

Examination of Estimates of Expenditure 2010-11
**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Reply Serial No.

ENB039

Question Serial No.

1989

Head : 42 – Electrical and Mechanical Services Department Subhead :

Programme : (3) Energy Efficiency and Conservation, and Alternative Energy

Controlling Officer : Director of Electrical and Mechanical Services

Director of Bureau : Secretary for the Environment

Question : On Programme (3), please provide the following information:

- (a) It is planned to implement 175 energy-saving projects in 2010 for government and public bodies, please provide details of these energy-saving projects, manpower and resources involved, and the anticipated energy saving and effectiveness ; and
- (b) details of renewable energy projects and innovative energy efficiency research and development studies implemented for government and public bodies in the past five years (i.e. 2005-06 to 2009-10), and is there any plan for implementing new projects.

Asked by : Hon. HO Sau-lan, Cyd

Reply :

(a) In 2010, 175 energy-saving projects will be implemented for government and public bodies. The scope of these projects include high energy efficiency lighting systems, occupancy lighting controls, LED spot lights, exit signs, energy efficient variable speed drives, energy efficient air conditioning systems, and high energy efficiency motors and pumps etc. The provision for procurement of energy-saving equipment in 2010-11 is \$131.2 million. The incurred workload will be absorbed by the existing manpower. It is estimated that about 18 million kWh would be saved annually when the energy-saving projects are completed for use.

(b) In the past five years, the following renewable energy installations and research and development studies have been implemented:

Renewable Energy Installations

Year	Description of Installations	Venues at which the Renewable Energy Installations have been Provided
2005-06	Renewable energy installations including photovoltaic systems	Electrical and Mechanical Services Department Headquarters, Penny's Bay Fire Station, Penny's Bay Police Post and Princess Margaret Hospital
2006-07	Renewable energy installations including photovoltaic systems	Shek Wu Hui Sewage Treatment Works and Pak Kong Water Treatment Works
2007-08	Renewable energy installations including photovoltaic systems, and solar water heating systems	Airport Police Station, Government Flying Services Headquarters, Kowloon Hospital (Rehabilitation Block), Hong Kong Science Museum, Government House, King's College, Pak Sha Wan Correctional Institution and Electrical and Mechanical Services Department Headquarters

Year	Description of Installations	Venues at which the Renewable Energy Installations have been Provided
2008-09	Renewable energy installations including photovoltaic systems, solar water heating systems and solar lights	Chek Lap Kok Fire Station, Tseung Kwan O Hospital, Hong Kong Museum of Coastal Defence, Hong Kong Museum of Art, Pik Uk Prison, Kowloon Park, Shatin Town Hall (Aviary Garden) and Tuen Mun Town Hall
2009-10	Renewable energy installations including photovoltaic systems, building integrated photovoltaic systems and solar lights	The Prince Philip Dental Hospital, Cloudridge Quarters, Hong Kong Park, Tsim Sha Tsui Promenade, Sai Kung Outdoor Recreation Centre, Kwai Tsing Theatre, Tso Kung Tam Outdoor Recreation Centre and Lady MacLehose Holiday Village

Research and Development Studies

Year	Description of Research and Development Studies
2005-06	<ul style="list-style-type: none"> ● Lighting retrofit technologies ● Solar control window films ● Service-on-demand escalator
2006-07	<ul style="list-style-type: none"> ● Automatic tube cleansing technologies for chillers ● Heat pipe solar water heating system ● Application of brushless DC motor fan coil unit
2007-08	<ul style="list-style-type: none"> ● Dual cycle heat pump system ● Pump control optimisation for air-conditioning system ● Solar-assisted air-conditioning system
2008-09	<ul style="list-style-type: none"> ● Sun tracking photovoltaic system ● Oil-free variable speed compressor chiller ● Refrigerant oil contamination purger
2009-10	<ul style="list-style-type: none"> ● Total hydronic balancing of chilled water circuits ● Heat pipe application in central air-conditioning system ● New energy efficient lighting - ceramic metal halide lamp

For 2010-11, eight renewable energy projects will be implemented, covering photovoltaic panels, wind turbines, solar lights etc. at various schools and amenity venues. There is also a plan to conduct three research and development studies in 2010-11 on electromagnetic induction water treatment technology for air-conditioning plants, scroll compressor technology for air-conditioning systems and new lighting technology for replacing less energy efficient lighting.

Signature _____



Name in block letters _____

Chan Hung-cheung, Stephen

Post Title _____

Director of Electrical and Mechanical Services

Date _____

16 March 2010