

Clean Air Charter

“Every small step taken by each individual to support the clean-air initiatives in our daily lives can help reduce air pollution.”

The Chief Executive, Mr. Donald Tsang



Energy and Emission Management Team

An Energy and Emission Management (EEM) Team was set up in Highways Department in September 2007. Chaired by an Assistant Director with 9 representatives from Regions and other offices, the EEM Team provides support to the implementation of the EEM programme of this department. It is also responsible for the design and implementation of measures to reduce emissions and minimize energy consumption as well as providing training to Highways staff. To facilitate the formulation of energy saving initiatives, the EEM Team has commissioned EMSD to conduct an energy audit covering our offices at Ho Man Tin Government Offices Building in early 2008.

Measures and Achievements of Energy Saving

Energy Saving in Offices

We have continued replacing all T-8 fluorescent tubes with T-5 tubes and maximizing the use of natural lighting and openness in our offices. Further reduction in electricity consumption by means of delamping some of the lamps of the corridors on UG/F to 6/F of the Ho Man Tin Government Offices Building will be implemented in early 2008.

Energy Saving for Public Lighting

In view of the significant electricity consumption of the Public Lighting System, we continued our effort to reduce electricity consumption by improving the efficiency of the street lighting appliances.

In 2007, we have replaced 2,177 nos. of lamps and lanterns by those with lower wattage but higher efficiency. The annual saving of electricity consumption is about 420,000 kWh. The introduction of the trial scheme of replacing 1,026 nos. of electromagnetic ballasts in public road lights with electronic ballasts yielded an annual saving of electricity consumption

of 314,000 kWh. We have also completed the replacement of more than 600 nos. of illuminated subway signs with non-illuminated one resulting in a reduction of 200,000 kWh electricity consumption.

The total annual saving of the electricity consumption generated from the above three measures amounted to 934,000 kWh.

We have reviewed the existing lighting level of some footbridges and found that some may have room for achieving energy efficiency through optimization of the lighting level by installing dimmer (or dimming electronic ballast) while still maintaining the lighting standard. We have planned to install dimmers at 10 footbridges in 2008. If the result is satisfactory, a more comprehensive scheme is to be extended to cover more footbridges.

Energy Saving for Public Transport Interchange Ventilation

We have stipulated the requirement for achieving energy efficiency with respect to ventilation in the Technical Schedule for the design of public transport interchanges (PTI).

To enable natural ventilation and natural lighting, the design of the PTI shall endeavour to achieve a layout with at least two opposite sides of the PTI fully opened to the outdoor ambient without major obstruction, and supplemented with mechanical ventilation if necessary. The entrances and exits for vehicles are also arranged to such locations to enhance movement of air pollutants to avoid their accumulation.

We have also reviewed the performance of the ventilation operation of the PTIs based on the results of air quality measurements conducted by Transport Department. The ventilation system is adjusted to save energy in case the ventilation is over provided.

Renewable Energy Projects

To evaluate the applicability of solar lights for public lighting, trial schemes with installation of 14 nos. solar lights in village / rural areas

were completed in 2007. The estimated annual saving of electricity consumption is 2,800 kWh. Nevertheless, there are limitations such as on the reliability of lighting, high installation costs, need of suitable large open space to receive sunlight. Hence, solar lights are only viable at remote open space where there is less stringent requirement in provision of public lighting.

Energy Saving in Works Projects

We have adopted energy saving equipment in works projects. For instance, under Contract HY/2007/07 – Retrofitting of noise barriers on Tseung Kwan O Road and Contract HY/2007/08 – Retrofitting of Noise Barriers on Tsing Tsuen Bridge at Tsing Yi and Tsuen Wan Approaches, electrical appliances required are those with Energy Efficiency Grade 1 labels under the Energy Efficiency Labeling Scheme.



Air Conditioner which has Energy Efficiency Grade 1, under the Energy Efficiency Labelling Scheme

Measures and Achievements of Air Emission Reduction

Electricity generation accounts for the emission of sulphur dioxide, nitrogen oxides and respirable suspended particulates. Reducing the consumption of electricity through the afore-mentioned energy saving initiatives can directly lead to air emission reduction, hence improving the local air quality.

Reducing the Use of Volatile Organic Compounds

We apply paints to bridge structures to help protect the structure from adverse environmental effect including weathering, chloride, carbonation or sulphate attack; repair the deteriorated paint of the structure; and uplift the appearance of the structure.

We use paints which meet the Volatile Organic Compounds (VOC) limits under the Air Pollution Control (Volatile Organic Compounds) Regulation in Hong Kong. The contents of VOC of all paints used have been controlled under the General Specification Clause 18.16(3) of the new General Specification 2006 which came into effect on 1 September 2007. To be more environmentally friendly, we use water-based paints or solventless paints for land concrete structure wherever conditions permit. All along, we have drawn the attention of our maintenance Terms Contractors about the VOC limits and have impressed upon them that more environmental and low VOC paints should be used as far as possible.

Reducing Air Emission of Vehicles

We have adopted measures in reducing air emission of vehicles including introduction of environmentally friendly Government and contract vehicles. Most of our recent contracts have included provision to use environmentally friendly vehicles. We intend to make it a mandatory requirement that all new works contracts must use environmentally friendly petrol private car type-approved by EPD.



Contract Vehicle which is an environmentally friendly petrol private car model that has been type-approved by EPD