

SUSTAINABILITY REPORT 2019

# Embracing Hong Kong with Clean Energy



港燈電力投資  
HK Electric Investments



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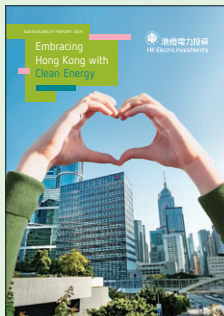
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# Report Overview



*The cover design of this report conveys the love HKEI has for our home city as well as the global village. With love comes care – we believe we must do what's right for our planet and that's why we are committed to embracing Hong Kong with clean energy in line with the United Nations' Sustainable Development Goals.*

— **Scope** — This is the Sustainability Report of HK Electric Investments and HK Electric Investments Limited (collectively known as HKEI) for 2019. The report presents our approach to meeting sustainability challenges, key performance during the year as well as plans and targets for the future. It is designed to be read in conjunction with information from our other key reporting channels. Details about our policies and routine initiatives are available on our website [www.hkei.hk](http://www.hkei.hk). More information about our governance practices, financial performance, and awards and recognition received is covered in our [Annual Report](#).

— **Basis of Reporting** — In preparing this report, we have followed the Global Reporting Initiative's (GRI) Sustainability Reporting Standards and Electric Utilities Sector Disclosures as well as Hong Kong Exchanges and Clearing Limited's (HKEX) Environmental, Social and Governance (ESG) Reporting Guide. This report is prepared in accordance with the Core option of the GRI Standards and also addresses a significant number of disclosures required under the Comprehensive option.

The [GRI Content Index](#) and [HKEX ESG Content Index](#) of this report are available on our website, providing cross reference information for readers to locate individual disclosures. For some disclosures, specific information is reported directly in the GRI Content Index.

Issues for inclusion in this report were determined through a process of materiality review. Details and results of our materiality review can be found in the GRI Content Index.

— **Other Information** — Our data collection and analysis are based on relevant guidelines and standards, such as ISO 14064 for greenhouse gas emissions and local government guidelines for energy and carbon audits for buildings. All financial data are presented in Hong Kong dollars unless otherwise specified. Due to rounding, some figures may not add up to the total.

The suppliers referred to in this report have a direct commercial relationship with us, including contractors. Our workforce primarily comprises full-time employees with an insignificant portion of part-time and temporary employees. Employees of our contractors, with whom we have no direct employment relationship, are not considered part of our workforce. In this report, shareholders refer to holders of our Share Stapled Units.

The online version of this report contains video links and some of the videos are available in Chinese only.

— **Verification and Endorsement** — In line with our commitment to being transparent about our sustainability impacts and to managing those impacts responsibly, we commissioned an independent third party to verify the contents of this report and assure its credibility.

This report has been endorsed by our Corporate Social Responsibility (CSR) Committee and approved by our Boards of Directors.





# A Word from our CEO







I believe there is a widespread consensus in Hong Kong and around the world that the clock is ticking on climate change and action must be taken swiftly. Collectively, individual efforts to reduce carbon emissions can make a real and lasting difference, and the common goal should be to achieve net zero carbon emissions by 2050.

At HKEI, we are pursuing a carbon reduction strategy that will help limit global temperature rise to no more than 2°C or even 1.5°C in accordance with the Paris Agreement. To this end, we are embarking on a new chapter of sustainable development focused on reducing carbon emissions of our business without compromising our record of excellence in serving our customers.

## The beginning of another chapter in our history

2019 marked the start of our new 15-year Scheme of Control Agreement (SCA) with the HKSAR Government, which came into force on 1 January 2019. During the year, we maintained our record of world-class supply reliability and customer services while making significant progress in improving our environmental performance and promoting sustainability.

In January 2019, we introduced a suite of new and upgraded schemes, collectively known as Smart Power Services, under the new SCA to promote energy efficiency and conservation, renewable energy (RE) and low-carbon living. The measures have been well-received by our customers and many welcome the opportunity to “go green” while benefitting from the incentives offered.

Just as we strive to protect the environment, we are committed to promoting the wellbeing of our employees and to shouldering corporate social responsibility towards customers and other people-in-need in our community. We are especially proud of the support we continue to provide to the elderly and for green education through meaningful and sustainable partnerships.

## 2019 Performance Highlights

### Environment & awareness

~30%  
electricity output from  
natural gas

~0.81 kg of CO<sub>2e</sub>  
per unit of electricity sold

SO<sub>2</sub>, NO<sub>x</sub> & RSP emissions  
below stipulated  
emissions  
allowances

>1.7 GWh  
of solar & wind power  
from our facilities

~110,000  
participants in Happy  
Green Campaign

>700  
participants in 57  
Green Hong Kong Green  
eco-heritage tours

>130  
stakeholder visits to our  
new Smart Power Gallery

### Customer & community care

RE Certificates  
involving  
~2.3 GWh  
of green electricity  
fully subscribed

>1,100  
households subsidised  
under Smart Power  
Care Fund

>2,250  
elderly cared for  
through CAREnJOY

>17,000  
learning opportunities  
provided by University  
of 3<sup>rd</sup> Age

>4,760  
employee  
volunteering hours

>99.999%  
supply reliability for the  
23<sup>rd</sup> consecutive year

Average customer  
satisfaction rating of  
4.6 on a 5-point scale

Subsidies  
approved for  
>80  
buildings under Smart  
Power Building Fund

>200  
free energy audits  
under Smart Power  
Energy Audit

~60  
grid connections for  
Feed-in Tariff payments





## Safety & employee care

**1 lost time injury**

**Lost time injury  
frequency rate of  
0.05**

**Lost time injury  
severity rate of  
1.02**

**Average >30  
training hours per  
employee**

**Maternity leave  
entitlement  
increased to  
14 weeks**

## Progress towards a greener and smarter city

As part of our 2019-2023 Development Plan, we are in the process of replacing ageing coal-fired generating units at Lamma Power Station (LPS) with three highly efficient gas-fired combined-cycle generating units, known as L10, L11 and L12. Following the successful synchronisation of L10 in October 2019, the unit was commissioned in February 2020, bringing our gas-fired generation to about half of our total output. Meanwhile, L11 and L12 are on track for commissioning in 2022 and 2023, respectively. When that happens, we anticipate that the proportion of gas-fired power will rise further to about 70% of our total output in 2023.

