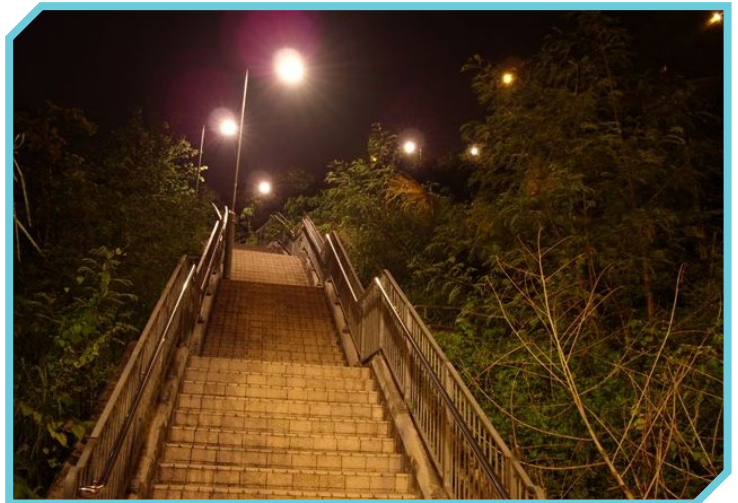




To support the clean air initiatives and help reduce emissions, we are committed to enhancing energy efficiency, and abating air pollution in every aspect of our works.

Energy Saving in Public Lighting

In 2014, we installed dimmable electronic ballasts for 605 nos. of road lights to reduce the illumination level. We also installed 377 nos. of Ceramic Discharge Metal Halide Lamps and 22 nos. of LED road lights for trial. Under these measures, annual energy saving of about 185,000 kWh was achieved. Moreover, we completed the trial use of non-illuminated retro-reflective traffic bollards (NRTB) and the result revealed that each NRTB could reduce energy use of 120 kWh per year and also reduce solid waste as it is more durable than conventional traffic bollard.



Ceramic Discharge Metal Halide Lamps



Non-illuminated Retro-reflective Traffic Bollard



LED Road Lights

The territory-wide public lighting electricity consumption decreased to 133,016,234 kWh in 2014, being 19,259 kWh (0.01%) less than the consumption in 2013. The corresponding reduction in indirect emission was 37 kg of sulphur dioxide (SO₂), 22 kg of nitrogen oxides (NO_x) and 1 kg of respirable suspended particulates (RSP).

Energy Saving in Lift Design

With the implementation of Universal Accessibility Programme, Hillside Escalator Links and Elevator Systems and other highway projects, there will be more than 300 lifts to be installed at public walkways in coming years. This represents more than two-fold increase in the number of lifts in operation.

Energy Saving in Lift Design

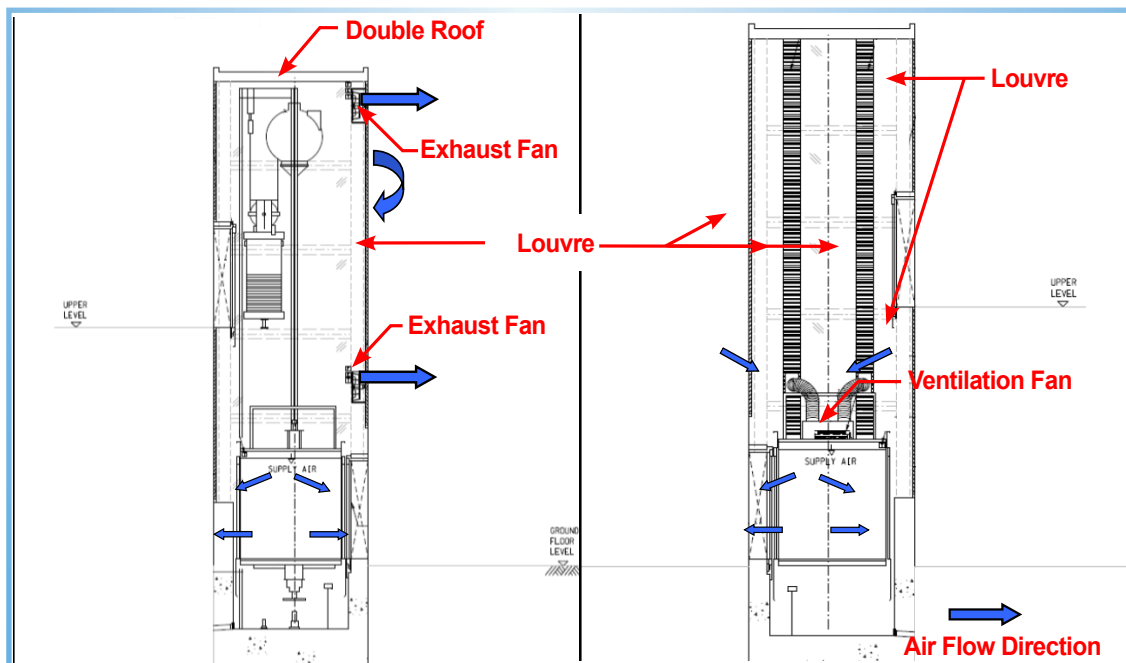
In view of large amount of lifts to be installed, the Highways Department (HyD) and the Electrical and Mechanical Services Department (EMSD) jointly reviewed the lift design in 2014. In line with the Government's policy to protect the environment and conserve energy, we have adopted mechanical ventilation in lieu of air-conditioning in lift installations from June 2014 onwards. The new lift design with mechanical ventilation will reduce energy consumption and carbon emission while maintaining user comfort inside the lifts.



