For information

LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS

Cleaner Production Partnership Programme
Progress Report for 2016/2017

PURPOSE

This paper reports on the progress of the Cleaner Production Partnership Programme (the Programme) for the period from 1 April 2016 to 31 March 2017.

BACKGROUND

2. The Environmental Protection Department (EPD) launched the Programme in April 2008 in collaboration with the Economic and Information Commission of Guangdong Province (GDEIC) [1]. The Programme aims to encourage and facilitate Hong Kong-owned factories in Guangdong and Hong Kong to adopt cleaner production (CP) technologies and practices through funding support and technology promotion activities, thereby improving the regional environment.

3. In light of the environmental benefits brought by the Programme, EPD extended the Programme for five years up to 31 March 2020 with $150 million approved by the Legislative Council (LegCo) in May 2015. The new phase of the Programme continues to cover the entire Guangdong Province and Hong Kong, with a focus on the promotion of new technologies for reducing emissions of volatile organic compounds (VOC) and nitrogen oxides (NO_x), which are the culprits of the smog problems of the Pearl River Delta (PRD) region.

[1] GDEIC is the lead department of the Guangdong Provincial Government for promoting voluntary cleaner production amongst enterprises and factories in Guangdong.

4. The Hong Kong Productivity Council (HKPC) is the implementation agent of the Programme, which comprises four key initiatives, namely –

(a) on-site improvement assessment for participating factories;
(b) demonstration projects on CP technologies and practices;
(c) trade-specific promotion and publicity activities by trade and industry organisations (the Organisation Support Initiative (OSI)); and
(d) cross-trade technology promotion activities;

Annex A

The key initiatives and the targets set for the new phase of the Programme are elaborated at **Annex A**.

MANAGEMENT OF THE PROGRAMME

5. A Project Management Committee (PMC) has been set up to oversee the implementation of the Programme. The PMC comprises representatives from four major chambers of commerce (i.e., the Chinese General Chamber of Commerce, the Chinese Manufacturers' Association of Hong Kong, the Federation of Hong Kong Industries and the Hong Kong General Chamber of Commerce), an academic, as well as representatives from EPD, Trade and Industry Department and Innovation and Technology Commission. During the report period, the PMC held four meetings to provide steer to the operation of the Programme and scrutinise funding applications.

PROGRESS IN 2016/2017

On-site Assessments, Demonstration Projects and OSI Activities

6. The number of applications approved for on-site assessments, demonstration projects and OSI activities during the report period as well as the cumulative figures since the beginning of the current phase of the Programme are set out in the table below. The cumulative numbers of approvals either met or are close to meeting the respective targets.

	Targets for 2016/17	Approved Applications / Activities in 2016/17	Cumulative Targets up to 2016/17	Cumulative Approved Applications / Activities (as at 31 March 2017)
On-site Assessments	100	127	225	227
Demonstration projects	50	51	90	86
OSI activities	25	25	42	42

7. On-site assessments were conducted for 127 factories in the report period to identify areas for improvement with proposed practical solutions. These assessments focused on reduction of air pollution emissions, energy efficiency as well as effluent reduction and control.

8. Among the 51 demonstration projects approved in the report period, 23 involved technologies on abatement of air pollution, 8 were on effluent control and reduction and 20 on energy saving. A summary of the key types of technologies demonstrated under the Programme is at **Annex B**.

Annex B

9. Regarding OSI activities, four projects were approved involving 25 trade-specific promotion activities in the report period. These activities, organised by the trade and industry associations, included factory visits and seminars, sectoral trade exhibitions, as well as production of videos and guidebooks for wider adoption of CP technologies and practices.

Cross-Trade Technology Promotion Activities

10. To facilitate sharing of expertise knowledge and successful experience in the adoption of CP technologies and practices by Hong Kong-owned factories, apart from supporting non-profit-making trade and industry associations to carry out trade-specific promotion and publicity activities (i.e. the OSI activities highlighted in paragraph 9 above), we also directly organised various kinds of cross-trade technology promotion activities for Hong Kong-owned factories. During the report period, we organised 41 such activities, attracting some 1 600 participants. Among these promotion activities, 21 were factory visits which were organised for factory owners and staff to view on-site the completed demonstration projects and other successful CP technologies. As at 31 March 2017, a cumulative number of

81 cross-trade technology promotion activities were organised under the new phase.

11. The Programme was widely publicised through various channels including reports by the media and briefings for the trade and industry associations. In addition, 86 case reports on completed demonstration projects or verified technologies were produced and publicised on the Programme website operated by HKPC. The website serves as an open platform on CP related materials for sharing with industries. HKPC also operates three enquiry hotlines to enhance information dissemination and sharing of the related experience.

PARTNERSHIP WITH ENVIRONMENTAL TECHNOLOGY (ET) SERVICE PROVIDERS

12. ET service providers play an important role in the Programme through providing professional advice and technical services to the participating factories for conducting on-site assessments and demonstration projects. During the report period, 30 ET service providers joined the Programme and 12 probationary ET service providers were removed from the registration list[2]. As at 31 March 2017, a total of 238 ET service providers were registered under the Programme. Amongst them, 112 were based in Hong Kong, 120 in Guangdong and six in other regions. HKPC has conducted quality checks on the work of ET service providers from time to time.