In anticipation of the local power sector's increasing demand for natural gas, we are collaborating with CLP Power to develop an offshore liquefied natural gas (LNG) terminal using "Floating Storage and Regasification Unit" (FSRU) technology. During the year, several important project milestones were achieved, including the establishment of Hong Kong LNG Terminal Limited, which is a joint venture between HK Electric and Castle Peak Power Company Limited (the entity representing CLP Power), and the signing of two important third-party agreements. Construction works are scheduled to commence in 2020.

By 2025, our Development Plan calls for widespread implementation of Advanced Metering Infrastructure (AMI) – commonly referred to as "smart meters" – to facilitate better energy management by our customers while helping transform Hong Kong into a smart city. Building on the success of a pilot project that we completed in 2019, we plan to undertake full-scale deployment of smart meters in phases across our network commencing in 2020.

Inevitably, progress towards greener and smarter power places upward pressure on electricity prices. Higher capital expenditure and fuel costs combined with much lower special rebates have resulted in a 5.2% increase in our net tariff for 2020 compared with 2019. However, at 126.4 cents per unit of electricity, this tariff remains lower than the rate of 130.8 cents that was forecast in our Development Plan.

We have announced a series of relief measures to alleviate hardship for our customers and to help them tide over the challenging socio-economic climate in Hong Kong. When these measures are taken into account together with various subsidy schemes introduced by the Government, we anticipate nearly all of our customers will pay less for electricity in 2020 than they did the previous year. In the long term, we expect that the LNG terminal project will help alleviate the increase in fuel costs and thereby ease the upward pressure on our tariffs.



## Projects Milestones



### New gas-fired units

- 2019**
  - L12 piling commenced in April
  - L10 synchronised in October
  - L11 E&M works commenced in November
- 2020**
  - L10 commissioned in February
- 2022**
  - L11 scheduled for commissioning
- 2023**
  - L12 scheduled for commissioning

### Offshore LNG terminal

- 2019**
  - Joint venture established in June
  - Agreements signed for long-term supply of LNG and leasing of an FSRU vessel in June
- 2020**
  - Construction works to commence
- 2022**
  - Target commissioning

## Facing up to long-term, global challenges

The United Nations' 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) 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 refine and strengthen our approach to three SDGs that are closely aligned with our business strategy.

We recognise the particular urgency of Goal 13 because climate change is escalating at a much faster pace than previously anticipated and its effects are already being felt worldwide. In Hong Kong, 2019 was the warmest year since records began in 1884, with an annual mean temperature of 24.5°C. The annual mean maximum temperature of 27.1°C and the annual mean minimum temperature of 22.6°C were also the highest on record.

### Three SDGs that are Most Material to HK Electric







### Full-scale smart meters deployment

- 2019 ● AMI pilot project completed
- 2020 ● Roll-out to commence
- 2025 ● Target completion

HK Electric participated in a public engagement exercise on Hong Kong's Long-term Decarbonisation Strategy organised by the Council for Sustainable Development on behalf of the Government in September 2019. In our view, it would be both pragmatic and beneficial for Hong Kong to progress with further coal-to-gas transition in the local electricity generation sector. HK Electric could contribute to this strategy by developing additional gas-fired generating units at LPS with the potential to deliver 100% gas-fired electricity output by the early 2030s.

We also support further investment in distributed-type solar and wind projects across our city because they symbolise Hong Kong's deepening commitment to decarbonisation. While regional cooperation with Mainland China could facilitate access to large-scale zero-carbon energy resources, the viability of this approach depends on a number of factors requiring further exploration.

Moving forward, we will continue to work with our stakeholders to promote decarbonisation of Hong Kong. In addition to greening our own operations, we will support other aspects of the Government's climate action strategy, such as electrification of road and sea transport as well as expansion of the mass transit railway network.

## Future-proofing our business in an era of rapid change

At this time of rapid socio-economic and technological change, innovation is key to the success of any business. In November 2019, HK Electric was proud to receive the "Hong Kong Sustainability Award with Special Recognition for Innovation" from The Hong Kong Management Association. We are constantly adapting new technologies, such as big data, artificial intelligence, drones and robotics to optimise our operations. In 2019 alone, our hardworking and creative employees implemented 23 innovative projects and developed 65 new mobile apps of which 27 were already fully functional by the end of the year.

In 2019, HK Electric was ranked fourth among Hong Kong's Top 20 Most Attractive Employers in the Randstad Employer Brand Awards, moving up from sixth place in 2018 and seventh place in 2017 and 2016. To cope with the challenges ahead, we must continue to nurture and retain talent. During the year, we introduced a "My HKE" mobile app to serve as a two-way communication platform for our employees to connect with the company and other colleagues. Our Inno Hub intranet portal encourages employees to innovate by exchanging ideas and learning more about interesting activities and developments related to innovation taking place throughout our organisation, as well as innovation ideas and projects relevant to our operations in other places.

