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Panel on Environmental Affairs

Meeting on 6 February 2003

Background brief on renewable energy

Background

The provision of sufficient, reliable and reasonably priced supplies of energy is vital to economic and social development. Hong Kong has been relying on fossil fuels to meet the energy needs due to their availability, reliability, cost effectiveness and the limited availability of alternative renewable energy ^{Note¹}. As Hong Kong does not have any fossil fuel reserves, all its primary energy needs are met by imports from the Mainland and other countries. Despite the increase in energy efficiency by 15% over the past decade, the local energy consumption over the same period has registered an increase of 22% as a result of the continuous growth in population and the economy. The burning of fossil fuels gives rise to greenhouse gas emissions and the most significant greenhouse gas is carbon dioxide. According to information, the carbon dioxide emission from Hong Kong's energy sector for the year 2000 was about 28 million tonnes. If the growth in energy consumption continues, the projected emissions of carbon dioxide for the year 2010 are about 39 million tonnes, an increase of 39% over the 2000 level.

Developing renewable energy resources

2. Introducing more renewable energy sources may help contain fossil fuel use, thereby helping to contain external purchase of fuels and greenhouse gas emissions. In this connection, the Finance Committee approved in June 2000 funding of \$16.5 million for the Electrical and Mechanical Services Department (EMSD) to

note¹ Renewable energy is a general term covering those energy flows that occur naturally and repeatedly in the environment and can be harnessed for human benefit. Examples of renewable energy resources are solar, wind, biomass and geothermal.

engage consultants to undertake a comprehensive study to investigate the viability of using renewable energy technologies in Hong Kong and to make recommendations for formulation of an implementation strategy. The study has commenced in November 2001 for completion in 2003.

3. The study comprises two stages. Stage 1 involves the collection and analysis of information on renewable energy technologies which includes the following key tasks -

- (a) evaluate the different renewable energy technologies to identify those appropriate for Hong Kong conditions, establish requirements and specifications for suitable renewable energy equipment and provide an estimate of the potential scale of application;
- (b) identify the practical arrangements to support the introduction and maintenance of new renewable energy technologies; and
- (c) devise a plan to address the priorities and preferences relating to the promotion of cost-effective renewable energy technologies.

Stage 2 involves a design and build pilot project to install photovoltaic ^{Note 2} panels in existing government building(s) to provide technical data to assess the use of Building Integrated Photovoltaic systems.

4. The subject of developing renewable energy resources was discussed at the Council meetings on 17 January 2001 and 30 October 2002, during which the following two motions were passed -

Motion moved by Ir Dr Raymond HO on 17 January 2001

5. “That, in view of the limited reserves of fossil fuels, which render their prices susceptible to changes in supply and demand in the world market or to manipulation by certain countries and organizations, and as the consumption of such fuels also leads to environmental pollution, it is necessary for Hong Kong to actively develop and utilize renewable energy resources; this is not only a way to identify and make the best use of local scientific and technological research talents and natural resources, but is also in line with government policies on innovation and technology, as well as the principle of sustainable development; as such, this Council urges the Government to adopt the following measures as soon as possible to expedite the development of renewable energy resources and their introduction in Hong Kong:

Note² Photovoltaic panel is a panel completed with built-in specially prepared semi-conductors that allow the direct conversion of light energy from the sun into electricity.

- (a) actively formulating a policy on the development of renewable resources, and making use of Hong Kong's advantages on various fronts, including its natural environment, availability of the relevant scientific and technological research talents, free flow of information, advanced communication equipment, sound financing services and close co-operation with the Mainland in scientific and technological research and development, so that Hong Kong will become a leader rather than just a follower in the development and utilization of renewable energy resources; and
- (b) apart from policy support, providing sufficient financial support to facilitate researches in and development of renewable energy resources, and promoting the necessary pilot projects.”

Motion moved by Dr LAW Chi-kwong on 30 October 2002

6. “That, with the signing of the Kyoto Protocol and the international agreements reached at the Earth Summit by China, Hong Kong, as a special administrative region of China, has the responsibility to implement the commitments in these agreements, particularly the use of renewable energy resources and the reduction in greenhouse gas emissions; to this end, the Government should expeditiously formulate and implement the policy on renewable energy development so as to achieve the objectives in energy resources, environmental protection and economic aspects; the implementation of strategies for renewable energy resources should include:

- (a) increasing the use of renewable energy resources and setting a practicable target in this regard;
- (b) formulating corresponding legislation and administrative framework to facilitate the research and development and application of renewable energy resources;
- (c) providing support and incentives to promote the scientific and technological research and market development of renewable energy resources;
- (d) incorporating the policy on renewable energy resources into town planning and urban development strategies and making it one of the key factors to be taken into account;
- (e) collaborating actively with the Pearl River Delta authorities and the Guangdong Provincial Government in studying the feasibility of

developing and introducing renewable energy resources; and

- (f) promoting education, professional training and publicity, with a view to enhancing the public's understanding of renewable energy resources and their application skills.”

7. Members unanimously agree that efforts should be stepped up to facilitate the application of renewable energy with a view to resolving the problems caused by the production and use of fossil fuels. To this end, the Government should offer support and incentives to promote scientific and technological research and to nurture a market for renewable. It should also step up education and publicity campaigns to promote public awareness of renewable energy. The implementation of renewable energy should also include collaboration with the Guangdong Provincial Government and the Pearl River Delta authorities.

Latest position

8. To facilitate discussion of the subject on renewable energy, an on-site briefing on the newly installed Building Integrated Photovoltaic System has been arranged on 4 February 2002.

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