Enhancing **Quality** of Life

The Group is committed to delivering quality service by incorporating sustainable practices in our daily operations for the benefit of all the communities we serve, as well as our employees and the environment.

Care for the Environment

The Group is committed to building a better environment through continuous contributions to environmental preservation. As a major provider of public transport services, we recognise the potential environmental impacts associated with our services and are dedicated to mitigating and minimising these impacts in four main areas: environment-friendly buses, green use of consumables, environmental waste treatment and green premises. Our initiatives in environmental protection have been recognised by the Hong Kong Q-Mark Council in the form of Green Mark Certification.

Q-MARK COUNCIL RECOGNITION FOR KMB'S ENVIRONMENTAL MANAGEMENT

In 2010, KMB was recertified with Green Mark Certification by the Q-Mark Council of the Federation of Hong Kong Industries for the period from 1 May 2010 to 30 April 2013. The certification recognises that the delivery of franchised bus services and the repair and maintenance of buses at KMB's four main depots at Kowloon Bay, Lai Chi Kok, Sha Tin and Tuen Mun meet the prescribed standards under the Hong Kong Green Mark Certification Scheme. KMB is the first listed public transport organisation to receive this certification. KMB is subject to quarterly surveillance audits to ensure that the stringent environmental management standards are maintained throughout each certification period.

ENVIRONMENT-FRIENDLY BUSES

Continuous upgrades are made to the KMB and LWB fleets to ensure they comply with all the relevant environmental standards. New buses introduced to our fleets generally have environmental performances far exceeding the requirements in Hong Kong, making the Group an industry leader through the adoption of innovative technologies and equipment that improves environmental performance.

Euro IV and Euro V Engines

Between 2006 and 2008, we introduced two types of Euro IV engines with different emission control technologies to the KMB bus fleet so that we could evaluate and assess their performance and environmental effectiveness. The two types of Euro IV engine technologies are the Selective Catalytic Reduction ("SCR") and Exhaust Gas Recirculation ("EGR") technologies, which are set to become the basic specification for KMB's newly purchased buses. In early 2009, on KMB's initiative, one of the Euro IV prototypes was re-powered to be Euro V compliant, making this bus the first double-decker in Asia to be equipped with the newest generation of the green engine. Compared to Euro III engines, Euro IV and Euro V engines can reduce emissions of nitrogen oxides and particulates by 30% and 80% respectively. We began to order new buses equipped exclusively with Euro V engines in mid 2009.

New buses introduced to our fleets generally have environmental performances far exceeding the requirements in Hong Kong, making the Group an industry leader through the adoption of innovative technologies and equipment that improves environmental performance.

At the end of 2010, 97 KMB buses and 32 LWB buses were equipped with Euro IV engines and 89 KMB buses were equipped with Euro V engines. In addition, 294 buses in the fleets of the Group's Non-franchised Transport Operations Division, comprising the SBH Group and New Hong Kong Bus Company Limited, are equipped with Euro III, Euro IV or Euro V engines.

Green Fleet

In 2010, KMB and LWB respectively completed the installation programme of Diesel Particulate Filters ("DPFs") on 869 and 49 Euro II and Euro III buses, bringing their exhaust emission levels to Euro IV/V standards in terms of particulate matter.

At the end of 2010, KMB and LWB had a total of 3,988 buses, all of them meeting the strict exhaust emission standards of the European Council of Environmental Ministers. This included 97 buses with pre-Euro engines and 932 buses with Euro I engines equipped with catalytic converters, bringing their exhaust emissions up to the standards of Euro I and Euro II engines respectively in terms of particulate matter; 2,503 Euro II and Euro III buses fitted with DPFs and/or Exhaust Gas Recirculation devices, raising their exhaust emission levels to Euro IV/V standards in terms of particulate matter; 188 Euro II buses; 50 Euro III buses; 129 Euro IV buses; and 89 Euro V buses. The average particulate emission levels of the entire KMB bus fleet had been reduced by 90.4% compared with 1992.

