

For discussion on  
14 December 2004

**LEGISLATIVE COUNCIL  
PANEL ON COMMERCE AND INDUSTRY**

**A Proposed Scheme to Require Registration and Mandatory Labelling  
of the Content of Volatile Organic Compounds  
in Paints, Printing Inks and Selected Consumer Products**

**PURPOSE**

This paper briefs Members on a proposed scheme to require registration and mandatory labelling of the content of volatile organic compounds (VOCs) in paints, printing inks and selected consumer products for sale in Hong Kong.

**BACKGROUND**

**Volatile Organic Compounds and Air Pollution**

2. VOCs are emitted as gases from certain solids or liquids. They are found in a wide array of products. Examples include solvent-borne paints, printing inks and a myriad of consumer products. VOCs play a significant role in the formation of ozone and respirable suspended particulates (RSPs) in the atmosphere. Under sunlight, they react with oxides of nitrogen (NO<sub>x</sub>) to form ozone through a photochemical process. Ground level ozone is a highly reactive gas, and when in high concentration can irritate the eyes and bring upper and lower respiratory symptoms to healthy people. It may also provoke asthmatic attacks in people who already have asthma. There is also evidence that prolonged exposure to a high concentration of ozone may cause permanent

damage to lung tissues and interfere with the functioning of the immune system. RSPs can penetrate deeply into the lung and interfere with the functioning of the respiratory system. They can also exacerbate the smog phenomenon and impair visibility of the region.

3. VOCs from paints, construction materials, and major furnishing, cleaning and maintenance materials have been identified as one of the factors contributing to the indoor air quality problem. Key symptoms associated with occupant exposures to VOCs include conjunctival irritation, nose and throat discomfort, headache, nausea and dizziness.

### **Overseas Practices**

4. In view of the harmful effects of VOCs, some countries have introduced statutory VOC limits or labelling schemes on paints, printing inks and selected consumers products. For example, VOC limits are imposed nationwide for paints and selected consumer products in the United States (US), driven by a pioneering VOC control on products in California in the 1980s. Limits of VOCs in paints are prescribed in law in Denmark, the Netherlands and Sweden. In the European Union (EU), eco-labelling criteria have been set for paints since 1999, and the European Parliament, in March 2004, passed a directive to reduce VOC contents in decorative and vehicle paints and varnishes. The directive will take effect in two stages in 2007 and 2010 respectively.

### **Regional Air Quality**

5. To improve the air quality of the Pearl River Delta Region, the Hong Kong Special Administrative Region Government and Guangdong Provincial Government reached a consensus in April 2002 to reduce, on a best endeavour basis, the regional emissions of four major pollutants, namely sulphur dioxide, nitrogen oxides, RSPs and VOCs by 40%, 20%, 55% and 55% respectively, by 2010, using the emission levels at 1997 as a base. Achieving the emission reduction targets will enable Hong Kong to meet its air quality objectives. This will also significantly improve the smog problem.

6. For VOCs, the Joint Study on Pearl River Delta Region Air Quality completed in 2002 has identified paints, printing industry, VOC containing consumer products and motor vehicles to be the four major emission sources. They contributed to about 92% of the total VOC emissions in Hong Kong in 1997. The respective shares of these emission sources are 30%, 13%, 24% and 25%.

7. The Government has been implementing a series of programmes to reduce pollutant emissions, including VOCs, from motor vehicles. Among many measures, a regulation was introduced in 1999 to require petrol filling stations and petrol delivery vehicles to be equipped with effective vapour recovery systems to reduce petrol vapour emissions (which are VOCs) during petrol unloading. Currently, we are planning to introduce into the Legislative Council a legislative proposal to control the amount of VOCs emitted during vehicle refuelling at petrol filling stations. We will also continue to tighten the emissions standards of motor vehicles in keeping with EU requirements. Through these measures, VOC emissions from motor vehicles will be reduced to the practicable minimum. However, we will need to take further action to achieve the 55% VOC emission reduction target by 2010.

