

CEO'S REPORT

We progressed with our HK\$26.6 billion Development Plan to cut emissions while offering a range of services and schemes to help the community decarbonise.



Wan Chi Tin
Chief Executive Officer



Delivering consistent performance

I am pleased to present the 2019 operation review of HKEI and its wholly owned subsidiary HK Electric.

2019 was the first year under the new Scheme of Control Agreement (SCA), which is effective for a term of 15 years ending on 31 December 2033. The new SCA, with its focus on energy efficiency and conservation and renewable energy, is well aligned with our overall strategy of driving decarbonisation in Hong Kong.

During the year, we progressed with our HK\$26.6 billion worth infrastructure projects under the 2019-2023 Development Plan that aims to, among other meaningful targets, cut emissions in line with Hong Kong's aspiration to become a smart green city. In the meantime we also placed considerable emphasis on the promotion of a range of services and schemes to help the community decarbonise, including plans to support energy saving and renewable electricity.

Innovation lies at the heart of our efforts to improve efficiency, sustainability and reliability. Under a new innovation strategy formulated in 2018, employees are encouraged to use technology to enhance customer experience and operational performance. In 2019, 23 innovation projects initiated by our employees were implemented. We also collaborated with Hong Kong's universities, industry bodies and start-up companies to benefit from external expertise.

By constantly focusing on maintaining and improving operational excellence, customer satisfaction and emissions performance, we were able to fulfil our commitments to customers as well as the community at large alongside these other strategic initiatives.

Investing for a greener, more efficient Hong Kong

Climate change is a very real and urgent threat to our way of life. We are taking action on multiple fronts: greening our power generation, building climate resilience into



our operations, and promoting renewable energy in the community. In addition to these major initiatives, we are also supporting community efforts to combat climate change, as outlined in the Sustainability Review section of this report.

Greener power generation represents a sizeable share of our 2019-2023 Development Plan, as we continue to migrate to gas-fired electricity generation at Lamma Power Station (LPS) and replace ageing coal-fired units. Our most significant achievement during the year was the completion of construction of L10, the first of three new 380-MW gas-fired combined-cycle units, which was commissioned in February 2020. Construction of the other two units is carried out in parallel and both are on schedule. We are also developing, in partnership with CLP Power, a new offshore liquefied natural gas (LNG) terminal to secure natural gas supply for operation of these new units in the future. The buildout of new generation-related infrastructure accounts for over 60% of our investment under the HK\$26.6 billion Development Plan.

Another key initiative is the full-scale rollout of smart meters and associated Advanced Metering Infrastructure (AMI). Implementing these initiatives will help HK Electric's customers improve energy management and further support Hong Kong's transition to a smart city while also enhancing customer service. We have completed a pilot project where AMI was deployed to a variety of locations including those with challenges or safety concerns for meter reading. Drawing on these experiences, we have refined the technical design and awarded the contract for deployment of smart meters to the rest of our supply areas.

To prepare for AMI, we also made further investments in several areas needed to support the rollout. These include implementing new telecommunications infrastructure and data management equipment to ensure that our communication network can support a large number of smart meters and other smart distribution devices when installed in our supply network.

This year, we also completed an important project to enhance connectivity at LPS. We have expanded Wi-Fi coverage across the site including Administration Road, and at the L10 and L11 construction areas and turbine halls. This project was completed in November 2019. All outdoor areas of LPS are now covered by the Lamma Wi-Fi system, improving communication with smart devices within the power station.



▲ Smart meters help customers improve energy management through data collection and analytics.



The Challenges of Constructing a sustainable future



▲ Lamma Power Station is progressing a large-scale construction project while still in full operation.

Over the past few years Lamma Power Station (LPS) has been transformed to a dual-purpose site. Not only does it generate the power essential for Hong Kong, but it is simultaneously moving full speed ahead with a huge capital works programme – the construction of L10, L11 and L12, our three new gas-fired combined-cycle generating units.

With a higher thermal efficiency of around 58.5% and equipped with the latest selective catalytic reduction system, the first of its kind in Hong Kong for gas-fired combined-cycle application, the new units will have much better emissions performance than existing generating units and will help us save fuel costs.

Implementing a programme on this scale has tested our logistical and organisational capabilities to the utmost. We have had to balance three important considerations throughout this process: operational, environmental, and safety.

An operational balancing act

One of the most significant challenges is the limited time and space available on site, particularly as three units are being built almost at the same time. With over 600 workers operating side by side during peak construction, and much of the site occupied by heavy-duty equipment and materials,

“ Despite all site constraints and an extremely tight construction schedule, we are on track to complete this challenging project on time, with high quality and a good safety track record. This would not have been possible without the hard work and collaboration of our staff and business partners. ”

Lau Chi Kwong
General Manager (Projects)



the working space for the three units has to overlap. Transport and deployment of resources at such a congested site requires prudent planning and close co-ordination among different working parties to maintain the tight operating schedule.

To help alleviate the lack of space and ensure quality workmanship, the team decided to keep on-site fabrication and assembly to a minimum. Piping, welding, and painting is undertaken off-site, and the majority of equipment is shop-assembled before being transported to the site ready for use.

Regular planning and project progress meetings at a project level, sub-team level and intensive co-ordination between construction work and LPS operations ensure on-time delivery.



▲ Off-site fabrication allows construction to stay on track despite space constraints at Lamma Power Station.

Environmental construction

Another priority is to ensure the construction process has the lowest environmental impact possible. A detailed Environmental Monitoring and Audit Programme is in place and monitoring is done on an ongoing basis to ensure compliance.

Take construction noise for example. High-decibel activities, such as piling and the use of certain machines, need careful scheduling so that they are done only during daytime hours. To minimise water use during the piling process we have built two sedimentation pools. All on-site passengers and light equipment transportation use electric vehicles to minimise emissions.

Safety first philosophy

Regular inspections and safety briefings are an integral part of the construction process. We also encourage all employees to become safety ambassadors with near miss reporting and incentive schemes for suggestions. There might have been thousands of workers on site over the year, but we are pleased to achieve zero lost time injury in 2019 for the construction of these three generating units.

Despite several constraints and a tight construction window, this vital project is running on time thanks to the commitment and hard work of our staff. With the success of L10 which went live in February 2020, we are confident that L11 and L12 are on schedule to begin commercial operations in 2022 and 2023 respectively, taking Hong Kong further on its green journey.



▲ Selective Catalytic Reduction System under installation.



▲ Engineers are assembling steam turbine for L10 generating unit.

CEO'S REPORT



▲ A group photo after the synchronisation ceremony of L10.

