

»»» Care for the Environment

Our eco-friendly bus fleets are driving us into a new era.





To make a step forward to green public transport development, KMB has introduced gBus to its bus fleet for better protection of the environment

Environmental Policy

KMB and LWB recognise the potential environmental impacts of bus services and are committed to mitigating and minimising these impacts in the following ways:

- Preventing pollution and continually improving our environmental performance by establishing and achieving objectives and targets;
- Conserving resources by reducing waste at source, and recycling and reusing resources;
- Minimising and controlling emissions from buses by adopting control measures and providing professional bus repair and maintenance services;
- Enhancing staff environmental awareness by providing training in line with our environmental policy and environmental objectives and targets, as well as in relation to the potential environmental impacts arising from our operations;
- Communicating our environmental policy and environmental requirements to our suppliers, and making the policy available to the public;
- Responding to environmental enquiries from stakeholders promptly and ensuring effective communication on environmental issues internally; and
- Ensuring compliance with all applicable local environmental legislation and other relevant requirements.

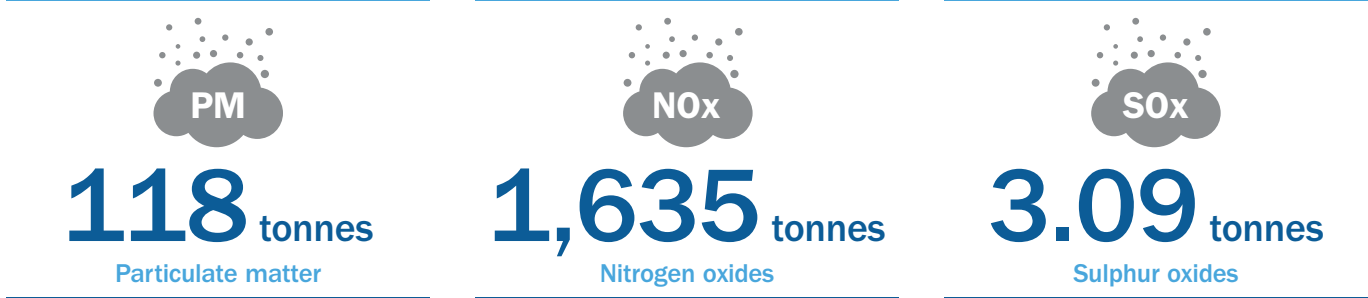


The solar panels installed on double-decker help reduce the temperature of the compartments

Environmental Management

KMB has been ISO14001 certified for its Environmental Management Systems for the two largest depots. KMB's four major depots and LWB's depot are subject to quarterly surveillance audits to ensure compliance with a set of stringent environmental management standards. Environmental working groups have been set up to handle environmental issues and ensure the implementation of the ISO systems. Under the guidance of senior management, the Engineering Team is introducing new and innovative technologies applicable to both bus fleets and bus operations.

Emissions Reduction



Environmental Bus Fleet

We are committed to creating a better environment and minimising the climate-related impacts by investing in eco-friendly buses that meet the strict exhaust emission standards of the European Council of Environmental Ministers. At the end of 2020, there were 442 Euro VI buses (including three Euro VI diesel-electric hybrid buses), 2,846 Euro V buses, ten battery-electric buses and eight supercapacitor buses in the KMB fleet, and 209 Euro V buses and four battery-electric buses in the LWB fleet. In collaboration with our suppliers, we have been replacing older bus models with the latest, more energy-efficient bus models to enhance the endurance and environmental performance of our bus fleets to achieve “zero emission” on the road. The average age of the KMB bus fleet has become 6.60 years, while that of LWB has become 6.04 years.



To strive for eBus development, KMB has set up electricity-recharging facilities at main depots

Exploring Renewable Energy and Zero-emission Bus Technologies

KMB and LWB strive to improve environmental performance by exploring various renewable energy and zero-emission technologies, which shows KMB and LWB’s determination to introduce green public transport in Hong Kong.