COLLABORATION WITH MAINLAND AUTHORITIES

13. The Programme has fostered regional collaboration with the relevant Mainland authorities in reducing pollution arising from industrial activities. We have worked with the nine PRD municipalities in publicising the Programme and promoting CP. During the report period, a total of nine publicity events were jointly organised with the Mainland authorities to reach out to Hong Kong-owned factories in Guangdong.

[2] According to the Guide to Application for Registration as ET Service Providers under the Programme, a probationary ET service provider who is unable to engage a factory for undertaking an approved project within the 12-month probationary period will be removed from the registration list.

14. The Hong Kong-Guangdong Cleaner Production Partners Recognition Scheme continued to be jointly organised with GDEIC during the report period. An award presentation ceremony was held on 16 December 2016 in Guangzhou. A total of 148 enterprises were commended as Hong Kong-Guangdong Cleaner Production Partners to recognise their efforts in pursuing CP. About 300 representatives from the governments of HKSAR and Guangdong, trade and industry associations, manufacturing industries, supply chains and ET service sector participated in the event.

15. Promoting CP has been one of the priority areas of work in Hong Kong-Guangdong cooperation to improve the regional environment. To strengthen the cooperation and exchanges on CP, the two sides signed a Hong Kong-Guangdong Cooperation Agreement on Cleaner Production in 2014. A Hong Kong-Guangdong Joint Working Group on Cleaner Production (JWGCP) was also established under the Hong Kong/Guangdong Co-operation Joint Conference and the third annual meeting of the JWGCP was held on 16 December 2016. The two sides agreed on the 2017 workplan at the meeting, which focused on the continuous promotion of the use of CP technologies to reduce volatile organic compounds (VOC), the greater use of high efficiency motors, and the upgrading of motors and injection moulding machines to enhance energy saving by related industries.

WAY FORWARD

16. We will continue to actively promote CP technologies through the Programme. We shall also conduct a mid-term review this year focusing on the Programme management, outreaching strategies and resources deployment.

17. Members are invited to note the latest implementation progress of the Programme. We will continue to provide progress reports to this Panel on an annual basis.

Environmental Protection Department
July 2017

Annex A

Cleaner Production Partnership Programme

The Programme aims to encourage and facilitate Hong Kong-owned factories in Guangdong and Hong Kong to adopt CP technologies and practices, thereby contributing to improving the regional environment by reducing emissions of pollutants and energy consumption. The Programme targets at eight industry sectors, i.e. textiles, non-metallic mineral products, metal and metal products, food and beverage, chemical products, printing and publishing, furniture and paper/paper product manufacturing.

Key Initiatives

2. The key initiatives in the new phase (from 15 June 2015 to 31 March 2020) of the Programme include –

(a) *on-site improvement assessment:* to assist *about 625 factories* to identify and analyse the problems they face and propose practical improvement solutions. The Government sponsors 50% of the assessment cost, subject to a ceiling of $28,000;

(b) *demonstration project:* to support *around 225 projects* to demonstrate the effectiveness of CP technologies through installation of equipment and/or modification of production processes. The Government sponsors 50% of the project cost, subject to a ceiling of $330,000;

(c) *organisation support initiative:* to support trade and industry associations to carry out *around 100 – 130 trade-specific promotion and publicity activities*. The Government sponsors up to 90% of the project cost and the applicant has to contribute at least 10% of the project cost; and

(d) *cross-trade technology promotion:* to organise *around 110 – 140 activities*, mainly to facilitate sharing of knowledge and successful experience in adoption of CP technologies and practices. These activities comprise seminars, workshops, factory visits, conferences and exhibitions, in Hong Kong or key industrial cities of the Guangdong Province;

Annex B

Cleaner Production Technologies Demonstrated
Under the Cleaner Production Partnership Programme

The key CP technologies demonstrated under the Programme during the report period are summarised below.

(a) **Abatement of air pollution**

- to reduce VOC emissions through the use of ultraviolet (UV) cured coating system, water-based flexographic printing machines, cryogenic condensation technology, iron carbon micro-electrolysis, low temperature plasma, UV degradation, catalytic oxidation, chemical scrubbing and activated carbon adsorption, or bio-filtration; and
- to reduce other air pollutant (including NOx) emissions through the adoption of oxy-fuel combustion technology, flue gas recirculation (FGR), selective non-catalytic reduction (SNCR), or natural gas-fired heating system.

(b) **Effluent control and reduction**

- to reduce water and chemical consumptions through the use of fabric dyeing machine, vertical continuous plating technology, or jeans denim laser engraving machine;
- to enhance treatment efficiency of wastewater through the use of jet aerator system; and
- to reduce the amount of waste chemicals through the use of etching solution electrolysis regeneration, or side stream pipeline electro-adsorption control system.

(c) **Energy saving**

- to optimise the overall energy efficiency of the factory through the applications of central control and monitoring system (CCMS);
- to save energy through the use of non-invasive electromagnetic scale control system, time-programmed dyeing system, automatic paint spraying and curing system, servo motor control, energy efficient infrared heating coils, or split module adsorption dryer; and

- to reclaim waste heat through the use of waste heat recovery system on production machinery.
