

For Information
on 28 April 2003

**Legislative Council Panel on Environmental Affairs
and Panel on Economic Services**

**DEVELOPMENT OF RENEWABLE ENERGY
IN THE CONTEXT OF THE 2003 INTERIM REVIEW
OF THE SCHEMES OF CONTROL FOR THE POWER COMPANIES**

Introduction

At the request of Members, this paper outlines the development of renewable energy (RE) in the context of the 2003 Interim Review of the Schemes of Control for the two Power Companies.

Government's approach to promote RE in the context of the 2003 Interim Review

2. Hong Kong is at an exploratory stage in the application of RE. The most imminent tasks of the Government in this respect are to –
 - (i) study the potential of wide-scale application of RE in Hong Kong; and
 - (ii) facilitate the implementation of pilot RE projects so that interested parties in both private and public sectors can gain first hand experience in various technologies and build up a knowledge base for local implementation.

3. On the first task, we have completed the “Study on the Potential Applications of Renewable Energy in Hong Kong” in late 2002. The public consultation exercise on the findings and recommendations of the Study has recently ended and we are consolidating the views received. For the second task, the support and cooperation of the power companies are essential. We therefore intend to put forth two proposals relating to RE for discussion with the two power companies in the context of the Interim Reviews of their respective SOC Agreements. We will –

- (i) encourage the power companies to allow and facilitate RE producing organizations/companies (third party) access to the electricity grid; and
- (ii) encourage power companies to take on RE projects themselves or to fund pilot RE projects.

4. We believe that the power companies should be able and willing to respond positively to our above proposals. It has the known trend in many countries to invest in RE and we have a growing awareness of RE in the local community. We encourage the power companies to include more RE sources in their power generation mix in the longer run, within the context of Government's energy policy objectives (see paragraph 7 below). Therefore, more investment and research in RE projects from now on will certainly help the power companies to better prepare themselves for future challenges.

5. In this regard, we are pleased to note that the power companies have taken the initiatives to promote RE. Annex I shows the effort made by the two power companies in allowing third party RE projects to be connected to their grids. Annex II is the list of RE projects they have taken on themselves or provided sponsorship. We will discuss with the companies on how they can provide more assistance and how the Government can complement and support their effort.

6. In the light of the suggestions collected during the recent public consultation exercise on RE and views expressed by Members, we can further refine the scope of the intended discussion on RE as set out above in the Interim Reviews.

The Scheme of Control Agreement and the 2003 Interim Review

7. Reliable, sufficient, safe and efficient supply at reasonable prices is the objective of our energy policy. This objective underlines the Scheme of Control (SOC) Agreements that we have with the two power companies supplying electricity in Hong Kong. If diversification in sources of fuel supply in power generation would enhance reliability and lower the cost to consumers, this will meet our policy objective. Nevertheless, while the power companies have also agreed, pursuant to the SOC to promote the efficient use of energy, it should be noted that under the SOC, any amendments or additions to it have to be mutually

agreed and could only be implemented with the agreement of the power companies.

8. We will have discussions with the two power companies this year pursuant to the arrangement for an interim review provided in the SOC Agreements. The Government plans to raise, inter alia, issues including those relating to environmental considerations during the interim review. It is our intention to take forward the issue of renewable energy with the two power companies.

Members' Advice

9. Members' views on the Government's approach to promote RE in the context of the 2003 Interim Review are welcomed.

Environment, Transport and Works Bureau
Economic Development and Labour Bureau
April 2003

Grid connection by third party RE projects¹

(Information provided by the respective power companies)

CLP Power

- CLP Power’s customers with their own RE generating plants can apply for connection to CLP Power’s electricity grid if they wish to enjoy back up or supplemental power. The grid connection policy is derived on the principles of “No Cross-Subsidization” and “Users Pay”, so that other customers are not adversely affected. The customer’s RE generating plant must be designed to meet CLP Power’s safety and technical requirements so as to ensure that both the power system and the service to other customers will not be impaired.
- Statistics on applications for grid connection

<u>No. of applications</u>	<u>Received</u>	<u>Approved</u>	<u>Rejected</u>	<u>Under Consideration</u>	<u>Total</u>
<u>Capacity</u>					
< 250 kW	11	7	-	4*	11
250 to 750 kW	-	-	-	-	-
Above 750 kW	-	-	-	-	-
<u>Total</u>	11	7	-	4	11
<u>Technology</u>					
PV	11	7	-	4	11
Wind	-	-	-	-	-
Hydro	-	-	-	-	-
Others	-	-	-	-	-
<u>Total</u>	11	7	-	4	11

* The projects are in design stages.

¹ Including RE projects of the Government but **excluding** projects carried out or sponsored by the respective power companies

Hong Kong Electric

- Under the existing Scheme Of Control Agreement and HEC's Supply Rule, there is no provision for grid connection by third party RE projects. HEC will consider application of grid connection by third party RE projects on a case-by-case basis.
- Statistics on applications for grid connection

<u>No. of applications</u>	<u>Received</u>	<u>Approved</u>	<u>Rejected</u>	<u>Under Consideration</u>	<u>Total</u>
<u>Capacity</u>					
< 250 kW	1	*	-	-	1
250 to 750 kW	-	-	-	-	-
Above 750 kW	-	-	-	-	-
<u>Total</u>	1	-	-	-	1
<u>Technology</u>					
PV	1	-	-	-	1
Wind	-	-	-	-	-
Hydro	-	-	-	-	-
Others	-	-	-	-	-
<u>Total</u>	1	-	-	-	1

* The PV project is connected to grid on trial basis for one year by EMSD.

Annex II

RE projects conducted out or sponsored by power companies

(Information provided by the respective power companies)

CLP Power

<u>Project description</u>	<u>Technology</u>	<u>Capacity</u>	<u>Major collaborator</u>	<u>Grid connected</u>
Shek Kwu Chau Hybrid System	PV/Wind	~6kW	CLP	N
Hong Kong School Solar Education Program (Ma Wan School & Kei Wan School)	PV	~40kW	CLP/HKU	Y

Hong Kong Electric

HEC endeavours to support the development and research of renewable energy in Hong Kong.

The Company commissioned Friends of the Earth to conduct a feasibility study and field survey in April 1999, to explore the application of wind power for electricity generation in Hong Kong.

Following a detail site survey and an Environmental Impact Assessment study, two outlying island sites, one on Po Toi and one on Lamma, have been chosen for setting up the wind power monitoring stations. The stations on Po Toi and Lamma were set up and started operation in April and November 2001 respectively.

The data collection for a period of 12 months has been completed. The collected data, including wind speed and wind directions, will be used to build up a wind atlas for assessment of the wind energy potential in the southern part of Hong Kong.

Our next course of action will be to conduct a detail technical and economic feasibility study based on the data collected.

Meanwhile, the Company also sponsored University of Hong Kong to conduct a research project on Building Integrated Photovoltaic Panels, using photovoltaic panels as building components and at the same time generating electricity for powering the services in the building.

<u>Project description</u>	<u>Technology</u>	<u>Capacity</u>	<u>Major collaborator</u>	<u>Grid connected</u>
Building Integrated PV project	PV	4kW	HEC/HKU	*

* Provision for grid connection for research purposes.