- KMB has introduced some double-deckers with solar panels to its fleet. The system reduces the air temperature in the compartment by around 8-10°C compared to a bus without such a system;
- KMB and LWB are exploring the use of an electric bus (“eBus”) with a 324 kWh Lithium Iron Phosphate battery power pack capable of delivering 200km of zero-emission bus transport; and
- KMB has introduced the “gBus”, the supercapacitor-powered 12-metre air-conditioned single deck bus. The gBus is characterised by long working hours and frequent start-stop duty cycles, as the supercapacitor can be recharged more quickly and undertake many more charging/ discharging cycles. The gBus can be powered up by an overhead pantograph or a plug-type charging port in the depot.

Checks on CO₂ Concentration

Each year, 80 KMB buses and 15 LWB buses from passenger-intensive bus routes are selected for a data logger measurement of indoor CO₂ concentration. Our buses generally demonstrate compliance with the requirement.

Greenhouse Gas Emissions

KMB and LWB seek to minimise their greenhouse gas emissions through the judicious application of the latest technologies and relevant measures.

Emissions Reduction

KMB and LWB adopt the latest technologies to reduce roadside emissions and maintain good air quality in bus compartments. We have a number of measures including using Near Zero Sulphur Diesel, renewing the models and upgrades older buses by retrofitting exhaust treatment devices, such as Diesel Oxidation Catalysts, Diesel Particulate Filters, and Selective Catalytic Reduction units, to meet the high standards of exhaust emission laid down by the European Council of Environmental Ministers.

As part of our commitment to conserving the environment, KMB and LWB are investing in upgrading the environmental performance of the bus fleets and the patrol cars as well. KMB and LWB have introduced twenty electric patrol cars for back-up support and have set up electricity-recharging facilities at the main depots.

Consumption and Waste

KMB and LWB take all practicable measures to reduce precious resources consumption and streamline waste disposal procedures. We aim to handle and dispose of all materials in compliance with present laws and regulations and in a responsible manner without creating risks to human health or the environment.

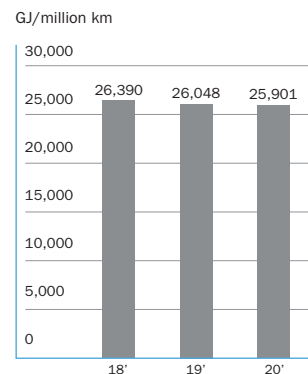


Twenty electric patrol cars are introduced to KMB and LWB's fleets for back-up support



KMB and LWB's aircraft-style fuel filling system prevents spillage

Total Diesel Oil Consumption of KMB & LWB



More than 300 solar panels have been installed on Tuen Mun Depot's rooftop for promoting the application of renewable energy



With the environmental-friendly design, the automatic waste water treatment systems properly treat effluents

Energy Consumption

To reduce fuel consumption, a number of measures have been adopted on the KMB and LWB bus fleets and across its operations:

- The aircraft-style "Posilock" fuel filling system is used to refuel buses;
- Ambient sensors are installed on air-conditioned buses to save energy by reducing unnecessary cooling;
- The use of synthetic gearbox oil extends the oil drain interval from 30,000 to 150,000 km, reducing waste oil by 80%; and
- The mileage-based oil change scheme brings about a 40% reduction in engine oil consumption and waste oil.

Electricity Consumption

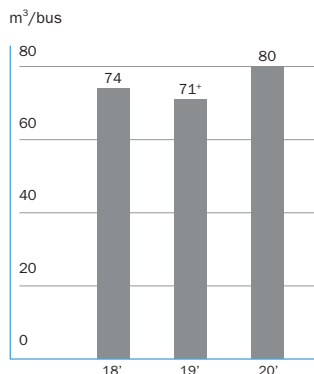
We continue to explore environment-friendly initiatives and invested in the latest technologies to minimise energy use and reduce greenhouse gas emissions. Over 600 fluorescent tubes, flood lights and spot lights were switched off in the main depots. After the implementation of these saving measures, the depots reduce its total electricity consumption by around 6%, we have re-arranged the operation period of the air-conditioning units at depots, which has reduced the electricity consumption in that depot by around 2%.