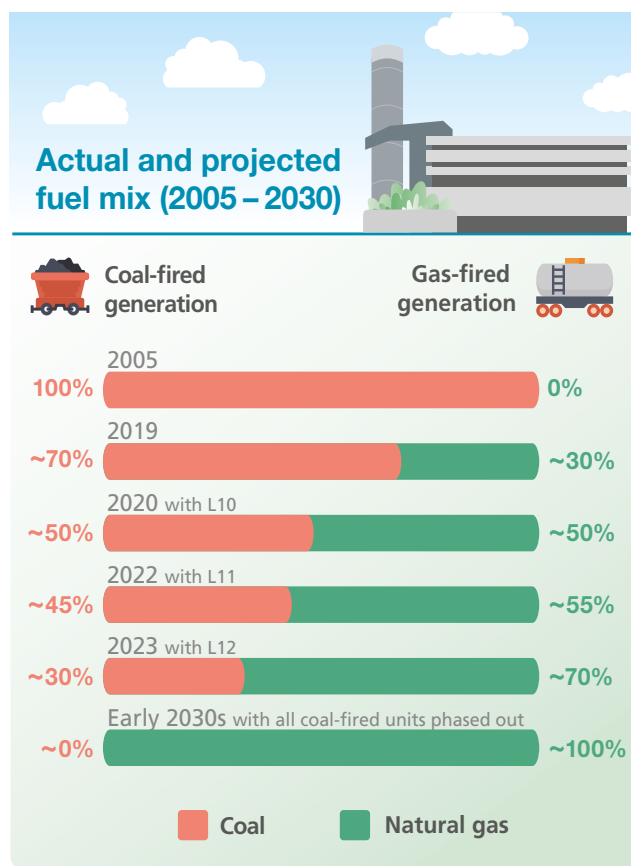
Gearing up for an era of decarbonisation

In October 2019, L10 reached two key final-stage milestones ahead of commercial use, passing its firing and synchronisation commissioning tests. The unit was commissioned in February 2020.

L10 has a higher thermal efficiency of around 58.5%, making it the most efficient energy generating unit within HK Electric's system. This represents a significant step forward in our ongoing transition from coal-fired to gas-fired generation, which has risen from about 30% in 2019 to about 50% in 2020 with the launch of L10. In keeping with the Government's climate and environmental policies, when the next two gas-fired units, L11 and L12, move into their operational phases, approximately 70% of all electricity supplied by HK Electric will come from gas-fired generation. This will not only enable us to reduce carbon footprint, but also the emissions of sulphur dioxide, nitrogen oxides and respirable suspended particulates by around 75-90% when compared to those of 2005 before any natural gas was used.

Construction moved forward on schedule for L11, with superstructure works progressing in 2019. At the same time, construction of the pile caps and tie beams of L11 main station building and heat recovery steam generator was substantially completed. Erection of structural steel for L11 main station building and 275-kV Switching Station is underway, and essential engineering design has been completed, with the first batch of construction equipment arriving on site at the end of 2019.

The master layout plan for L12 is being finalised as piling commenced in April 2019. HK Electric also signed an agreement with Mitsubishi Corporation for the supply of the generating plant for L12 in September 2019.



The security of natural gas supply is essential to HK Electric as we continue to migrate towards gas-fired electricity generation. Good progress has been made on the offshore LNG terminal project using Floating Storage and Regasification Unit (FSRU) technology, which will allow us to procure LNG directly from the international market.

A joint-venture company was established between HK Electric and Castle Peak Power Company Limited (CAPCO) in June 2019 to manage the construction and future operation of the offshore LNG terminal. This new entity, named Hong Kong LNG Terminal Limited, took the engineering, procurement, and construction contract to tender in 2019 and the contract was awarded in January 2020. An FSRU vessel has been booked for leasing on a time-charter basis, and a long-term agreement signed to acquire a steady supply of LNG to the terminal once operational.

Construction works are expected to commence in 2020, with the terminal due to launch operations in 2022. After completion of the project, the offshore LNG terminal will supply natural gas to LPS via a dedicated subsea pipeline and will be a key part of the infrastructure needed to increase gas-fired generation.

Meanwhile, the thin-film photovoltaic solar panels at LPS and the iconic Lamma Winds continued to contribute to our

decarbonisation effort, generating 1,757 MWh of green electricity in total in 2019.

Delivering world-class electricity supply

We maintained our outstanding track record in supply reliability, achieving a rating of over 99.999% for the 23rd consecutive year. This was the result of a proactive condition and risk-based approach to the design, management and maintenance of our transmission and distribution network. Our customers on average have experienced unplanned power interruption of less than one minute per year consistently since 2009.

To keep system reliability and performance at their high levels, a total of 29 new distribution substations were commissioned in 2019 and more than 104 km of distribution cables were laid. An advanced on-line partial discharge detection system and modern diagnostic techniques were used to monitor and identify weak components in the network. A new on-line full-function partial discharge monitoring system was tested and will gradually be retrofitted across the network.

Coincidental with the social unrest in 2019, we have been enhancing the physical security systems of our premises which include our office buildings and substation buildings.



▲ The FSRU vessel equipped with LNG tanks and regasification equipment in the offshore LNG terminal project.



Performance in Electricity Supply in 2019

> 99.999%
Reliability rating of electricity supply

0.6 minute
Unplanned power interruption in the year per customer

CEO'S REPORT



▲ The 132-kV transmission network is being extended to MTR's South Ventilation Building in Causeway Bay to support their Shatin to Central Link (Hong Kong Island Section).

We tested a new smart fault indicator technology which has the potential to significantly improve the speed and accuracy of fault detection of low voltage cables. The test was successful, and the technology will be deployed to our network, as a pilot project, in 2020.

After the attack of super-typhoon Mangkhut, apart from enhancing our anti-flooding measures at our low-lying substations, we have further refined the contingency plans for adverse weather and implemented a series of precautionary measures for rainy and typhoon seasons. We also built a computerised reporting platform to act as a single contact point for information gathering and dissemination during typhoons while a new feature was added in the Account-On-Line to provide our customers with information on supply interruption in the past 24 hours as well as planned shutdowns.

To support MTR's Shatin to Central Link (Hong Kong Island Section), two single-phase 132/25-kV oil immersed traction transformers are being installed in time, alongside retrofitting of two 132-kV load break switches and associated equipment and construction of two circuits of 132-kV single phase cables. Significant progress was made on all aspects of this complex project during the year.

Minimising environmental impact

We support the United Nations' Sustainable Development Goals (SDGs) and in 2019 formalised our strategy to support the three goals that are most closely aligned with our business: the provision of affordable and clean energy;

climate action, and industry, innovation and infrastructure. We have established specific targets for each of the three goals that we monitor and track on an ongoing basis in order to support Hong Kong's overall efforts on this front.

We work closely with the Government to review our emissions allowances and through proactive maintenance and management of our generation, transmission and distribution infrastructure, we are always in compliance with these regulatory caps. In 2019, we worked with the regulator to agree on tighter emissions allowances from 2024 onwards under the Eighth Technical Memorandum which was subsequently approved by the Legislative Council.

The ISO 14001 based Environmental Management System and the 4R policy form the framework for our efforts to reduce, reuse, recover, and recycle. These efforts extend across our operations to drive energy efficiency and lower emissions. During the year, 54 environmental management programmes including reduction of fuel use and Wastewi\$e Schemes were implemented.



▲ Rainwater and plant processing water are collected at Lamma Power Station for reuse and help cut down on fresh water used.

To conserve water, a collection system at LPS to enable reuse of rainwater and plant processing water processed approximately 121,000 m³ of water, which helped cut down the volume of water used by the station. The fresh water used by the Station was reduced by 1.3% as compared to that of 2018. Smart meters monitored the use of fresh water throughout the year.

