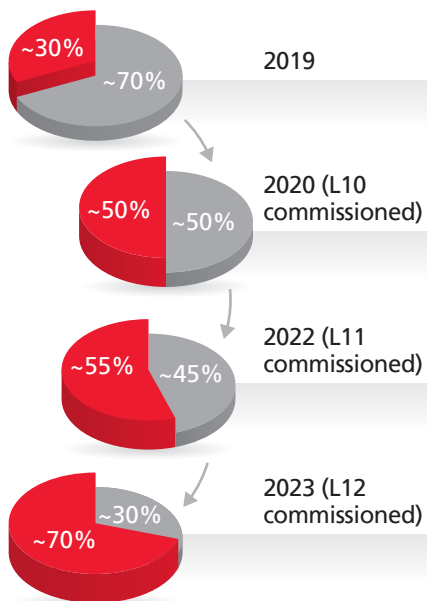




### Increase in the Use of Natural Gas in Electricity Generation

■ Gas ■ Coal



(Based on GWh sent out)

## 8. Environmental Performance

### 8.1. Environmental Governance

HK Electric is committed to protecting the environment and supporting sustainable development. While the Corporate Social Responsibility Committee steers the Company's work on sustainable development, the Environment Committee ensures that our operations adhere to the Company's Environmental Policy and comply with all applicable laws and regulations. With continuous improvement in mind, HK Electric's comprehensive environmental and energy management systems follow international standards ISO 14001 and ISO 50001 respectively.

### 8.2. Cleaner Fuels

Coal and natural gas are practically the exclusive fuels used at LPS. A small amount of oil is used, mainly for starting and flame stabilisation of coal-fired units. Meanwhile, low-sulphur coal (sulphur content less than 0.15% and less ash content) has been used to help reduce sulphur dioxide and particulates emissions. In 2019, about 29% of our coal-purchasing portfolio was low-sulphur coal.

To reduce emissions and combat climate change, we have progressively increased the use of natural gas to generate electricity and reduced coal consumption. We expect that gas-fired generation will account for around 50% of our total electricity output in 2020. The three new gas-fired combined-cycle units, L10-L12 commissioned or to be commissioned in 2020-2023, will feature advanced efficiency-enhancing technology, and are anticipated to produce about 50% fewer carbon emissions than the existing coal-fired units. They will also be equipped with Selective Catalytic Reduction Systems that can reduce emissions of nitrogen oxides by about 90%.

With the commissioning of the three new units by 2023, HK Electric will increase the total gas-fired generation ratio to around 70%.

### 8.3. Emissions Reduction

With the use of cleaner fuels and state-of-the-art technology, HK Electric has made solid progress in reducing the emissions from its electricity generation process over the years. In 2019, we continued to comply with all emissions allowances specified by the Government and recorded reductions in sulphur dioxide, nitrogen oxides and respirable suspended particulates compared to 2018, while maintaining a similar carbon emissions level (Figure 6).

## 8.4. Sustainable Development Goals

We support the United Nations' 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs), which aim to end poverty, protect the planet, and ensure peace and prosperity for all people by 2030.

In 2019, we engaged an independent consultant to help us develop a set of internal targets corresponding to three SDGs that are closely aligned with our corporate strategies and business priorities, namely, Affordable and Clean Energy (Goal 7), Industry, Innovation and Infrastructure (Goal 9), and Climate Action (Goal 13).

## 8.5. 4R and In-house Green Initiatives

As part of our Environmental Policy, we follow "4R" practices – Reduce, Reuse, Recover and Recycle – to minimise the consumption of valuable resources, such as energy, water and paper, as well as to reduce waste. We set energy saving targets for our main office premises and look for energy saving opportunities through carbon and energy audits. At LPS, our "rain and used water collection system" collects more than 100,000m<sup>3</sup> of water every year and helps cut down the amount of raw water consumption and waste water discharge.

Ash and gypsum, which are by-products of our electricity generation process, are collected for industrial use and waste oil is recycled as far as possible through licensed contractors.

We are also mindful of reducing food waste from our canteens. We encourage our colleagues to order their meals in advance and facilitate flexible serving size according to demand in order to minimise leftovers. We donate surplus food to the needy through Food Angel, an NGO in Hong Kong. For any remaining food waste, we encourage waste separation and use food waste eliminators to minimise the disposal volume. Our efforts in 2019 resulted in 14.3% reduction in food waste as compared with 2018.

Besides, we encourage employees and their families to pledge to "go green" and support the United Nations World Environment Day. In 2019, more than 600 colleagues supported this green appeal. Some of them also donated used mobile phones, digital cameras and books to support the programme.



### Lamma Power Station Water Consumption / Discharge

	2017	2018	2019
Sea water withdrawal & discharge (million m <sup>3</sup> )	1,926	2,031	1,930
Town water consumption (thousand m <sup>3</sup> )	2,375	2,187	2,353
Wastewater discharge (thousand m <sup>3</sup> )	160	148	263

### Ash / Gypsum Collected for Industrial Uses (kT)

	2017	2018	2019
Ash produced	229	235	230
Ash collected for industrial uses	235	237	230
Gypsum produced / collected for industrial uses	61	69	70

Figure 6 - Emissions Performance (2009-2019)

