

Chapter 7

Environmental Performance

Highways Department set clear objectives and targets in our environmental management plan every year. We are pleased to conclude that most of our targets for 2012 were satisfactorily met. With this encouragement, we look forward to more research initiatives and green measures in 2013 for the protection of the environment.



Awards

Hong Kong Flower Show 2012



In order to commemorate the establishment of Highways Department for 25 years since 1986, "Road" was used as the design theme for our floral display in Hong Kong Flower Show 2012. There were two main pathways in our display. One of them, in the form of a vehicular road, had display panels of major road works projects at different intervals to demonstrate the role and contribution of Highways Department. The other pathway, in the form of a meandering railway track, resembles the continuous development of railway networks in Hong Kong.

Commonly used road works materials, such as water barriers, traffic cones, pre-cast concrete footings, etc., form the basic building blocks of the display. Most of these materials could be reused after the Show to signify environmental protection awareness. Through design and decoration, these materials became bold, interesting and unique design elements of the display; and HyD was honoured to receive the 'Grand Award for Design Excellence (Landscape Display)'.

Outstanding Environmental Management and Performance Award (OEMPA) and Considerate Contractors Site Award (CCSA)

Development Bureau organized the Considerate Contractors Site Awards (CCSA) Scheme to recognize construction sites with good site safety and environmental performance and considerate attitude towards the neighborhood and the public. In 2012, our construction sites received six CCSA and five OEMPA awards, including two Gold and two Silver Prizes from CCSA – New Works Contracts & CCSA - Repair, Maintenance, Alteration and Addition (RMAA) Contracts, and one Gold and one Bronze Prizes from OEMPA.

Contract No.	Contract Title	Prize
New Works		
HY/2009/18	Central - Wan Chai Bypass - Central Interchange	CCSA Gold and OEMPA Gold
HY/2009/15	Central - Wan Chai Bypass - Tunnel (Causeway Bay Typhoon Shelter Section)	CCSA Silver and OEMPA Bronze
HY/2007/10	Reconstruction and Improvement of Tuen Mun Road – Tai Lam Section	CCSA Silver and OEMPA Merit
HY/2008/12	Bus-Bus Interchanges on Tuen Mun Road	CCSA Merit and OEMPA Merit
Repair, Maintenance, Alteration and Addition (RMAA) Works		
20/HY/2004	Highways Department Term Management Contract (Maintenance of High Speed Roads in New Territories East and Hong Kong Island 2005-2013)	CCSA Gold
01/HY/2009	Management, Operation, Installation and Maintenance of the Public Lighting System in Hong Kong Island and Lamma Island (2009 - 2013)	CCSA Bronze and OEMPA Merit



Display board for Contract number 20/HY/2004 "Highways Department Term Management Contract (Maintenance of High Speed Roads in New Territories East and Hong Kong Island 2005-2013)", winner of CCSA(RMAA Works) Gold Prize



Display board for Contract number HY/2009/18 "Central-Wan Chai Bypass – Central Interchange", winner of CCSA (New Works) and OEMPA Gold Prizes