We are a member of the Government's "Programme on Source Separation of Commercial and Industrial Waste". We also collected electricity generation by-products, ash and gypsum, and other in-house wastes for use for other purposes.

In recognition of our commitment to green initiatives and waste reduction, LPS has been awarded a "Class of Excellence" Wastewi\$e Label for the 13th year in a row.

Encouraging adoption of electric vehicles

To encourage a low-carbon lifestyle among residents through the reduction of roadside emissions, we continue to provide support for electric vehicles (EVs) across Hong Kong, offering charging facilities for public use.

We maintain a network of six EV Alternating Current medium/quick-charging stations, two EV Direct Current quick-charging stations, and four EV multi-standard charging stations. These are spread across Hong Kong Island and, throughout 2019, were made available to the public free of charge. In total, we facilitated more than 12,000 EV charging operations during the year, and will continue to offer it in 2020.

In addition, we continued to provide technical support services for customers installing their own EV supply equipment. We have successfully assisted 9 carparks to arrange additional power supply for erecting EV charging facilities and received 280 enquiries during the year.

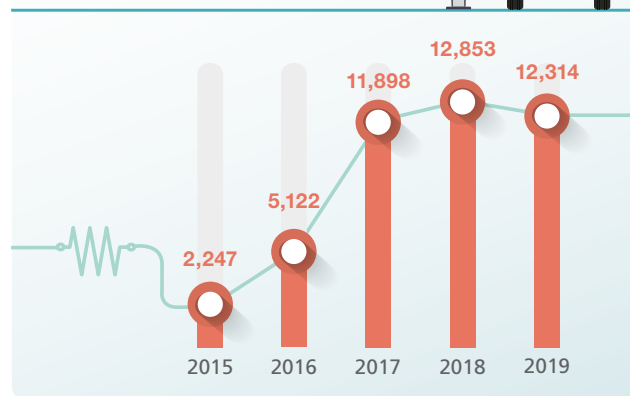
Also, under our EV initiative, we gave technical support to Citybus and First Bus concerning the installation of charging facilities for their electric bus fleets at the Hong Kong Station and Central Ferry bus terminuses. Further to this, we supported the Environmental Protection Department and four commercial ferry companies with their plans to install charging facilities at ferry piers.

At HK Electric, this EV initiative has been incorporated into our own operations. We continued to replace our existing petrol and diesel-powered vehicles with electric alternatives when they are retired from use. EVs now represent more than 47% of our fleet, which has reduced fuel consumption by about 16,000 litres when compared with 2018.

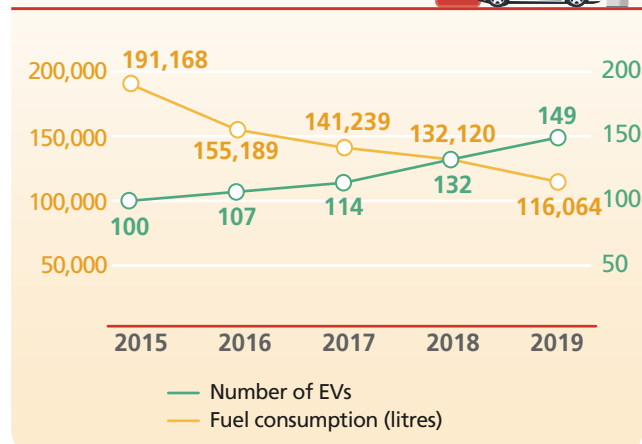


▲ HK Electric has a network of 12 EV charging stations providing free charging services to the public.

Free charging operations provided by our EV charging stations (2015-2019)



HK Electric EV deployment vs fuel consumption (2015-2019)



CEO'S REPORT



Performance in Customer Service in 2019

3.43 seconds

Average waiting time for telephone calls to Customer Emergency Services Centre

1.98 minutes

Average waiting time for counter services at Customer Centre

4.63

Average customer satisfaction index (5-point scale)

2,008

Commendations from satisfied customers

Zero

Service-related complaints

Creating enduring bonds with customers

At the heart of the mission is the commitment to excellent customer service, and we believe that customers have the right to know what level of service they can expect from us. We have consequently set ourselves a set of 18 stringent customer service standards that we measure our own performance by, which are reviewed every year.

We achieved all pledged customer service standards in 2019. Average waiting time for telephone calls to Customer Emergency Services Centre and counter services at our Customer Centre were less than 9 seconds and 3.5 minutes respectively. The number of commendations we received from satisfied customers reached a record high of 2,008.

Several facilities were introduced to cater to the preferences of the mobile-first generation. These included Virtual Assistant, Elsie, who made her first appearance in October 2019, providing a 24x7 channel for customers to make general enquiries. Our mobile payment service was made even more convenient in July 2019 with an auto-debit payment feature via AlipayHK.

Registration for online accounts and electronic bills was simplified through a fast-track registration channel launched in September 2019. Customers could complete the registration process within one minute by simply scanning the QR code printed on hardcopy bills.

We have recently formalised a Complaints Handling Policy which provides assurance to all our stakeholders that any complaints received are dealt with courteously, investigated thoroughly, and resolved quickly and appropriately. All complaints are reviewed by management in the Stakeholder

Satisfaction Steering Committee. We received 14 complaints in 2019 and none of them was service-related. All of the complaints were dealt with promptly.

We cemented our non-residential customer relationships with value-added services including visits to about 51 key corporate customers and SME advisory services and energy audits. Our efforts secured us the Best SME's Partner Award by The Hong Kong General Chamber of Small and Medium Business for the ninth consecutive year.

In December 2019 we announced a series of relief measures to help SME customers, especially small catering establishments, who have been hit the hardest by Hong Kong's unsettled socio-economic climate, including deferral of bill payment, NGO catering subsidy and dining coupons for the underprivileged to stimulate spending. A scheme was also devised to provide non-residential customers including SMEs with subsidies for the purchase of energy-efficient equipment. About 70,000 non-residential customers are receiving a waiver of tariff increase for the first six months of 2020, and more than 170 SME caterers had their electricity bill payment deferred by two months upon successful application.



▲ We will be providing underprivileged with dining vouchers to stimulate business for small catering establishments.

Promoting energy efficiency and RE

To promote energy efficiency and conservation and renewable energy in the community, we invested more than HK\$40 million in the development and promotion of Smart Power Services during the year. Aid was prioritised to disadvantaged members of society as well as buildings lacking financial resources and technical expertise. To increase uptake of the schemes, we worked with community NGOs and developed a mobile app to enable NGO partners to help specific families select the energy-efficient appliances best suited them, and submit applications for review and approval in real time. During the year, subsidy was allocated to over 80 buildings while about 1,000 families received energy-efficient electrical appliances. At the same time, we installed separate electricity meters at two sub-divided units so that a total of seven families could become HK Electric customers and be directly billed for electricity consumption.

Another important initiative under the Smart Power Services programme was the promotion of a Feed-in Tariff Scheme to encourage customers to install their own renewable generation projects. Customers' renewable energy installations – solar power or wind energy – are connected to the HK Electric grid and purchased by the company at special rates ranging from HK\$3 to HK\$5 per unit of electricity. Following the launch of a 200-kW photovoltaic system at Ocean Park in March 2019, we further connected about 60 installations for commercial buildings, residential blocks and schools. All these installations involve a total capacity of about 1 MW.