As at 31 December 2010, the number of KMB and LWB buses that met the respective emission standards was as follows:

Emission Level (in terms of particulate matter)	Number of buses meeting each level KMB	LWB	Total
Euro I	97	–	97
Euro II	1,120	–	1,120
Euro III	50	–	50
Euro IV/V	2,555	166	2,721
Total	**3,822**	**166**	**3,988**

At the end of 2010, more than 68% of KMB and LWB buses met Euro IV/V standards for exhaust emissions in terms of particulate matter.

GREEN USE OF CONSUMABLES

Near Zero Sulphur Diesel

Since 2009, Near Zero Sulphur Diesel ("NZSD"), which contains only 0.001% sulphur, has been adopted fleetwise on all KMB and LWB buses. NZSD significantly reduces the exhaust emission levels of sulphur oxides, nitrous oxides and particulates, thereby contributing to a healthier environment. Prior to that, since 2001, KMB and LWB bus fleets were already using ultra-low sulphur diesel ("ULSD"), containing only 0.005% sulphur.

Synthetic Transmission Oil

Synthetic transmission oil was introduced in 2001 and extended to all KMB and LWB double-deck buses in 2005. The result is an 80% reduction in waste oil and an oil drain interval increased from 30,000 to 150,000 kilometres.

Eco-Driveline System

The Eco-Driveline System has been a standard feature on all our new buses since its introduction in 2003. The Eco-Driveline System reduces fuel consumption by integrating a high-torque engine, a six-speed double-overdrive automatic gearbox controlled by a sophisticated gear-shift programme and an optimised final drive. The system allows a 6-10% improvement in fuel consumption and emissions compared with conventional drivelines.

Foam-element Air Filters

KMB and LWB are progressively replacing traditional paper-element air filters with high performance foam-element air filters, which have an average life span of about 12 months, six times longer than that of conventional paper filters. While maintaining the operating performance of our buses, the use of foam-element air filters significantly reduces the amount of solid waste requiring disposal.

Variable Capacity Air-conditioning Compressor

All KMB buses ordered after 2008 are equipped with the power-saving variable capacity air-conditioning compressor. Extensively tested since 2005, the system provides better adaptive and refined thermal control in the bus compartment in the most fuel-efficient manner, coping well with the dynamic urban operating environment in all weather conditions.

Tyre Retreading and Recycling

KMB retreaded 30,700 used tyres in 2010 at its retreading workshop, bringing the total number of tyres retreaded since the retreading workshop opened in 1972 to more than 690,000. The life of a new bus tyre, which can typically be used for seven months, can be extended by up to two years through retreading, as each tyre can typically be retreaded several times. Extending the life of a bus tyre through retreading is not only cost effective, but it is also environment-friendly, reducing the amount of industrial waste. In 2010, more than 18,000 scrapped tyres, which would otherwise have been disposed of at Government landfills, and over 190 tonnes of tyre chips were collected by a recycling agent and recycled into various rubber products.

ENVIRONMENTAL WASTE TREATMENT

In recognition of our achievements in environmental preservation, KMB was once again granted the "Class of Excellence" WasteWi$e Label by the Environmental Campaign Committee in 2010. During the year, excellent results were achieved in waste reduction and recycling in our daily operations, from waste paper and plastic cartridges used in fax machines and printers to rechargeable batteries and fluorescent tubes.

To reduce the amount of solid waste needing disposal, KMB implemented a company-wide waste reduction programme. Since 2009, around 1,150 kilograms of print circuit boards, which would formerly have been disposed of at Government landfills, have been collected for recycling by a recycling agent.