For 130 years, HK Electric has been integral to the fabric of the daily life and business in this city we call home, and we remain deeply committed to this role. Since June 2019, Hong Kong has been deeply impacted by social unrest and from the beginning of 2020 has also experienced an outbreak of novel coronavirus disease known as COVID-19. We have demonstrated strength and vigilance during this challenging time to safeguard ourselves and the community from unnecessary risks while ensuring uninterrupted services for our customers.

To conclude, I would like to express my sincere appreciation to all stakeholders, particularly employees, who make it possible for HKEI to continue to embrace Hong Kong with clean energy while serving our community with pride and dedication.

**Wan Chi-tin**  
Chief Executive Officer

March 2020









## Sustainability at HKEI

Sharing our Planet  
Serving Hong Kong  
Working with Partners

# Sustainability at HKEI





## Our Business

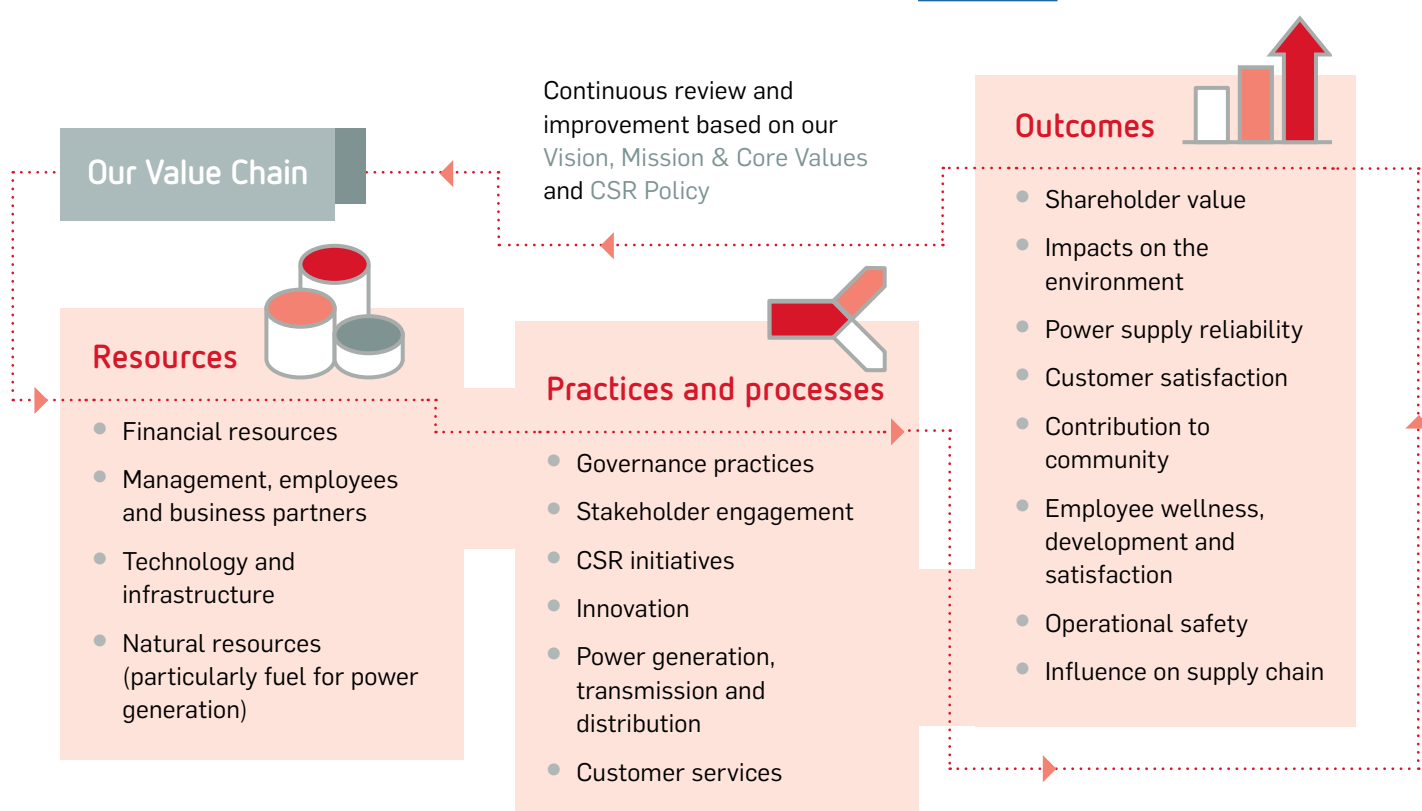
Constituted in January 2014, HK Electric Investments is a fixed single investment trust in Hong Kong focusing purely on the energy sector. Share Stapled Units issued by the trust and HK Electric Investments Limited (collectively known as HKEI) are listed on the Main Board of the Hong Kong Stock Exchange. The structure of the trust enables us to focus on delivering stable distributions to investors and sustainable long-term growth of our business.

Under a Scheme of Control Agreement (SCA) with the HKSAR Government, our main operating company, The Hongkong Electric Company, Limited (HK Electric or the company), provides electricity supply to approximately 581,000 customers on Hong Kong and Lamma Islands through a vertically integrated power utility operation. The company operates a power station on Lamma Island, namely Lamma Power Station (LPS).

We are proud of our corporate longevity as one of the longest-serving power utilities in the world, having commenced operations in 1890. For 130 years, we have been powering Hong Kong's development through continual investment in appropriate technologies for providing safe, reliable, clean and affordable electricity that is essential to the city's continued success.