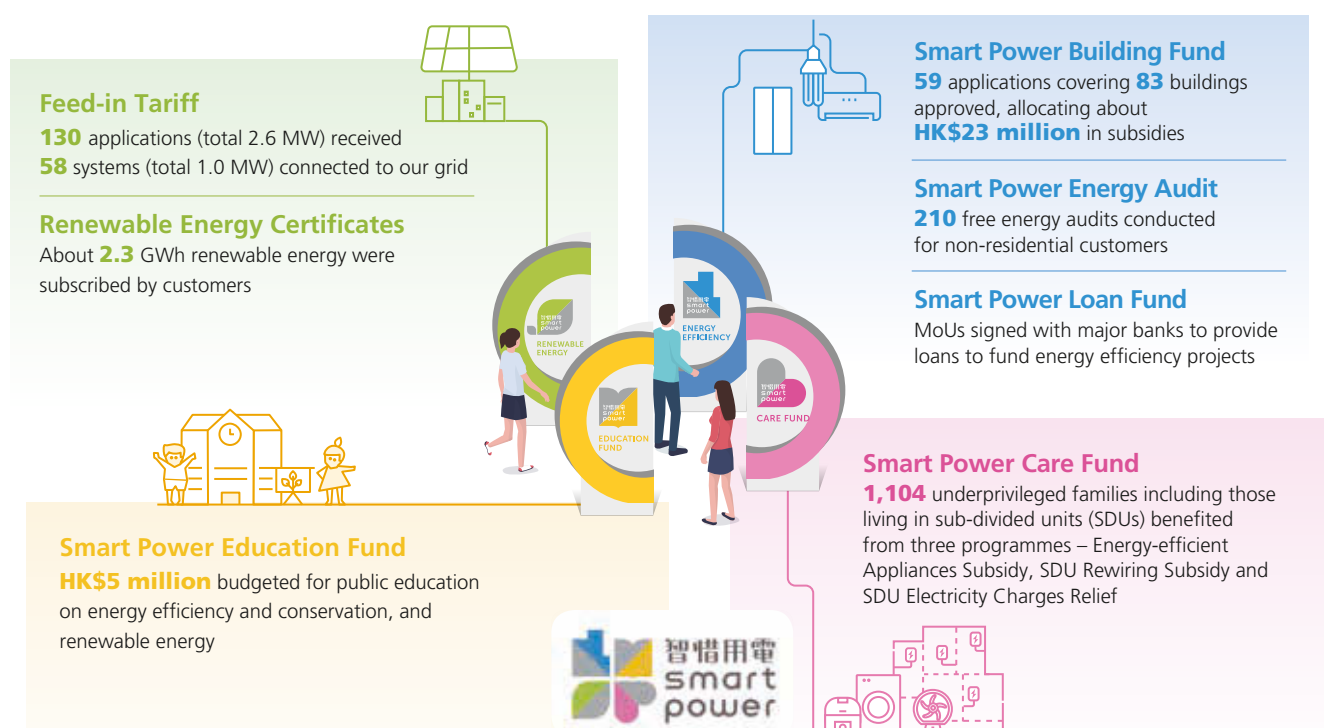


▲ Canadian International School has joined HK Electric's Feed-in Tariff Scheme and installed large-scale solar power system in the campus.

Renewable Energy Certificates (RECs), which allow consumers and businesses to support the local renewable energy generation and offset their own carbon footprint, also saw encouraging uptake from the community. All the renewable energy generated by HK Electric and our customers in 2019 were fully subscribed.

Smart Power Services represent our aspiration to help bring Hong Kong closer to becoming a green and smart city. It is our hope that the community embraces these new offerings and adopts a smarter energy consumption habit over the long term.

Smart Power Services Achievements in 2019





Fostering a culture of **Everyday Innovation**



“ Innovation culture must allow for experimentation, support and openness to new ideas. It must also tolerate failures, encourage diverse viewpoints and foster learning from mistakes. ”

Francis Cheng
Operations Director

▲ Operations Director, Mr. Francis Cheng (right) discussing with General Manager (Information Technology), Mr. Mullar Wan on the innovation projects proposed by colleagues.

At HK Electric, we believe innovation is about leveraging technology to find better ways to do things that are unconventional in the context of our operations.

Continuous innovation lies at the heart of our track record of excellence over the years. To formalise and increase the direction and focus of our efforts, we implemented a new organisation-wide Innovation Strategy in 2018. This strategy has already proved valuable in stimulating out-of-the-box thinking and collaboration, across divisional boundaries and beyond the organisation itself.

Since 2018, our Innovation Steering Committee, chaired by the Managing Director, has approved and funded more than 60 innovation projects initiated by employees of which 23 were implemented in 2019. All these projects started with identifying a problem, and then finding new ways to solve it. Anyone in the company, who spots an opportunity to innovate to improve efficiency, health and safety, sustainability or reliability, and thus benefit operational performance and customer experience, is empowered to suggest a new project by taking ideas to their supervisors or division heads. Once approved, the employee who made the suggestion is awarded with an incentive.

Our efforts were recognised in November 2019 when HK Electric was presented with a Hong Kong Sustainability Award and Special Recognition for Innovation by the Hong Kong Management Association.

Innovating from the inside and out

Part of building a culture of innovation is to make it easy to innovate.

The Inno Hub is a platform on our intranet that gives information about successful programmes in the company, innovation projects in the pipeline and new ideas generated by others outside the company, to provide inspiration and generate feedback. It is invaluable in stimulating cross-functional initiatives and encouraging employees to share ideas.

Innovation cannot happen in a silo and we collaborate with industry bodies, academia and others in this regard. New industry and cross-industry collaborations have been undertaken in partnership with start-ups, universities and research institutions. One such example is a voice-bot project implemented jointly with Hong Kong Applied Science and Technology Research Institute to help further enhance customer experience.

Fish Deterrent System



Fish ingress is a common problem in cooling water intake systems of coastal power plants like Lamma Power Station. A new deterrent system to repel fish using low-frequency sounds was successful in greatly reducing the volume of fish going into our cooling water system, helping conserve marine life and cutting maintenance costs and operational risk.

eConnect

eConnect is an intuitive, easy-to-use mobile app development platform that enables business users to build their own app to support different aspects of their business and technical operations. Developed in partnership with a local technology start-up, eConnect has proved extremely popular: in 2019, over 65 mobile apps were developed or being developed by staff of which 27 were already fully functional, yielding efficiencies, improved customer experience as well as environmental benefits.

The “Smart Power Care Fund – Energy-efficient Appliances Subsidy Programme” app, developed on the eConnect platform, simplifies the application process for HK Electric customers seeking to upgrade their electrical appliances to energy-efficient ones. It is expected to save more than 5,000 sheets of paper and 28,000 man-hours each year.



Smart Warehouse Cabinets



To maintain the performance level of our transmission and distribution network, a year-round calendar of maintenance work operates. Queues of employees and contractors waiting for parts and equipment often formed at the issuing counter of the warehouse, resulting in a waste of man-hours. Mobile smart cabinets using dual-authentication electronic locks and position tracking technology were launched during the year to allow authorised personnel to collect their requested materials that placed in the cabinets beforehand anytime round-the-clock, completely eliminating waiting time in many cases.

