

<sup>Note</sup> The eight industry sectors include textiles, non-metallic mineral products, metal and metal products, food and beverage, chemical products, printing and publishing, furniture and paper/paper product manufacturing.

through installation of equipment and/or modification of production processes. The cost is equally shared between participating factories and Government, and the government expenditure is capped at \$160,000. The average contribution of Government funding is around \$160,000 per project; and

- (d) *verification of the effectiveness of 500 to 1 000 improvement projects (subject to response)* – for those factories which have implemented improvement measures, HKPC will provide an independent third-party service to verify the effectiveness of the improvement projects. This service is provided free of charge to participants, capped to a ceiling of \$15,000 per project.

— O — O — O — O