As a responsible corporate citizen, we are committed to engaging with our stakeholders, caring for the community and operating our business in a responsible and transparent manner. HKEI has been included in the Euronext Vigeo World 120 Index as a testament to our excellence in sustainable business practices.

For more information on HKEI and HK Electric, please visit our website [www.hkei.hk](http://www.hkei.hk).







## Business Profile (as at the end of 2019)



### Transmission and distribution network

High-voltage circuit length:  
~440 km

Medium-voltage circuit length:  
~3,920 km

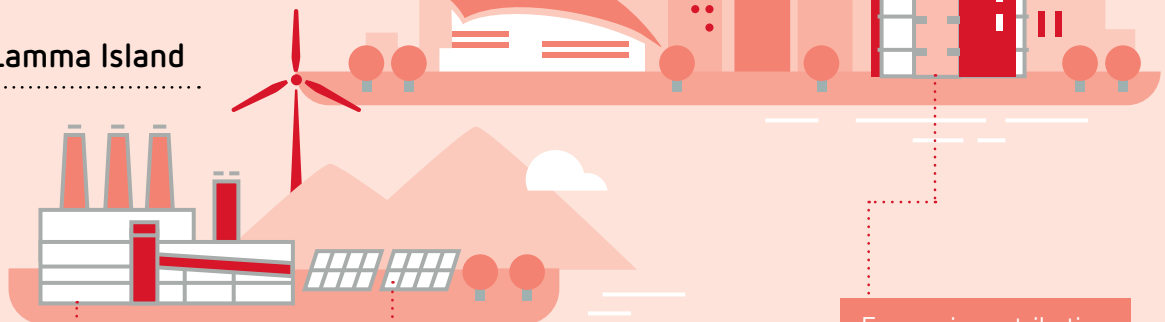
Low-voltage circuit length:  
~2,180 km

Total:

**~6,540 km**

### Hong Kong Island

### Lamma Island



### Workforce

Number of permanent  
employees:

**1,770**

Number of contract  
employees:

**123**

### Installed generating capacity

6 coal-fired units:  
2,000 MW

5 oil-fired gas turbine units:  
555 MW

2 gas-fired combined-cycle units:  
680 MW

1 solar power system:  
1 MW

1 wind turbine unit  
(named "Lamma Winds"):  
0.8 MW

Total:

**~3,237 MW**

### Economic contribution

Total capital expenditure:

**\$4,620 million**

Distributable income:

**\$2,830 million**

### Operations

Number of customers:

**~581,000**

Electricity sold:

**10,519 millions  
of kWh**



[The Power behind  
Hong Kong](#)



# Sustainability Governance

Under the leadership of our Boards of Directors and guidance of our CSR Committee, we live up to our Vision, Mission and Core Values, integrate sustainability into every aspect of our business operations and corporate culture, and adhere to a comprehensive CSR Policy and sound governance practices. Implementation of the CSR Policy is overseen by our CSR Committee which is chaired by our CEO.

## Vision

To excel in the power business in Hong Kong

## Mission

- To enhance shareholder value
- To deliver excellent customer services and supply reliability
- To nurture a harmonious and engaged workforce
- To care for the community we serve
- To care for the environment in all our activities
- To drive for efficiency in our operations

## Core Values

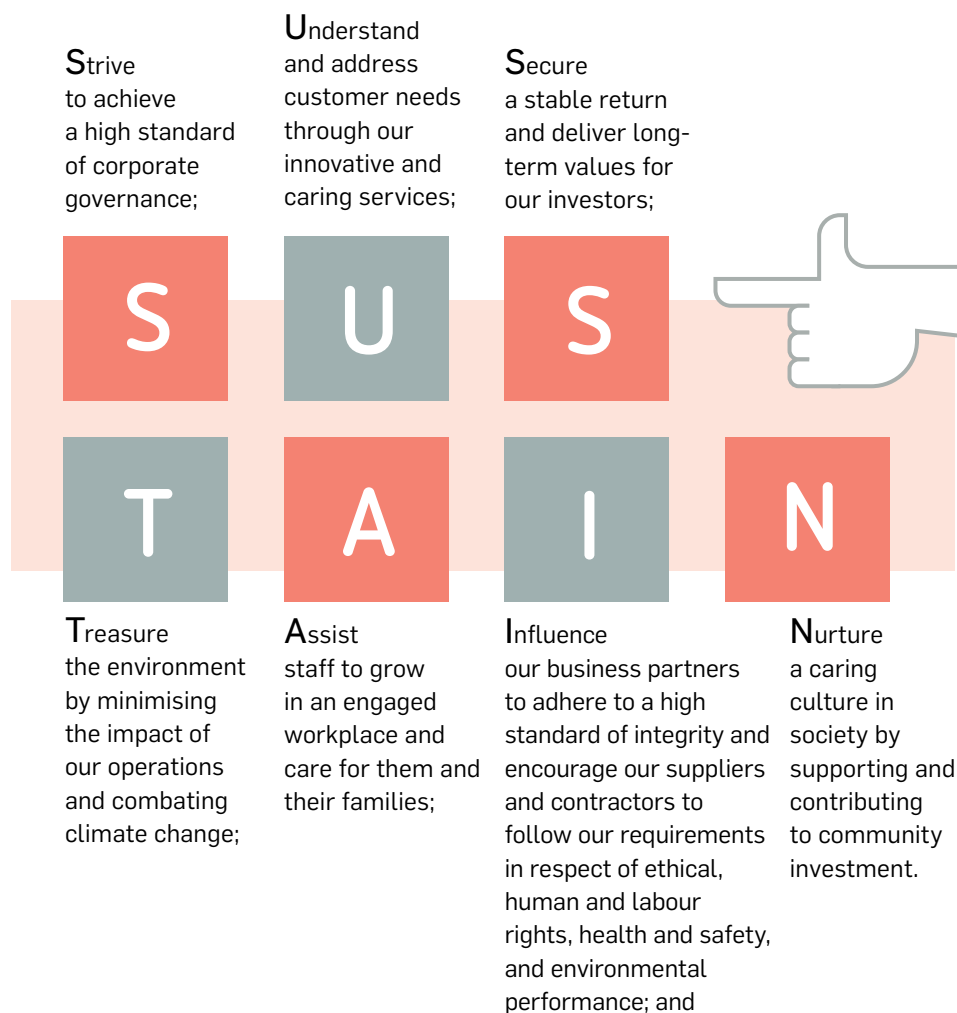
- Pursuit of Excellence
- Integrity
- Respect & Trust
- Caring