CEO'S REPORT

As a responsible corporation, we are committed to playing our part in the fight against climate change.



Apart from major initiatives described in the Operation Review section of this report, we also supported the community in its efforts to decarbonise, and ran numerous initiatives to optimise our operations and minimise our environmental footprint.

In 2019, we undertook a study with an external consultant on our potential contribution to the United Nations' Sustainable Development Goals (SDG) based on the materiality to our business. We have decided that in the coming years, we shall focus our efforts on SDG 13 – Climate Action; SDG 7 – Affordable & Clean Energy; and SDG 9 – Industry, Innovation and Infrastructure.

Following deliberation and extensive analysis, we have mapped many of our major ongoing operating initiatives to the chosen SDGs with specific targets, so that we can track our progress in tackling climate change through our day-to-day activities. For example, our efforts to reduce carbon emission from energy generation and help Hong Kong achieve the same are mapped to SDG13, while our reliability standards, efforts to support

needy and underprivileged members of the community with subsidies, energy audits and support for RE are mapped against SDG 7. Revamp of the Company's innovation strategy in mid-2018 and the subsequent increased efforts on cultivation of innovation projects in the company are mapped to SDG 9.



▲ Our selected goals from the United Nations' Sustainable Development Goals.



Our overall efforts are governed by the company's Corporate Social Responsibility (CSR) policy and the CSR Committee, which is responsible for the strategy behind our sustainability initiatives.

Building enduring stakeholder relationships

Maintaining communication with our stakeholders is a responsibility that we take seriously. Our yearly "Annual Report", "Sustainability Report", "Corporate Information" brochure, the quarterly "HK Electric On-line" news bulletin, corporate YouTube channel and Facebook page "@44KennedyRoad", all aimed to keep our stakeholders and customers abreast of company news and developments.

We strengthen these interactions with stakeholder visits to our facilities, building a broader understanding of our operations. 65 guided tours were arranged in 2019 for various stakeholders with Lamma Power Station (LPS) in particular receiving about 1,800 guests.

In addition, we engage District Councils (DCs), NGO groups, and various advisory committees across Hong Kong to keep communities informed of our activities. Periodic gatherings were organised with DCs to share updates on the latest developments of the company that are of districts' interests.

We collect customer feedback through satisfaction surveys and "We Meet on Friday" sessions. The 50-member Customer Liaison Group remains an important conduit to forge a close relationship with customer representatives. A meeting held in January 2019 followed by a visit to Lamma in October 2019 updated members on the new Smart Power Services as well as the company's efforts in supporting the Lamma community.

We also attach great importance to the opinions of our employees. Our long-standing Joint Consultation Committee, established over 40 years ago, gives our employees a platform for their views, and held 20 meetings across its six panels in 2019.

Fostering deeper community engagement

Our employees take an active interest in local affairs, often using their expertise to help address local community issues. Seven in total served on various Government committees including district area committees, fire safety committees, or elderly and welfare committees in 2019.

Our support for local community activities saw us participating in 132 activities organised by community groups, be they festive celebrations, recreational or green activities. We also donated to local and charitable causes.



▲ Our Customer Liaison Group is a valuable channel to gather customer feedback and suggestions.

CEO'S REPORT

Caring for the environment

As one of Hong Kong's leading energy providers, we embrace our social responsibility to tackle climate change and preserve our environment for future generations. To achieve this, we have invested in a number of initiatives to make our operations greener and lower our operating costs.

Our efforts to reduce energy consumption and report on these are based on the Government's Energy Saving Charter and 4Ts Charter. Regular carbon audits of our office buildings in 2019 enabled us to examine the effectiveness of our efforts and identify new ways to reduce power consumption, allowing us to cut electricity use by 5.3%.

We also continue to enforce and expand on our own 4R policy (reduce, reuse, recover, and recycle) to help reduce wastage in our operations. Our efforts in 2019 resulted in 14.3% and 9.6% reduction in food waste and water consumption respectively as compared with 2018.

Waste and water management

In order to minimise ocean pollution, single-use plastic including bags, straws, and cutlery has been discontinued from the head office canteen since May 2019. We reduce food waste at source in our canteens by a system of advance booking of meals while unused food continued to be sent to the underprivileged through a partnership with an NGO, Food Angel – with more than 184 kg donated during the year.

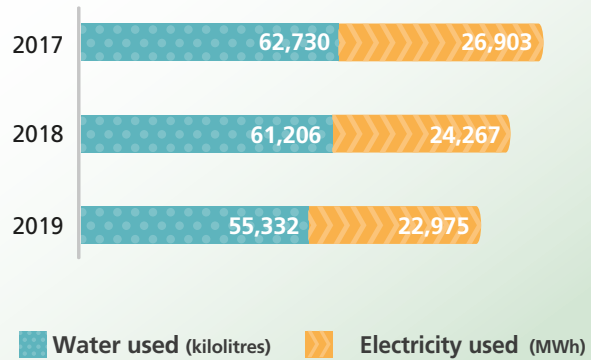
We made extensive efforts to communicate the benefits of reducing, reusing and recycling office waste to our employees. A waste management talk was held in October 2019, in partnership with the Hong Kong Productivity Council and our recycling contractor.

These new initiatives operate in tandem with our existing "Pass-It-On" scheme, a recycling platform hosted on the company's intranet where employees can give away their unused belongings to others. 88 items found new homes via the platform since the scheme was launched in 2017. Our centralised rubbish and recycling bin policies also streamline waste management and recycling effort of the company.

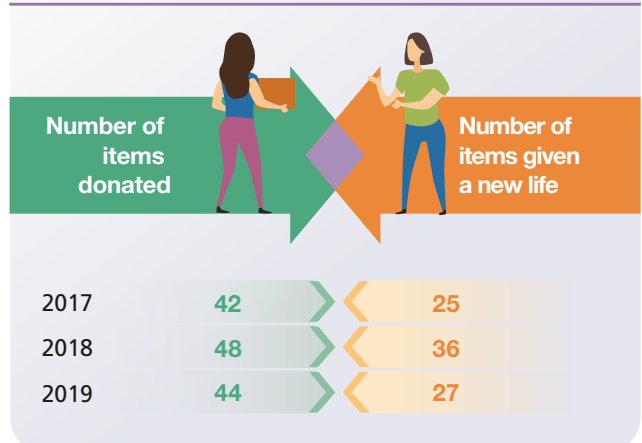


▲ Garden mulch being created out of food and garden waste as part of our 4R operating principles.

Water and electricity consumption of office premises (2017-2019)



Number of items exchanged via the "Pass-It-On" platform (2017-2019)



Water conservation is another focus area, and we worked to achieve new targets for water savings at our two major corporate office premises. Thanks to a series of measures, water consumption at Electric Tower and Electric Centre reduced by 12 – 14% compared to 2016 levels.

Energy management

We have rolled out energy meters across our buildings to fine tune our energy-saving plans. We continued our phased programme of retrofitting LED lamps to office buildings at LPS, replacing 530 lamps during the year to save more than 46,400 kWh of electricity annually.

Another key project is upgrade of the ventilation and air-conditioning system at LPS. When completed in 2024, it will result in a 6% energy reduction.

