For Information
10 June 2002

Legislative Council Panel on Commerce and Industry

Consultancy Study on
Environmental Technology Industry in Hong Kong

Purpose

This paper informs Members of the findings and recommendations of a consultancy study on environmental technology industry (ETI) in Hong Kong.

Background

2. Environmental technology has been increasingly recognized as instrumental to addressing environmental concerns. It also poses potential economic and business opportunities. In view of this, the Innovation and Technology Commission commissioned a consultancy study in May 2001 to examine the potential of Hong Kong's environmental technology industry (ETI) and to identify key issues which are important to the development of the industry ("the Study").[1] The

[1] For the purpose of the Study, only high-value added activities which are knowledge-based or with technology content are considered as falling within the category of ETI for examination. Labour-intensive, low-end activities which carry little technological content, do not fall into the scope of this Study.

Study was completed in May 2002.[2]

Study Findings and Recommendations

3. According to the Study findings, the current Hong Kong ETI base is pretty small in terms of number and size of business establishments, the size of workforce engaged as well as contribution to Hong Kong's Gross Domestic Product (GDP).[3] The major markets of Hong Kong's ETI are in Hong Kong and Mainland China. Its major activities can be broadly grouped into five sub-sectors, namely pollution control technology, clean technology, environmental supporting service, environmental monitoring / measuring technology and green product manufacturing.

4. The Consultant considers that despite its small size and relatively low level of research and development (R&D), the industry possesses strengths including excellent experience in the local market; good technical capability in several specialized areas[4]; proximity to and close interaction with Mainland China; and good business ties with South East Asia. The Consultant estimates that there will be sizeable environmental markets with rapidly growing potential in the next five to

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[2] The executive summary of the Study is available for Members' reference upon request.

[3] According to the Study, there are some 370 establishments of ETI employing a total of about 22,700 full-time local employees, which is about 0.9% of the local working population. 89% of the firms are small and medium sized enterprises with less than 100 employees. Most of the ETI firms (67%) generate less than HK$10 million annual revenue. The total annual revenue generated by ETI is approximately 0.6% of Hong Kong's GDP in 2001.

[4] For example, design capabilities in pollution control technology; waste recycling/recovery activities; environmental consulting services; environmental monitoring and testing services; and green product design and adaptation work.

ten years in the region which represent good opportunities for Hong Kong.

5. On the other hand, the Consultant also considers that development of ETI may be hindered by factors such as insufficient R&D, inadequate exposure to markets outside Hong Kong, etc. When compared to the ETI in other places, both cost and non-cost competitiveness of Hong Kong ETI are currently ranked lower than those of the ETIs in South East Asia. If Hong Kong's ETI is to develop further, it has to find a way to tap into the growing regional markets by capitalizing on its technical capabilities and strengths. The Consultant has come up with recommendations to facilitate the development of the industry. The recommendations can be categorized into four areas.

I. <u>Strengthening Policy, Infrastructure and Economic Support</u>

6. The Consultant considers it necessary to strengthen inter-departmental coordination in policy and programme support for ETI as environmental technology covers a wide spectrum of different policy areas. Government procurement is considered a particularly instrumental tool to create market demand for environmental technology given that the public sector shares some 75% of expenditure of the local market. In this connection, a more receptive approach on the part of the Government in adopting more innovative technologies is seen as important to help develop indigenous innovative technology. Provision of venues to test innovative environmental technologies would help local

companies to demonstrate its capabilities. Introduction of landfill charges should be expedited to achieve waste reduction. Speeding up privatization of environmental infrastructure facilities would enable the private sector to acquire the necessary management and operation experience to bid for similar projects in the region.

II. Strengthening Research and Development (R&D)

7. The Consultant recommends priority be given to fund R&D related to Hong Kong's niche technology areas in ETI.[5] The potential applications of such niche technology should be given due consideration in R&D funding. Strengthened funding support is also recommended for enabling relevant parties, particularly the industry and academic institutions, to collaborate, cross-fertilize and exchange ideas and experience.

III. Creating a Competent Workforce

8. To respond to the changing needs of the ETI, enhancement of the education curriculum through incorporation of business skills into the environmental curricula is recommended. More opportunities for continuous learning and the organisation of practical training courses are considered necessary for the fostering of a supply of skilled technicians.