Through cooperation with a power company, a Solar Photovoltaic System consisting of more than 300 solar power panels has been installed on the roof of the Tuen Mun Depot. KMB will gradually introduce the system in major and satellite depots to strengthen the application of renewable energy and reduce greenhouse gas emissions.

Water Consumption and Waste Water Treatment

KMB and LWB as responsible corporate citizens are committed to reducing water consumption and properly treating effluents before discharge. Our depots are equipped with 10 automatic waste water treatment systems handling 400 cubic metres per day. The water used for bus washing was collected and recycled, bringing a reduction in total water consumption at depots of around 4%. However, owing to the COVID-19 pandemic, the total water consumption increased by 9.86% compared to 2019.

Total Water Consumption of KMB & LWB[#]



[#] The Water Consumption in all KMB and LWB premises, excluding tenants, were taken in account

⁺ Refer to GRI Standards 102-48, Restatements of information

Waste Generation

KMB and LWB are committed to good waste management through responsible storage and disposal of waste, recycling and reusing resources whenever feasible. Significant types of waste generated in our operations are reported as follows:

Tyres

Used KMB and LWB tyres were retreaded by KMB's appointed contractors.

Fluorescent Tubes

KMB and LWB sent used fluorescent tubes to the government's Chemical Waste Treatment Centre for recycling.

Oil and Chemicals

The solid chemical waste were treated and stored by type in designated areas at bus depots before being disposed of by a registered chemical waste collector at the government's Chemical Waste Treatment Centre and waste oil were recycled or disposed of in accordance with the statutory standards.

Batteries were disposed of by a licensed contractor in compliance with Environmental Protection Department ("EPD") instructions, including some which were exported to overseas facilities approved by the EPD under the Basel Convention.

Metals

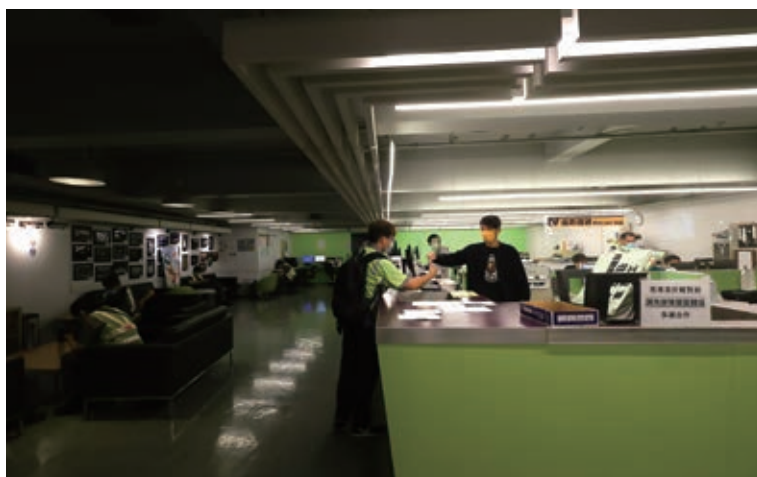
KMB and LWB sent waste metals to recycling companies.

Green Measures in the Office

The Green Office concept drives both the design and the renovation of our premises. The air-conditioning thermostats are set to 25.5°C to conserve energy and protect air quality in line with the government's Action Blue Sky Campaign. Operating hours have also been re-arranged to reduce energy waste during non-office hours. Higher efficiency air conditioning units are installed in all newly renovated office. Lower-energy LED lighting is used on the ceilings of depots and in the common areas of our headquarters building, including the main lobby, to reduce electricity consumption and the demand for air-conditioning.



Used tyres were retreaded by appointed contractors



KMB and LWB have continually implemented several measures in depots and offices to reduce electricity consumption