Continuous efforts were made to maintain the indoor air quality across our buildings, ensuring a healthy working environment for employees. In 2019, the Hongkong Electric Centre, Electric Tower and Customer Centre all obtained “Excellent” class Indoor Air Quality Certifications from the Government.



▲ Computer room air-conditioning unit at our Lamma Power Station new control building is upgraded to optimise energy use.

Helping stakeholders care for the environment

To educate customers about the best ways to save energy, we ran energy efficiency and electrical safety talks for the owners and managers of residential buildings. Fifteen guided tours were also conducted for facilities management professionals to our Power Quality Centre.



▲ In partnership with Green Power, HK Electric helps educate hikers on green habits and “Leave No Trace” principles.

Our employees provide us with some of the environmental management programmes for environmental protection. These programmes will be implemented in 2020. Employees also received refresher training sessions to update them on the latest environmental management and energy conservation initiatives, as well as changes in legal and other relevant requirements.

We hold our suppliers and contractors to the same high standard of environmental performance that we have for ourselves. As such, we endeavour to ensure they incorporate CSR into their operations while conducting business.

Collectively creating a greener Hong Kong

HK Electric actively participates in various external green initiatives, supporting the efforts of others in protecting the environment and tackling climate change, including the United Nations’ World Environment Day. In 2019, more than 600 employees pledged to go “green” and adopt low-carbon lifestyles throughout the month-long campaign.

We assisted the community’s energy saving and environmental protection efforts, too, providing system load data for WWF’s “Earth Hour 2019” and Green Sense’s “No Air Con Night” to assess campaign impact.

At the 2019 Hong Kong Eco Expo Asia we promoted our Smart Power Services, showcasing what the community could do to save energy and go green.



The Smart Power Gallery Inspiring the way people think and act on energy



▲ The Smart Power Gallery helps students understand more about energy saving and renewable energy.

Last year, Greta Thunberg, the teenage Swedish climate change activist named Person of the Year 2019 by TIME magazine, said: "The climate crisis has already been solved. We have all the facts and solutions. All we have to do is wake up and change." For decarbonisation to become a reality, it is essential for people to adopt low-energy practices in their day-to-day lives.

To help bring alive the possibilities of energy conservation and renewable energy to Hong Kong's residents, in April 2019 we launched the Smart Power Gallery – an interactive learning space that is free for all to access.

Located in Possession Street, Sheung Wan, the gallery spans five floors and is steeped in company heritage, occupying the premises of the former HK Electric pay-in centre. Across the different floors, visitors can uncover the story behind HK Electric and what is powering Hong Kong, take a look at the smart living experience of the future, and understand how they can save energy in their everyday lives with our Smart Power Services.

Engaging Hong Kong's residents

To aid the learning experience, the gallery features a range of multimedia displays that communicate, among other things, what Hong Kong residents can do and access to improve

“ Connecting visitors from all walks of life, ranging from junior students to different community sectors, in an easy-to-understand and interesting way is a real challenge. I am immensely proud of my team, who did a great job in effectively conveying the essence and spirit of 'smart power' to our stakeholders from the day the Gallery's doors opened. ”

Raymond Choi
General Manager (Customer Services)

on their electrical infrastructure, install energy efficient appliances, and more. Visitors can also take part in games and interactive sessions that educate them on renewable energy, energy efficiency and conservation, climate change, smart city development and smart living.

Since opening, the gallery has attracted a lot of interest and provided a platform to bring the climate change conversation to the general public in Hong Kong. More than 2,200 people from over 130 organisations have visited, including primary and secondary schools and community organisations.

Educating the next generation

Cultivating environmental awareness and creating an innovation mindset in Hong Kong's younger generation is an important goal of the gallery. To facilitate this, Smart Power Connect, a dedicated

area within the gallery, hosts a series of workshops that are designed to engage students in a way that is fun, interesting and easy to understand.

These STEAM workshops (so called because they incorporate science, technology, engineering, the arts and mathematics) have been popular with students. "My class enjoyed assembling solar-powered robots as part of learning about the principles of renewable energy," said a schoolteacher who visited the gallery.

Promoting change through technology

Technology start-ups can also use the space to demonstrate their new smart and low-carbon solutions. Together with HK Electric's smart power knowledge and innovative ideas, this enables and inspires the community to go forward towards a low-carbon smart city.

A Look Inside the Smart Power Gallery



Visitors learn about smart cities through interactive games.



Exhibits explain the principles of solar and wind power.



The Gallery introduces to the public HK Electric's vertically integrated operation, including generation, transmission, distribution and supply.



CEO'S REPORT



▲ Our volunteers extend a “hearty” welcome to the recognition by the Social Welfare Department.

Investing in the community

We believe that providing world-class power supply aside, we should also contribute to the betterment of the community. All the way, HK Electric has been focusing on two specific areas in our social outreach activities: senior citizens and the environment. Our programmes aim to achieve long-term social impact by improving the health and wellbeing of participants as well as building a stronger and more inclusive community.

In 2019, our growing team of more than 1,200 volunteers supported 94 services with a total of 4,766 hours. During the year, we further expanded our service areas for volunteering initiatives to cater to community needs and staff interests. Following training and orientation, our volunteers took up new services such as visiting inmates in partnership with The Society of Rehabilitation and Crime Prevention. We helped organise other events such as “Tai Chi for Parkinson Disease” alongside the Hong Kong Parkinson’s Disease Foundation.

Our volunteers team celebrated its 15th anniversary in May 2019, where 260 employee volunteers and guests from NGO partners attended to reminisce our partnerships and the fruits of our collaboration. The ceremony recognised individuals and divisions who had made extraordinary contributions in 2018 and throughout the past 15 years. We also introduced the Volunteers Leave Policy by formalising the previous compensation leave scheme to encourage employees to join volunteer services during their spare time.



▲ HK Electric volunteers help deliver daily supplies to elderlies as part of the CAREnJOY programme.

Educating the Young

The Smart Power Campaign, our anchor green education programme, was rebranded the Happy Green Campaign in 2019. The campaign formed the umbrella for a number of educational activities designed to promote energy efficiency and conservation, renewable energy and low carbon living under the theme of “Smart Power for Smart City”.



▲ The Happy Green Campaign promotes low carbon living with a mini movie featuring popular actor Steven Ma.

Empowering younger generations to make lasting change is a key goal of the Happy Green Campaign. A mini movie starring popular local actor and singer, Steven Ma, was produced to drive home the long-term consequences of environmentally-unfriendly actions. Interactive displays and games at roving exhibitions gave younger audiences and the public information and hands-on experiences of the connection between a smart city and a green city.

To combine environmental education with life-planning skills, the “Green Energy Dreams Come True” competition provided grants to 13 schools for projects that bring their green ideas to life. The Happy Green Schools network, now including more than 450 schools, offered various activities in 2019 to promote green awareness among students, including visits to HK Electric’s facilities, eco-tours, school talks and training on running green campus TV.



▲ Roving exhibition is held to promote the theme of “Smart Power for Smart City” for the Happy Green Campaign.