## **THE PROPOSAL**

### **Overall Framework**

8. In addition to control measures being planned for reducing VOCs from motor vehicles and petrol filling stations, we propose to adopt a two-stage approach to reduce VOC emissions from paints, printing inks and selected consumer products in Hong Kong. Stage 1, as outlined in the ensuing paragraphs, primarily proposes a mandatory registration and labelling scheme. After reviewing the effectiveness of the Stage 1 programme, we will decide, in consultation with the trade, the way forward for Stage 2, which may introduce additional control programmes for selected products or processes that emit VOCs.

## Stage 1 – Mandatory Registration and Labelling Scheme

9. We propose to make legislative amendments to the Air Pollution Control Ordinance (Cap 311) to require importers or manufacturers of all paints, printing inks and selected consumer products to register with the Environmental Protection Department (EPD) the VOC contents of their products for sale in Hong Kong. We also propose mandatory labelling of the VOC contents of these products on their containers and/or packaging for retail sales. We plan to exclude trans-shipment and exported items.

10. Some products may contain less VOCs than others or even do not contain any VOCs. The labelling requirement will enable consumers to make considered choices in product selection. We will tie this in with a publicity programme to encourage consumers to use products with low or no VOC contents.

### Coverage

11. The proposed mandatory registration and labelling scheme covers all types of *paints* which include all liquid, liquefiable or mastic compositions that can be converted to solid protective, decorative, or functional adherent films after application. Varnishes and lacquer also fall under this definition.

12. We will cover *printing inks* commonly used in local printing processes, such as printing inks for flexographic printing, gravure printing, letterpress printing, lithographic printing and screen-printing. We propose to exclude printing inks for plateless printing, which covers xerographic, electrostatic, thermal, ink-jet, etc. as the VOC emissions are low from these printing processes which are usually for home and office use and of very small scale.

13. *Consumer products* to be covered under the proposed scheme include insecticide, hair spray, air freshener, etc. (see *Annex A* for details). The list is drawn up on the basis of a survey conducted in 2002 on consumer products that are commonly found in Hong Kong. We have also made reference to the practice of the California Air Resources Board of the US, which has a comprehensive programme for controlling VOCs from consumer products.

## Registration

14. Importers or manufacturers of paints, printing inks and selected consumer products for local sales in Hong Kong (hereafter collectively referred as “registrants”) will be required to register with EPD the VOC contents of each type of paints, printing inks and consumer products that they carry. Registrants will need to support their registration by producing relevant testing reports, product information and other data as required. A registration fee will be levied.

## Labelling

15. Any person who sells, supplies or offers to sell any products listed in paragraphs 11 to 13 above for local consumption will be required to ensure that a bilingual label is either printed upon or securely affixed onto individual containers and/or packaging of the concerned products. Each bilingual label should conspicuously incorporate the following information –

- VOC content of the product;
- an educational message : “VOCs cause air pollution (揮發性有機化合物引致空氣污染)”; and
- the registration number issued by EPD.

## Reporting of sales records

16. To facilitate monitoring of VOC emissions in Hong Kong, registrants will be required to submit to EPD the annual local sales amounts of the products by the registration number which shall be in net weight or volume of the products sold. Registrants should submit the data by end of June of the following year either by letter, facsimile or electronic means in a format to be specified. Registrants shall also maintain sales records of the concerned products for three years for inspection by EPD when necessary. We will keep in confidence all sales data collected for this purpose.

### Transitional Period

17. To allow an adequate transitional period for the trades to make the necessary preparations, we propose that the registration and labelling scheme should take effect six months after enactment of the relevant legislation.

### Cost Implications

18. The proposal may incur costs to the registrants due to the testing, labelling and reporting requirements. However, since importers and manufacturers should have detailed information about the composition of their products, and that a registrant should have kept sales information for accounting purpose, the cost implications to the price of the products should be small.

### **Stage 2**

19. To further reduce the VOC emissions, we may introduce measures at Stage 2 to control the VOC contents of specified types of products or to discourage the use of certain products with higher VOC contents. Subject to the effectiveness of the proposed Stage 1 programme, we will consider how to proceed with Stage 2.