KMB retreads tyres for environmental preservation

KMB pioneers fully electric bus services in Hong Kong with the trial of the zero-emission gBus

Waste Oil and Chemical Waste

Waste oil from bus maintenance sites is collected by a registered waste oil recycling agent that handles the subsequent recycling or disposal processes in accordance with the statutory standards. The solid chemical waste is initially treated and stored by type in special areas at bus depots and then disposed of by a registered chemical waste collector at the Government's Chemical Waste Treatment Centre. In 2010, around 778,000 litres of waste oil and 329,000 kilograms of solid chemical waste were collected.

Waste Water

KMB's depots are equipped with a total of 11 automatic waste water treatment systems with a daily treatment capacity of 640 cubic metres. Chemicals are added to separate solid impurities and pollutants from the waste water that is produced during the daily operations of the depots. The impurities are disposed of in a landfill and the treated waste water is discharged into the public drainage system.

Self-developed Filter Compressing Machine

With the introduction of the Filter Compressing Machine at KMB's Sha Tin Depot in 2005, the volume of solid chemical waste in the form of disposed fuel or oil filters has been reduced by 60%. The machine also allows for recycling of the waste oil squeezed from the filters during the compressing process. The machine won a Certificate of Merit for Green Innovative Practice in the 2006 Hong Kong Eco-Business Awards.

Fluorescent Tubes

In 2006, KMB became the first enterprise in Hong Kong to participate in the fluorescent tube recycling campaign, thus contributing to the reduction of the impact of solid waste on the environment. In 2010, approximately 95,000 used fluorescent tubes were sent to the Government's Chemical Waste Treatment Centre for recycling, bringing the total number of used tubes collected by KMB since it began participating in the recycling campaign to around 385,000. In 2009, KMB carried out a pilot scheme at Sha Tin Depot, replacing high bay lamps with long-life energy-saving fluorescent tubes. This has resulted in a 12% saving in electricity consumption. KMB plans to extend this scheme to other premises as part of its dedication to viable environment-friendly measures.

In 2010, approximately 95,000 used fluorescent tubes were sent to the Government's Chemical Waste Treatment Centre for recycling, bringing the total number of used tubes collected by KMB since it began participating in the recycling campaign to around 385,000.

GREEN PREMISES

All KMB and LWB depots are equipped with dedicated green facilities for energy conservation, including waste water treatment systems, water recycling facilities and environment-friendly fire service systems. Energy-saving features are also built into the lighting, air-conditioning and ventilation systems. Air sampling is conducted regularly in depot areas to ensure a healthy work environment.

At the Group's Lai Chi Kok headquarters, the Green Office concept informs the design, refurbishment and practices of the premises. Pre-set timers switch off lights when they are not needed or when natural light is sufficient, and air-conditioning thermostats set to 25.5°C conserve energy and benefit air quality in support of the Government's Action Blue Sky Campaign.

EXPLORING ZERO- AND LOW-EMISSION BUS TECHNOLOGIES

2010 was a busy year for KMB in terms of exploring and trialling new bus technologies. We introduced the zero-emission supercapacitor bus (or "gBus") for several months of trials, during which a satisfactory return of 3.3 kilometres per charge was achieved. All who have test ridden the gBus at our Lai Chi Kok Depot, including representatives from the HKSAR Government, political parties and green groups, have shown a keen interest in exploring the bus's deployment potential. We are working closely with our suppliers and the HKSAR Government in order to take the gBus to the next, wider level of implementation.

In addition, we are exploring other zero-emission technologies, including the battery-electric bus, which has made promising breakthroughs in extending its operating range. We are also planning to introduce diesel-electric hybrid double-deck buses with the funding support of the HKSAR Government.

We will continue to work with the HKSAR Government to explore the feasibility of implementing green bus technologies in areas that are especially suited to such services, such as the Kai Tak Redevelopment in Kowloon. With zero-emission buses being more operationally flexible and requiring significantly less capital investment than other zero-emission mass transport solutions such as railways, we will continue to work closely with our manufacturers and suppliers to develop zero-emission buses for Hong Kong's unique operating environment.