Also aimed to enhance green awareness among the community, the “Green Hong Kong Green” programme, jointly organised with the Conservancy Association, continued to take members of the public to appreciate the beautiful eco-heritage resources of our city along the 10 routes on Hong Kong and Lamma Islands. Following the success in 2018, new thematic tours were again organised during the year on digital photography, forest bathing and history of Lamma Island. Conducted by guest guides and eco-leaders, the tours have attracted more than 700 participants. Self-guided tours were also possible through the GHKG app, which has attracted a total of 37,963 downloads so far.

CEO'S REPORT

Empowering the elders

Another important aspect of our community engagement is to help the elderly make the most of their lives. We do this through a spectrum of activities that promote their self-confidence and interpersonal skills, encourage active-aging and reaching out to the community. For those who are less active, home visits are paid to spread our message of love and care.

Working hand in hand with the Hong Kong Council of Social Service for the past 13 years, our University of 3rd Age (U3A) network helps local retirees stay active and involved by learning new knowledge or skills, staying fit and contributing to the community. During the year, 10 retirees were named top Smart Power Ambassadors for their commitment to lead a green life and promote the same to their families and friends. They then went on to conduct about 70 sharing sessions for some 1,600 participants, spreading green messages to people around them.

The CAREnJOY for the Elderly programme entered its 11th year with a renewed focus on helping the elderly be more aware of dementia, its possible symptoms, prevention and proper treatment. During the year, the programme reached out to more than 2,250 elders, sharing tips on home electrical safety,

as well as promoting exercise to enhance mental agility. During home visits, we also bring along daily necessities to reduce their needs for shopping bulky goods.

To further promote awareness of dementia internally, we registered as a dementia-friendly organisation and encouraged staff to become "Dementia Friends".



▲ Green education in the form of field trips is arranged for U3A members.

Community Investment Achievements in 2019

Elderly Care



More than 2,250 single elders benefited from community talks and home visits promoting the importance of keeping the brain active, eating right and exercising regularly

17,058 learning opportunities were provided to local retirees under the "U3A Network" through **940** classes organised

The "**CAREnJOY**" programme trained elderly volunteers to become **CAREnJOY Ambassadors**

More than 700 participants learnt about Hong Kong's eco-heritage resources through **57** tours under the "Green Hong Kong Green" programme

Around **70** secondary school students became "Happy Green Ambassadors", sharing tips on green lifestyles with their families and peers

15 schools were provided grants to bring their green ideas to life under The "Green Energy Dreams Come True" competition



Environmental Education

Creating empowered employees

The talent, diversity and commitment of our employees are crucial to enabling us to achieve our ambitious targets and redefine the energy sector in Hong Kong.

Over the years, we have cultivated a work environment that nurtures both personal and professional growth, and rewards innovation and continuous improvement of our employees. Policies and systems are in place to attract, develop and retain our talents.

Attracting the top talent

We are committed to providing equal opportunities in recruitment, training, promotion, transfer, compensation, benefits provision, and termination, regardless of our employees' backgrounds, beliefs, or other personal factors. We take every possible step to ensure that equal opportunity principles are adhered to in our recruitment process, and our employees are recognised and rewarded according to their contribution, performance and skill.

Our commitment to talent management and employee engagement has enabled HK Electric to reach higher rankings in recent years and secure 4th place among the top 20 most attractive companies in the Hong Kong Randstad Employer Brand Awards, which in 2019 surveyed over 3,700 local job seekers and employees on their perception of 75 largest employers in Hong Kong.

As an employer of choice, we review remuneration annually and benchmark against comparable organisations in relevant industries. In 2019, we continued our "pay-for-performance" policy that appraises and rewards our employees on the basis of overall performance including target achievements and competencies displayed. To better support our employees on parental care, maternity leave was extended from 10 weeks to 14 weeks, while paternity leave was extended from three days to five days in 2019.

Of our 1,770 permanent employees, 81.6% were men in 2019. We had a voluntary employee turnover rate of 5%.

To attract the best talent and promote an engineering career to Hong Kong's young talent, we participated in annual career fairs and delivered talks on our graduate trainee (GT)



▲ Our Young Talent Development Programme uses a variety of out-of-the-box techniques to promote teamwork and leadership skills.

programme at all key universities, recruiting nine GTs in 2019. To promote STEM careers, 48 students were offered hands-on experience through our industrial placement, industrial attachment and vacation trainee programmes.

Developing tomorrow's leaders

We promote a workplace that empowers employees, encourages innovation and helps our employees unleash their full potential. We invest in staff development through providing our employees a variety of learning opportunities that will enhance their management and technical skills on the basis of their job capacity, personal capability and development potential. This is done through in-house training, on-the-job coaching and job rotation programmes.

Continuing the theme of empowering our employees to be proactive, passionate and self-driven towards work, a seminar was held in January 2019 for over 480 employees to foster a spirit of taking responsibility. We also step up efforts in nurturing our leadership pipelines through the Young Talent Development Programme and Leadership Development Programme. Participants of both programmes are provided with a range of learning opportunities and activities which are geared to their development needs.



Graduate Trainee Programme

Nurturing future leaders



▲ Many of our senior leaders are proud alumni of our graduate trainee recruitment scheme.

For an essential utility like HK Electric, the equipment we use to generate and transmit reliable electricity to about 581,000 customers is only part of the story. We rely upon our people, our most important asset, to innovate and excel daily. Specialist engineering and technical talent make up over 60% of our staff.

Maintaining a pipeline of reliable technical talent is very important to sustain our leadership position. That is why we have been running a Graduate Trainee (GT) programme since the 1970s, recruiting about 10-20 engineering graduates each year from major universities in Hong Kong and overseas.

Following a series of aptitude, written and psychometric tests, the most promising applicants are selected into our programme. All trainees first undergo two or three years of on-the-job training under the Scheme "A" – accredited programme of Hong Kong Institution of Engineers. They will be placed in major departments to learn different aspects of our business operations, ranging from project design, engineering specification, project management, to construction, operation and maintenance in connection with generation, transmission and distribution of electricity.

From GT to senior management

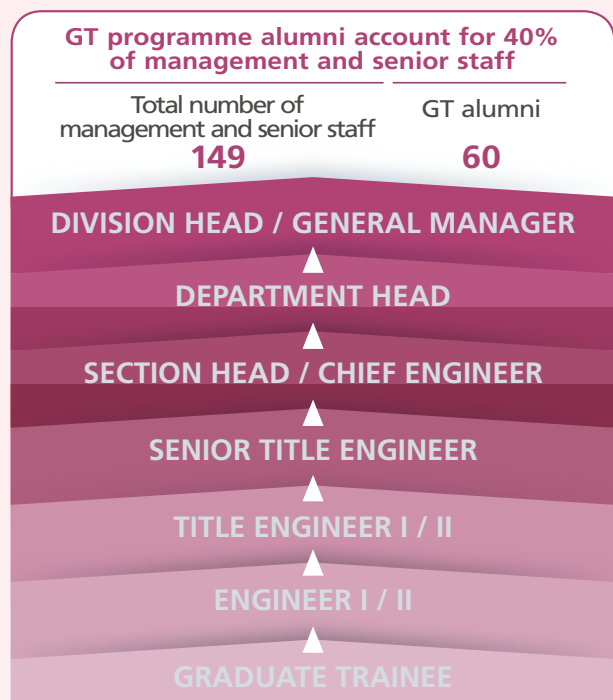
After completing their training, graduates are appointed as engineers and assigned a post based on their strengths. Promising candidates can expect to be promoted after about two to three years on the job.