Environmental Objectives and Targets

Achievement in 2012

Objectives	Target	Achievement
Reducing the energy consumption in public lighting	To install 2,000 electronic ballasts for road lighting territory wise	Target mostly achieved; 1983 nos. of electronic ballasts were installed in 2012.
Saving 5% electricity consumption in HMTGO by 2014 (Comparing with the baseline electricity consumption in 2009)	As the target for 2011 has not been achieved, we shall continue to work with the GPA and the ASD for: (a) Installing 10 sets of motion sensors in carparking area; and (b) Replacing 60 nos. of fluorescent lighting by dual lighting fittings with motion sensors in staircases.	Resources are being sought from the GPA and the ASD. The installation works are targeted to be carried out in 2013.
Adopting measures in water conservation	To continue installing dual-flush toilets, automatic low flow water taps and sensor type urinals in the toilets of HMTGO	Due to the completion of term contract of the ASD, the toilet refurbishment works were suspended in 2012. The next toilet refurbishment works are scheduled to commence in 2013.
Improving indoor air quality	To continue upkeeping the indoor air quality at or above the level of "Good Class" in HMTGO	Target achieved: Air measurement was conducted by the Electrical and Mechanical Services Department in 2012. HMTGO was awarded the Indoor Air Quality Certificate (Good Class).
Carrying out carbon audit for tracking the effectiveness of Green House Gas (GHG) reduction	To continue carrying out carbon audit twice per year for tracking the effectiveness of GHG reduction	Target achieved: Two carbon audits were arranged by the Building Management Office of HMTGO in 2012.
Encouraging the use of recycled paper in the Department	To raise the percentage usage of recycled paper from 95% to 96% of the total consumption	Target achieved: 19,029 reams of paper were consumed in 2012 of which 18,349 reams (96.43%) were recycled paper.
Setting target in reducing photocopying paper consumption	To maintain the consumption of photocopying paper at a level not exceeding the consumption level of 2011	Target achieved: 19,029 reams of paper were consumed in 2012. Comparing with 20,357 reams of paper consumed in 2011, a saving of 6.52% in paper consumption was achieved.
Promoting the wider use of recycled materials	(a) To introduce the use of reclaimed asphalt pavement (RAP) in bituminous pavement construction in more contracts progressively; and (b) to introduce the use of synthetic channel grating consisting of non-metallic recycled materials in the new road maintenance contracts	(a) Target achieved: Use of RAP has been specified in one new road maintenance contract scheduled to be commenced in April 2013; and (b) Target achieved: Synthetic channel grating has been included in road maintenance contracts since 2012.
Planting trees and shrubs	To plant 156,000 trees/shrubs in capital works contracts	Target achieved: 218,978 trees/shrubs have been planted.
Adopting site office equipment with energy saving label	To use site office equipment with energy saving labels in all new major works contracts	Target achieved: All 5 new major works contracts tendered in 2012 have adopted energy saving site office equipment.
Procuring environmentally friendly contract vehicle	To procure environmentally-friendly private car model approved by EPD for saloon type contract vehicle in each of the new major works contracts	Target achieved: All 5 new major works contracts tendered in 2012 have procured environmentally friendly contract vehicles.
Reducing dust emission	To include a particular specification clause for dust suppression in all new major works contracts	Target achieved: All 5 new major works contracts tendered in 2012 have included the dust suppression particular specification.
Adopting energy efficient features and renewable energy technologies	(a) To adopt energy efficient features and renewable energy technologies in all capital works projects of MWPMO and HZMB-HKPMO with consultancy agreement tendered during the calendar year of 2012; and (b) to conduct carbon audit to assess the carbon footprint of the road projects of MWPMO and HZMB-HKPMO during feasibility and design stages with a view to providing recommendations for appropriate compensatory / mitigation measures.	Target achieved: All 5 new consultancy agreements tendered in 2012 have included relevant requirements for the consultants to produce a separate study report on both items.
Green Roof and Green Wall at the Engineer's Site Office	To include a particular specification clause for construction of Green Roof and Green Wall at the Engineer's Site Office which is exposed in sunlight in selected major works contracts of MWPMO and HZMB-HKPMO tendered during the calendar year of 2012.	Target achieved: 3 new major works contracts tendered in 2012 have been selected to include relevant particular specification clause for construction of green wall and green roof.

Looking Ahead for 2013

Objectives	Target
Reducing the energy consumption in public lighting	To install dimmers for the lighting system at footbridges
Saving 5% electricity consumption in HMTGO by 2014 (Comparing with the baseline electricity consumption in 2009)	As the target for 2012 has not been achieved, we shall continue to work with the GPA and the ASD for: (a) Installing 10 sets of motion sensors in carparking area; and (b) Replacing 60 nos. of fluorescent lighting by dual lighting fittings with motion sensors in staircases.
Adopting measures in water conservation	To continue installing dual-flush toilets, automatic low flow water taps and sensor type urinals in the toilets of HMTGO when they are refurbished.
Improving indoor air quality	To continue upkeeping the indoor air quality at or above the level of "Good Class" in HMTGO
Carrying out carbon audit for tracking the effectiveness of Green House Gas (GHG) reduction	To continue carrying out carbon audit twice per year for tracking the effectiveness of GHG reduction
Encouraging the use of recycled paper in the Department	To maintain the percentage usage of recycled paper not less than 96% of the total consumption
Setting target in reducing photocopying paper consumption	To maintain the consumption of photocopying paper at a level not exceeding the consumption level of 2012
Promoting the wider use of recycled materials	To introduce the use of the following construction materials/methods in more maintenance contracts progressively: (a) Reclaimed Asphalt Pavement in bituminous pavement construction; and (b) Thermal Patcher for appropriate scale resurfacing.
Planting trees and shrubs	To plant 200,000 trees/shrubs in capital works contracts
Adopting site office equipment with energy saving label	To use site office equipment with energy saving labels in all new major works contracts
Procuring environmentally-friendly contract vehicle	To procure environmentally-friendly private car model approved by EPD for saloon type contract vehicle in each of the new major works contracts
Reducing dust emission	To include a particular specification clause for dust suppression in all new major works contracts
Adopting energy efficient features and renewable energy technologies	(a) To adopt energy efficient features and renewable energy technologies; and (b) to conduct carbon audit to assess the carbon footprint of the road projects (with a view to providing recommendations for appropriate compensatory / mitigation measures) in the appropriate consultancy agreements for capital works projects of MWPMO and HZMB-HKPMO tendered during the calendar year of 2013.
Green Roof and Green Wall at the Engineer's Site Office	To include a particular specification clause for construction of Green Roof and Green Wall at the Engineer's Site Office which is exposed in sunlight in major works contracts of MWPMO and HZMB-HKPMO tendered during the calendar year of 2013.

Hoping that this report could provide you with a glimpse of our dedication and efforts in environmental protection. Should you have any comment to our work, please share with us your views through our homepage on the Internet (address: <http://www.hyd.gov.hk>). Thank you for reading this publication.