## CSR Policy

We are committed to operating our business in a responsible and transparent manner while meeting the long-term energy needs of the community we serve.

Underpinned by our core values, we aim to be a good corporate citizen supporting the sustainable development of the community; a world-class energy supplier providing safe, reliable, affordable and environmentally friendly electricity supply to our customers; and an employer of choice that attracts and develops talents.

To accomplish this, we integrate CSR considerations in our operations, engage our stakeholders and will:







## Governance Practices

We uphold high standards of corporate governance based on the principles of openness, integrity and accountability. We believe these are essential for efficient and transparent operation of our business and for strengthening our ability to attract investment, enhance shareholder value, and protect the rights of our shareholders and other stakeholders.

To achieve these aims, we conduct our practices within a framework of corporate governance processes, guidelines and policies that align with the Corporate Governance Code, as set out in the Listing Rules of the Hong Kong Stock Exchange.

### Key Governance Practices

#### Risk management

- **Enterprise Risk Management Framework** (overseen by our **Risk Management Committee**) to identify, assess, mitigate and monitor key business, financial, operational and compliance risks, including top corporate risks and material emerging risks.
- **Compliance Framework** (overseen by our **Compliance Committee**) to manage compliance obligations on a company-wide basis.
- **Crisis Management Plan** to address emergencies, with each business unit also responsible for implementing its own respective contingency plans to maintain business continuity.

In 2019, there were no instances of material non-compliance.

#### Business ethics

- **Code of Conduct** to provide guidance for our employees on ethical issues, including the reporting and treatment of unethical behaviour.
- **Fraud Prevention and Awareness Policy** to minimise exposure to fraud risk.
- **Various whistleblowing channels** for employees and external parties to report actual or potential illegal acts and violations of the Code of Conduct.
- **Monitoring mechanism** to review compliance with anti-corruption laws and the Code of Conduct, including a **biannual anti-bribery and anti-corruption control assessment** that evaluates the effectiveness of controls for managing bribery risks.

In 2019, there were no ongoing or concluded legal cases regarding corrupt practices brought against HKEI or its employees.

### Creating value

- Running our business prudently, efficiently and responsibly, and pursuing sustainable development opportunities through prudent investment in the latest innovative and sustainable technologies, so as to deliver **sustainable returns to our investors** and **world-class power supply service to our customers at affordable prices** while helping lead the **transformation of Hong Kong into a smarter, and more sustainable and caring city**.
- **Reducing the carbon intensity and improving the air quality of our city** by developing new gas-fired power generation facilities to phase out ageing coal-fired units, as outlined in our 2019-2023 Development Plan.

We will continue to implement various initiatives to achieve our targets for sustainable development and keep track of our performance with reference to these targets.



## Challenges and Strategies

We strive to overcome a variety of challenges that may stand in the way of achieving sustainable development, ranging from increasing stakeholder expectations, to rising fuel costs and the impacts of macro-economic and social uncertainty.



## Key Sustainability Challenges



### Stakeholder expectations and regulatory requirements

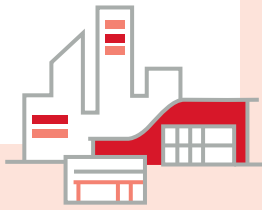
#### Key challenge

- Stakeholder expectations and regulatory requirements related to our business are ever-increasing as our society continues to evolve.
- As a major public utility, we must take a leading role in contributing to the economic, environmental and social sustainability of our city.

#### Strategy and approach

- We strive to understand and anticipate the concerns of our stakeholders through various communication channels in order to address their expectations.
- We continuously monitor changes in relevant laws and regulations to ensure compliance.
- We have comprehensive management systems in place governing environmental protection, health and safety, asset management, cybersecurity, supply reliability and service quality.





## Electricity market

### Key challenge

- A new 15-year SCA came into force on 1 January 2019 stipulating stringent requirements on our operations until 2033.
- The Government's strategies and policies on air quality, climate change mitigation, fuel mix and electricity market competition are other important factors shaping the medium to long-term development of our business.

### Strategy and approach

- We closely monitor progress of development projects under our 2019-2023 Development Plan, particularly the development of new gas-fired units.
- We continue to review relevant factors and engage with the Government and other stakeholders in constructive dialogue about the development of Hong Kong's electricity market, including related regulatory issues and the city's long-term decarbonisation strategy.

### Key challenge

- Our power generating units are fuelled by coal and natural gas.
- Any supply interruptions or shortages, including instances of sub-standard fuel quality, can significantly impact our business and emissions performance.
- Switching to natural gas, which is a cleaner but more costly fuel, increases operating costs and also exposes our business to higher volatility of fuel price.