In HK Electric, we are committed to supporting our graduate trainees' aspirations for long-term career growth that help them make the best of their strengths and expertise. This could take the form of professional development support so that graduates know what is required each step of the way – whether that

is more hands-on experience, professional qualifications, or in-house authorisation – or on-the-job mentoring.

Our carefully structured programme ensures general competencies are matched with specific power industry expertise as graduates develop and subsequently become leaders in the business: we are proud to say that 40% of our management team and senior staff came through it.

We have a high retention rate within this talent pool, too, which bears out our philosophy that people give their best in an environment where they can learn and grow throughout their careers.



Four colleagues, all former GTs who joined us at various times in the last three decades, share their tips for a fulfilling career in HK Electric.

“ I’m glad to be able to grow with the company since I was a GT 30 years ago. My top tip for any GT is to be willing to take up challenges and adapt to transition. Instead of simply relying on previous experience, be proactive in searching for innovative ways to drive improvement, and embrace technology to help do so. ”

CS Leung

Head of System Operations, System Control Department



1987 Intake



1992 Intake

“ For long-term growth one should keep an open mind to learning without expecting instant returns. What you have learnt would never be wasted, be patient and it will be useful someday. For example, the rotational training I had when I was a GT gave me exposure to every department – which cut the long-term learning curve as I grew in the organisation. ”

Wilson Kwok

Head of Technical Services, Transmission and Distribution Division

“ Since joining as a GT after an internship at Lamma Power Station, I have had the opportunity to be involved in all aspects of the construction of L10, the new gas-fired combined-cycle unit: a unique and highly fulfilling opportunity so early in my career. All credit to the ongoing support of my team and mentorship from senior colleagues that have helped me push my own limitations. ”

Joey Tang

Project Engineer II, Mechanical Department of Projects Division



2011 Intake



2015 Intake

“ Apart from developing technical and managerial abilities, GTs in HK Electric are also introduced to the ethos of giving back to the community by joining a wide variety of community and volunteer services. Activities like paying home visit to elders give a sense of satisfaction, while improving communication skills and facilitating personal growth. ”

Kevin Leung

Project Engineer II, Operations Department of Transmission and Distribution Division

CEO'S REPORT

Employee Care Performance in 2019



Health and Safety

- 1.02** Lost Time Injury Severity Rate (per 200,000 employee-hours)
- 0.05** Lost Time Injury Frequency Rate (per 200,000 employee-hours)
- 17,047** training hours on health and safety
- 124** drills performed
- 209** Work Safe Behaviour observations
- 2,752** safety inspections

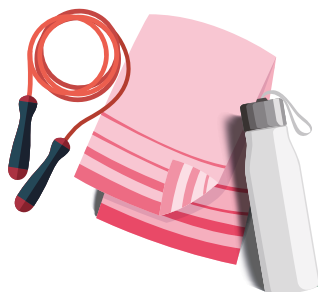


Employee Growth

- 58,695** training hours in total
- 25** training modules delivered through the HK Electric Institute
- 43** young recruits trained under our Management Trainee, Graduate Trainee and Trainee Technician programmes
- 21** high-potential employees selected for the Young Talent Development Programme
- 9** future leaders trained under the Leadership Development Programme



Employee Wellness



- 8** interest classes for **861** participants
- 25** fitness classes for **2,234** participants
- 10** health talks and emotional wellness workshops for **356** participants
- 4** physical training courses for **26** participants
- 1** outing for **50** participants
- 4** self-service health booths located at office premises



To promote and improve STEM education in the region, lecturers from the HK Electric Institute co-taught the “High Voltage Engineering” module to masters students at The Hong Kong Polytechnic University. We also conducted a module for about 25 senior professionals from 12 countries and regions as part of our collaboration with the Belt and Road Advanced Professional Development Programme in Power and Energy run by The Silk Road International School of Engineering for the second consecutive year.

Safeguarding our most important asset

As a heavy industry, ensuring the health and safety of our workforce is amongst our top priorities. In addition to compliance with all statutory requirements, a comprehensive Safety Management System, a Health and Safety Policy, an Alcohol and Drugs Policy and a collection of corporate-wide health-and-safety-related guidelines are in place and are strictly enforced.

The company offers a wide range of incentives including Safety Excellent Scheme, Safe Driving Scheme, and Safety Incentive Scheme for Frontline Employees to motivate them to put health and safety matters into everyday practice and work towards incident-free operations.

The principles for safety at electrical and mechanical work are stipulated in the company’s Safety Rules, which are reviewed regularly to incorporate developments in legislation, the power system and working environment, in line with the industry’s best practices. We implemented action plans generated from our triennial Safety Climate Index Survey, a company-wide survey aims at assessing our own performance and identifying areas of improvement, conducted in 2018. Improvement in scores was noted when compared to the last survey so we will focus on areas that need further improvement.



▲ A group photo of HK Electric engineers after having training on construction safety at the Safety Experience Training Centre at the Construction Industry Council.

In 2019, we drove innovation across the company and a campaign “Continuous Safety Improvement and Innovation Scheme” was launched to encourage employees to come up with ideas to further improve our safety performance.

The Transmission and Distribution Division continued with its Work Safe Behaviour programme, launched in 2011, under the theme “Driving Safety” to look for ways to improve drivers’ behaviour to enhance driving safety.

Across all our locations, housekeeping inspections were conducted throughout the year to ensure compliance with 55 practices and office safety principles.

Protecting employee wellbeing

As a responsible employer, we recognise the importance of protecting our employees’ overall well-being and have formalised our commitment by being a signatory of the Joyful@Healthy Workplace Charter launched by the Department of Health and the Occupational Safety and Health Council since 2016.

Long-term well-being can be achieved only if people take an active role in managing their own physical and emotional wellness, as well as maintaining a work-life balance. With this in mind, we continued to promote “Drive your own purpose” as our theme, organising 10 health talks and emotional wellness workshops in 2019, attended by 356 employees. Besides, 37 wellness courses including interest classes,

physical training and fitness activities had been organised to enhance employees’ physical and psycho-social wellness.

One popular initiative in 2019 was our Good Neighbours’ Club, which organised a basic counselling skills workshop for 16 employees to prepare them to be Good Neighbours. There were a total of 87 Good Neighbours in 2019.

We continued to provide an Employee Recreational Subsidy to support our staff to organise group activities such as picnics, barbecues and other leisure activities among themselves, contributing to team bonding.



▲ Our extra-curricular activities such as Runners’ Club keep people fit through physical activities, provide platform for work-life balance and team building.

Conclusion

As a participant in the CDP (formerly the Carbon Disclosure Project), we report greenhouse gas emissions and our efforts in reducing these and in building climate resilience annually. We implement proactive strategies to combat climate change and enhance transparency in information disclosure.

Our commitment is to support Hong Kong’s transition to a green, smart city through our business and community related activities. Our various programmes and engagement strategies are part and parcel of our vision to make a positive contribution to the sustainable development of Hong Kong.