## **THE CONSULTATION PROCESS**

20. We briefed the Legislative Council Panel on Environmental Affairs on 28 June 2004. A two-month public consultation was launched which ended on 30 November. We have issued over 2,100 consultation documents to trade and professional associations, green groups, traders, manufacturers and testing laboratories. About 20,000 pamphlets have been made available for distribution through City District, EPD offices and direct mailing. We have sent out letters to invite interested organizations to attend our public consultation briefing sessions. Three of such sessions were held, attended by 60 representatives from different

trades and interest groups. Subsequent to that, nine discussion forums were held with special groups of local and overseas representatives to discuss details of the proposals and specific concerns of individual industry (a list of organizations which attended these forums attached at *Annex B*). As of 6 December 2004, about 1,040 written submissions were collected and our dedicated consultation web site scored over 800 hits.

## **WAY FORWARD**

21. While we are determined to reduce the VOC level in order to improve Hong Kong's air quality, we are open-minded on options to further improve the proposed scheme so as to enhance its effectiveness and minimize the impacts on the affected trades. We are consolidating the views collected in the consultation process. We will carefully consider all comments received, and work with the stakeholders on the options and detailed arrangements in the next several months. We will then brief the LegCo Panel on Environmental Affairs on the outcome of the consultation.

**Environment, Transport and Works Bureau**  
**December 2004**

**List of VOC Containing Consumer Products to be Regulated under the  
Proposed Registration and Labelling Scheme**

**General Consumables**

1. Adhesive and adhesive remover
2. Aerosol cooking spray
3. Air freshener
4. Anti-static product
5. Cleaner – for bathroom and tile, general purpose, glass, carpet and upholstery, electrical and electronic components or equipment, oven, hand-cleaning, soap, wood and others.
6. Dusting aid
7. Fabric protectant, refresher
8. Floor polish, wax, wax stripper
9. Footwear and leather care product
10. Furniture maintenance product
11. General purpose degreaser
12. Graffiti remover/correction fluid
13. Insect repellent
14. Insecticide and herbicide
15. Laundry pre-wash/starch product
16. Metal polish, cleanser
17. Multi-purpose lubricant
18. Paint remover/stripper
19. Penetrant
20. Rubber and vinyl protectant
21. Sealant and caulking compound
22. Spot remover
23. Toilet or urinal care product



**Personal Care Products**

24. Antiperspirant/deodorant
25. Hair shine/spray
26. Hair styling product and mousse
27. Nail polish/polish remover
28. Personal fragrance product
29. Shaving cream, gel

**Car Care Products**

30. Automotive brake cleaner
31. Automotive rubbing, polishing compound
32. Automotive wax, polish, sealant, glaze
33. Automotive windshield washer fluid
34. Bug and tar remover
35. Carburettor or fuel-injection air intake cleaner
36. Engine degreaser
37. Tyre sealant and inflator
38. Undercoating aerosol

**Aerosol Coatings–General**

39. Top coat
40. Other coating

**Organizations Met During Consultation Period**

Local

1. Federation of Hong Kong Industries
2. The Hong Kong Association of Certification Laboratories Ltd.
3. Consumer Council
4. Business Environment Council
5. Hong Kong Architectural Coating Association Ltd.
6. Environmental Vehicle Repairers Association Ltd
7. Friends of the Earth
8. Green Power
9. Hong Kong Printing Industry Workers Union
10. The Cosmetic and Perfumery Association of Hong Kong Ltd.
11. The Hong Kong Suppliers Association
12. Federation of Beauty Industry (H.K.)
13. 14 individual laboratories
14. 3 individual retail chains
15. 21 individual suppliers

Overseas

16. French Trade Commission, Hong Kong Office
17. European Union, Hong Kong Office
18. French Federation of Fragrance, Cosmetics & Toiletries
19. Cosmetic, Toiletry and Fragrance Association, US
20. Consumer Specialty Products Association, US
21. Soap and Detergent Association, US