### Strategy and approach

- We have strategy and quality control systems in place to help us secure a reliable and stable supply of high-quality fuels at reasonable prices.
- Diversification of gas supply is a key consideration as we progressively increase the proportion of natural gas in our fuel mix. Timely completion and commissioning of the offshore liquefied natural gas (LNG) terminal is a key element of our strategy to mitigate risks with fuel supply.

## Fuel supply



## Economic environment



### Key challenge

- Macro-economic growth remains sluggish at a global level. Escalating trade protectionism, increasing uncertainty over economic policies, rising geopolitical tensions and volatility of financial market continue to add uncertainties to the global and local economies.
- Social unrest, the US-China trade war and the outbreak of COVID-19 have dampened Hong Kong's economic growth and exports.
- These economic and social uncertainties constrain economic activities and may adversely affect the business of our customers. This may lead to a lower demand for electricity and adversely affect our financial position and asset valuation.

### Strategy and approach

- We pursue prudent and pragmatic strategies for financial management and capital investment.
- We strive for efficiency and cost effectiveness in all aspects of our operations to enhance financial performance.



# 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).



Three SDGs that are Closely Aligned with our Business

## 7 AFFORDABLE AND CLEAN ENERGY



Goal 7:  
Affordable and Clean Energy: Relevant associated targets

7.1

Ensure universal access to affordable, reliable and modern energy services

7.2

Increase substantially the share of renewable energy (RE) in the global energy mix

7.3

Double the global rate of improvement in energy efficiency

### Our business dimensions

- Provide affordable and reliable electricity supply
- Facilitate wider RE deployment in HK Electric's power grid
- Engage with customers to enhance energy efficiency and conservation (EE&C)

### Corresponding internal targets

- Maintain a safe and reliable electricity supply  
→ **to maintain better than 99.999% reliability rating**
- Gain access to diverse and cost-competitive LNG supplies worldwide to alleviate considerable pressure on tariffs due to increased consumption of natural gas  
→ **to commission the offshore LNG terminal in 2022**
- Provide subsidies to underprivileged households for adopting energy-efficient electrical appliances  
→ **to subsidise 4,000 households by 2023**
- Increase the use of RE  
→ **to increase the aggregate electricity generated from RE sources of HK Electric and its customers to over 3 GWh/year by 2023**
- Provide free energy audits for non-residential customers and subsidies to building owners for implementing energy efficiency enhancement projects  
→ **to complete 1,000 audits and subsidise 500 buildings by 2023**





## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



### Goal 9: Industry, Innovation and Infrastructure: Relevant associated targets

9.1

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all

9.4

Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

#### Our business dimensions

- Develop and maintain quality, reliable, sustainable and resilient electricity infrastructure
- Facilitate demand-side energy management and improve customer services by upgrading our infrastructure with smart-metering technology

#### Corresponding internal targets

- Enhance asset integrity  
→ to complete anti-flooding enhancement for low-lying substations within 100 m of northern coastal line by 2021
- Deploy smart meters  
→ to complete full-scale deployment by 2025

## 13 CLIMATE ACTION



### Goal 13: Climate Action: Relevant associated targets

13.1

Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.2

Integrate climate change measures into national policies, strategies and planning

13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

#### Our business dimensions

- Combat climate change through coal-to-gas transition in our fuel mix
- Promote EE&C and low-carbon lifestyle through public education

#### Corresponding internal targets

- Replace coal-fired units with gas-fired units  
→ to commission three new gas-fired units, L10, L11 and L12, in 2020, 2022 and 2023, respectively
- Reduce carbon emissions per electricity unit sold  
→ to ensure yearly average emissions do not exceed 0.6 kg of CO<sub>2</sub>e per kWh by 2023
- Engage stakeholders on combating climate change and adopting low-carbon lifestyle  
→ to organise 1,000 education and promotion activities by 2023
- Build capacity in HK Electric's supply chain  
→ to update our "Code of Practice for Suppliers" to address climate change concerns in 2020