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[5] Examples of these niche technology areas are as follows : rubber recycling, recycling ink / toner cartridges, oil and grease removal technology, ion exchange technology, degradable packaging materials, kitchen-fume emission-control, membrane technology for water treatment, catalytic converters for automotives, vacuum-suction garbage system, high-performance sound insulation, copper-recovery technology and microbe treatment additives.

In the meantime, more external talents may be brought in to supplement local expertise through established mechanisms such as the Admission of Talents Scheme.

IV. Information, Technical and Marketing Support

9. The Consultant has also recommended more efforts be put to promoting the economic opportunities posed by ETI to companies which are currently not involved but are in fact related to ETI. More outreach support programmes to attract investments in ETI are encouraged. Support on a wide range of activities such as information dissemination on market and technology trends, provision of technology advisory services, match-making services, promotion and marketing is recommended to be enhanced.

Way Forward

10. The Government has accepted the Consultant's study report as a reasonable deliverable of the Study, and will make reference to the recommendations therein to provide support to the development of the ETI. The main action plan will cover the following areas.

I. Strengthening Policy, Infrastructure and Economic Support

11. The Government will strengthen inter-departmental coordination

in the provision of support to the ETI.

12. The Government agrees in principle to encouraging, under government purchasing policy, greater use of products which are environmental friendly as far as practicable. In fact, the government's Guidelines for Drawing up Tender Specification of the Government Stores and Procurement Regulations were amended in November 2000 requiring departments to take environmental consideration into account when procuring goods and services.

13. Government has also been receptive to the use of innovative technologies. For instance, we are now conducting a series of trials on compact sewage treatment technologies. In the area of solid waste treatment, we have also invited expression of interests from local and international technology suppliers and facilities operators to express interest in providing treatment technologies in Hong Kong. In evaluating the applicability of relevant technologies, we would need to take into account, among other things, their track record and cost-effectiveness. Given the large population and huge investment involved, it would be necessary for us to put in place well-proven solutions for smooth service delivery. Notwithstanding this, if suitable opportunities arise, we would also be willing to identify some pilot scale projects to try out innovative technologies.

14. However, on the recommendation to adopt more indigenous technologies, we need to give due regard to Hong Kong’s obligations

under the World Trade Organisation Government Procurement Agreement whereby no preferential treatment should be given to suppliers or products of any particular origin.

15. As regards environmental infrastructure facilities, it should be noted that the Government has often emphasized private sector participation in infrastructural projects, although the form of participation may vary, depending on the nature of the projects concerned. For instance, waste management facilities of the Environmental Protection Department are mostly developed on a "Design, Build and Operate" (by a private contractor) basis.

II. Strengthening Research and Development

16. The attempt by the Consultant to identify niche technology areas is a good starting point for the Government to consider possible focus areas of environmental technology which public sector funding schemes should support. For example, the Innovation and Technology Commission will take account of views of the industry and academic institutes and formulate relevant R&D themes in environmental technology for solicitation in future. We will also promote exchange between academia and industry to facilitate technology transfer.

III. Creating a Competent Workforce

17. There are already various environmental technology-related

programmes offered by the local tertiary institutions. The curricula of these courses will be reviewed regularly under the prevailing process and mechanism. As for proposed measures such as providing more continuous learning opportunities and technicians' training to enhance manpower supply, the Government would need careful and detailed examination on whether and where there is a manpower gap. On the other hand, companies which wish to have staff trained in areas of ETI that would be useful to their businesses may apply for a training grant under the existing New Technology Training Scheme.

IV. Information, Technical and Marketing Support

18. A wide range of support for ETI is being provided through different channels. For example, the Hong Kong Productivity Council has been providing technical resources, assistance and services to environmental industries. The ETI can also apply for funding under the Innovation and Technology Fund for projects that could contribute to innovation and technology upgrading of the industry. Small and medium enterprises (SMEs) in the ETI sector may apply grants under the SME Export Marketing Fund and the SME Training Fund for participation in export promotion activities and attending training respectively. Those who are in need of financing to procure equipment and installations can apply for Government’s guarantee for loans under the SME Business Installations and Equipment Loan Guarantee Scheme. The ETI sector as a whole can also apply for funding under the SME Development Fund to implement projects that will facilitate the

development of their sector. The Government will keep in view the operations of these schemes and, having regard to industry views, make any improvement as and when necessary.

Advice Sought

19. Members are invited to note this paper.

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