Proposed Lift at the Footbridge across Science Museum Road and Hong Tat Path (Photomontage)



Proposed Lift at the Subway across Lung Cheung Road (Photomontage)



Schematic Diagram of Lift with Mechanical Ventilation

Preliminary assessment reveals that the adoption of mechanical ventilation could save energy consumption of about 6000 kWh/lift/year and carbon emission of 4.8 tonnes/lift/year. The first lift adopting the new design will be completed and opened for public use in end 2015. HyD and EMSD will closely monitor the lift performance upon commissioning and identify possible ways for enhancement.

Lifts adopting the new design will have the following improved features:

- a balanced mix of solid walls for heat insulation and glazed panels for transparency;
- double roof for enhanced shielding against sunshine;
- extended louvres along lift shaft for ventilation and fresh air intake;
- ventilation fans with increased air change rate to maintain user comfort within the lift car; and
- exhaust fans at the lift shaft for hot air removal.

Energy Saving in Office

Electricity consumption in various offices in 2014 with corresponding indirect gas emission figures are as follows :

Offices ¹	Electricity (kWh) [comparison with 2013]	Indirect gas emissions (kg)		
		SO ₂	NO _x	RSP
Ho Man Tin Government Offices	1,061,299 [↓2.6%]	2,027.08	1,231.11	63.68
Nan Fung Commercial Centre	598,721 [↑0.5%]	1,143.56	694.52	35.92
Cheung Sha Wan Plaza	282,135 [↑1.6%]	538.88	327.28	16.93
Skyline Tower	285,618 [↓5.3%]	545.53	331.32	17.14
Total	2,227,773 [↓1.6%]			

Energy Saving Measures

The following measures have been promulgated to enhance energy saving in offices:

- appoint Energy Wardens in every office/ division to monitor the usage of light and to keep the illumination level to the acceptable minimum level;
- review the illumination level arising from the change of room use;
- maintain air-conditioning not lower than 25.5°C in hot seasons;
- switch off lights during lunch and when staff are away for long hours;
- switch off computer equipment and electric appliances when not in use;
- encourage the use of staircase for inter-floor traffic;
- use automatic low flow water taps in toilets; and
- monitor the electricity consumption of different floors by individual meters installed on each floor of HMTGO.

green driving habits. We have adopted an electrical car which greatly reduced greenhouse gas emission to zero. Together with the earlier introduction of two hybrid vehicles in 2011, the travel distance covered per litre of petrol consumed had increased from 17 km in December 2013 to 21 km in December 2014. Furthermore, following the procurement of the environmentally friendly vehicles approved by the Environmental Protection Department for all saloon type contract vehicles for all new major works contracts, we have also started adopting these types of contract cars extensively in our road maintenance term contracts.

Special Measures to Cope With the Air Quality

To increase staff awareness on air quality, we issued email reminders to our staff when the Air Quality Health Index (AQHI) reached or was forecasted to reach the “very high” or “serious” health risk categories. A set of precautionary measures for front-line staff and their supervisors was also attached to the reminders. The guidelines covered assessment of risk of outdoor work for workers performing heavy manual works and measures taken to reduce outdoor physical exertion and time of staying outdoor, especially with areas with heavy traffic.

Contribution to the Air Quality

Environmentally Friendly Vehicles

We have been striving to reduce greenhouse gas emission of vehicles through the use of environmentally friendly vehicles and promulgation of internal guidelines to remind motor drivers of the

Indoor Air Quality Certification

The indoor air measurement was conducted by the Electrical and Mechanical Services Department in September 2014. Ho Man Tin Government Offices (HMTGO) was awarded the “Good Class” Indoor Air Quality Certificate for 2014. The indoor air quality of HMTGO has been fully complied with the Good Class of the Indoor Air Quality Objectives since 2003.

¹ Only offices of the Highways Department with individual electricity metres installed are included.