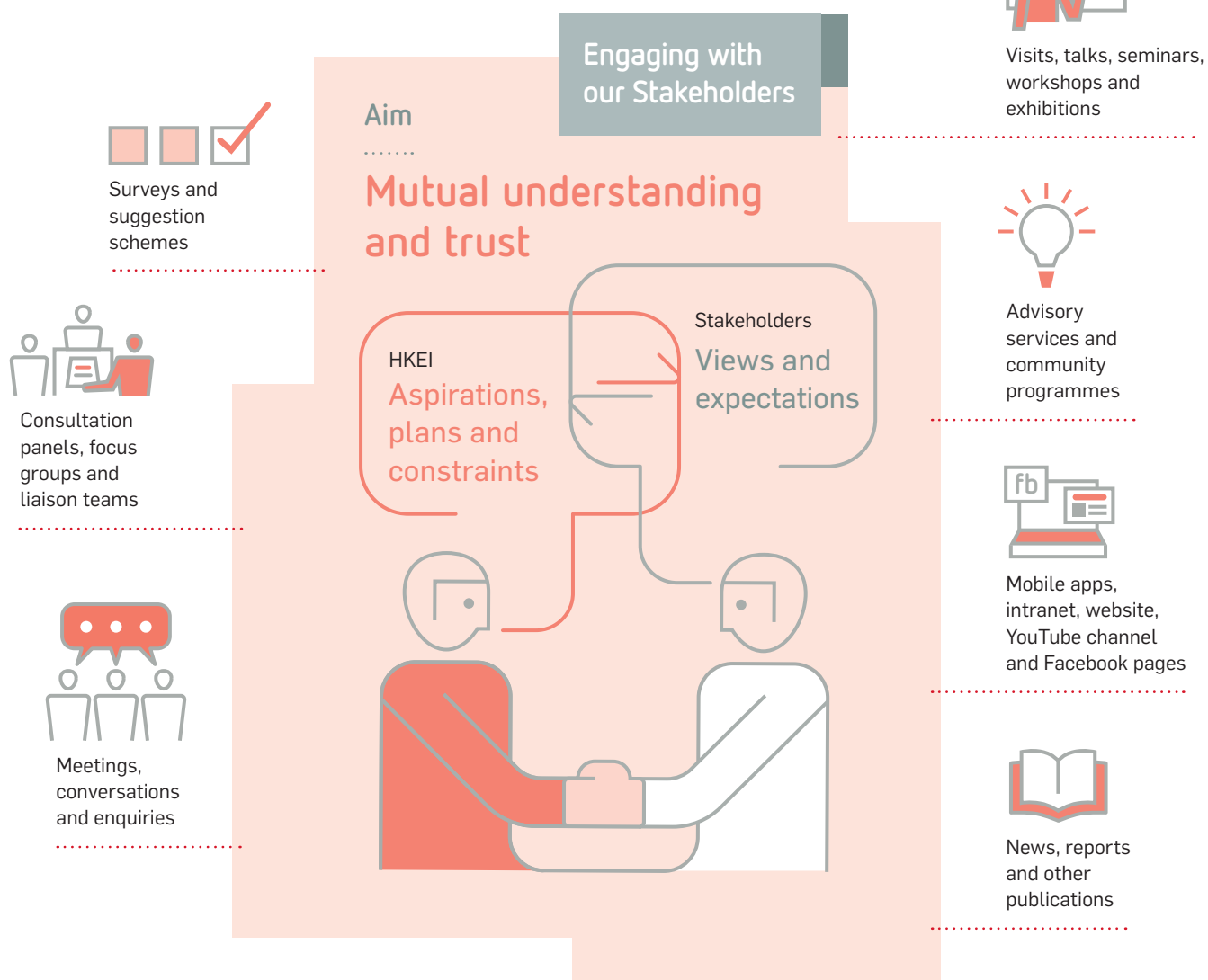


# Stakeholder Engagement

We recognise that our operations have significant impacts on our customers and the community, among other stakeholders. We believe in open and effective communication with all stakeholders, so that through dialogue, their views and expectations will continue to shape our growth and development for the better.

Recently, we have formalised a Complaints Handling Policy, which provides assurance to all our stakeholders that any complaints we receive are dealt with courteously, investigated thoroughly, and resolved quickly and appropriately. All complaints are taken seriously and reviewed carefully by senior management through our Stakeholder Satisfaction Steering Committee in order to prevent recurrence and to enhance operational efficiency and effectiveness.

We also wish to gain our stakeholders' support, or even participation, in our CSR initiatives through various engagement activities such as "CSR Corner" on our intranet portal and volunteering opportunities for employees, Feed-in Tariff and RE Certificates for customers, and green ambassador programmes for students and the elderly.







## Stakeholder Engagement Activities



Employees



Media



NGOs



Business  
Partners



Customers



Local Communities



Education  
Sector

Shareholders





## Case Story 1

# A place close to our hearts



Since the decision to make Lamma Island home to our power station (LPS) four decades ago, HK Electric has committed to being a good neighbour to residents on the island as well as a good corporate citizen. Our relationship with the Lamma community, one of the company's most important groups of stakeholders, exemplifies our corporate mission of caring for the community we serve.

## Over the years, We...



## Always on for Lamma

## Care for local community

"In the past, many Lamma residents had to travel to urban areas to work, but the job opportunities arising from the construction and operation of LPS have offered us an alternative choice to work near home, saving time and effort in daily commuting. Ever since HK Electric extended its footprint to Lamma Island, it has never hesitated to support the development of our home island," said longtime resident and Chairman of Lamma Island (North) Rural Committee, Chan Lin-wai.

Over the years, our Lamma Trust has supported many community projects on the island, such as construction of Yung Shue Wan Plaza, reconstruction of Tin Hau Temple at Sok Kwu Wan and, most recently, renovation of North Lamma Public Library cum Heritage and Cultural Showroom.

Hardware aside, we put the wellbeing of Lamma residents close to our hearts by supporting and sponsoring various events and celebrations, such as the annual Tin Hau Festival and Dragon Boat races. We also reach out to local elderly residents through home visits and electricity safety talks under our "CAREnJOY for the Elderly" programme, extending care and joy to our senior citizens.

Meanwhile, the highly popular eco-heritage tours of Lamma Island, organised under our "Green Hong Kong Green" (GHKG) programme since 2005, explore the island's diverse natural habitats and unique cultural history, while promoting conservation, eco-tourism and sustainable development of the island.





## A friend-in-need... is a friend indeed

True friendship can stand even the toughest test. Mr. Chan recalled that when the super typhoon Mangkhut struck Hong Kong in 2018, our employees voluntarily lent a hand in the clean-up and restoration efforts, helping clear roads and pathways on Lamma Island. "Their support rendered during a difficult time has impressed us and we are really grateful to have such a close and caring neighbour," Mr. Chan said.



*"Relationships are not built in one day, but rather over time and with mutual trust and care to make them sustainable. HKElectric is showing great care for and respect to the Lamma community and is working closely with us because they treasure our relationship as well as this beautiful island."*

Chan Lin-wai  
Chairman of Lamma Island (North)  
Rural Committee

## Promote local culture



## Support

local tourism and  
development



## Preserve local environment



## Somewhere in Time @Lamma

In 2019, we organised a new GHKG thematic tour to introduce Lamma's ecology and history to the public through a guided walk of island ecosystems, and the newly opened North Lamma Public Library cum Heritage and Cultural Showroom.



# Innovation

Continuous innovation creates decisive advantages for navigating our business through challenges and opportunities in a rapidly changing world. To this end, innovation is an integral part of our corporate strategy, and we seek to innovate continuously across all aspects of our business.

We recognise our people as the driving force of creativity. We nurture talent by fostering collaborative relationships that are built on mutual respect and trust. The Inno Hub, for instance, is our platform for employees to exchange ideas and learn more about interesting activities and developments related to innovation throughout the company.

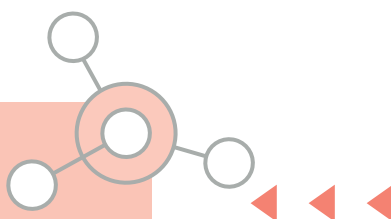
We acknowledge each employee's contribution to making a successful business case from every new innovation. Our Innovation Steering Committee supports the nurture and development of innovative ideas throughout our business, including new apps and

technologies such as big data and artificial intelligence, which streamline our work processes, improve performance and enhance customer experience.

Since 2018, our employees have initiated more than 60 innovation projects, of which 23 were implemented in 2019. During the year, our colleagues developed over 65 mobile apps, of which 27 were already fully functional. The remaining 38 apps were under different stages of testing by the end of 2019 and will come online progressively in 2020. These apps help enhance operational efficiency, customer and community services as well as environmental performance.

## Virtual Assistant for Customers

In October 2019, we launched HK Electric Virtual Assistant, Elsie, on our website to answer general enquiries from our customers 24 hours a day, 7 days a week. Elsie is an important part of our customer service strategy for delivering convenient, high quality customer experience on demand by leveraging natural language processing chatbot technologies.



## My HKE – An App to Engage Employees

"My HKE" is a mobile app launched in 2019 that serves as a two-way communication platform enabling our employees to connect with the company and their colleagues in a seamless way.



Key information on the app:

- Broadcast Messages and Corporate News
- Medical Services and Fringe Benefits
- Communication, Engagement and Wellness
- HK Electric Channel and Driving Tips
- Learning Corner
- Career Kit
- Administration Services
- Environmental Awareness

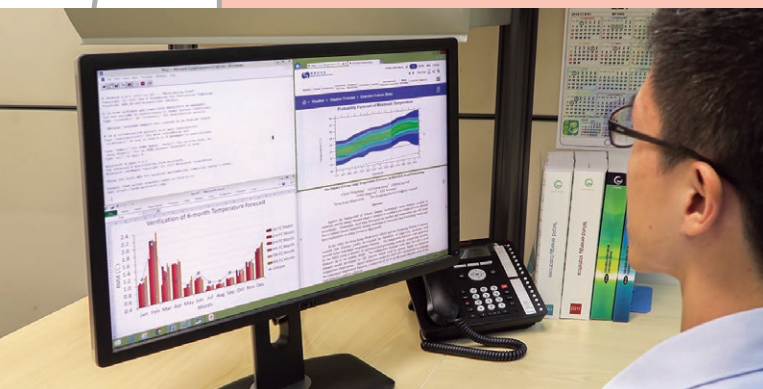




## Enhanced Statistical Model for Load Forecast Work

We anticipate that climate change and extreme weather will impact electricity demand in Hong Kong. In order to prepare for this and build additional resilience, in 2019 we upgraded our electricity load forecasting model in collaboration with the Hong Kong Observatory (HKO).

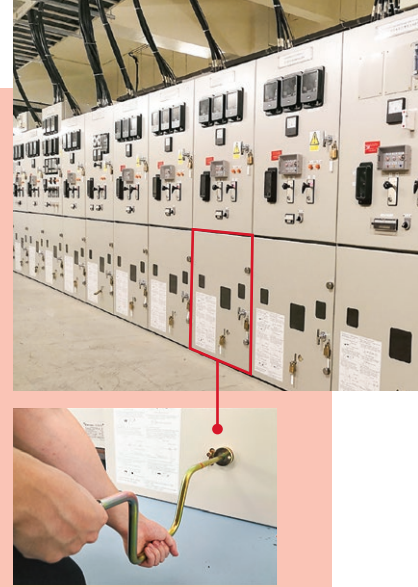
To make the best use of 6-month temperature forecasts developed by HKO, we benchmarked our regression model for load forecast with machine learning models and have been able to significantly improve the accuracy of our electricity load forecasts.



## New Safety Design for Substation Works

In the 18<sup>th</sup> Hong Kong Occupational Safety & Health (OSH) Award, HK Electric received an OSH Enhancement Programme Award in recognition of its outstanding innovations in substation works, including:

- Design features to reduce safety risks associated with cable laying and termination work inside preformed trenches, such as safe access via manholes and special devices known as "pad-eyes" to facilitate bending and termination of high-voltage cables.
- Newly designed arc-proof doors to avoid arc flash explosion risk when substation personnel perform racking operations at switchgear cubicles; the doors remain closed to provide a barrier for protection of workers.
- Improvements to our cable protection trunking system to avoid tripping hazards for pedestrians from temporary high-voltage cables; these are sometimes laid in public spaces to restore power supply in the event of a fault.



## Unmanned Counter at our Warehouse

To shorten wait time and elevator congestion at our warehouse issuing counter, in 2019 we introduced smart locker technology that allows site engineers and tradesmen to collect materials and packages from a designated secure cabinet at their convenience using a one-time generated password. We have also introduced position-tracking technology to improve security and monitor cabinet movement.





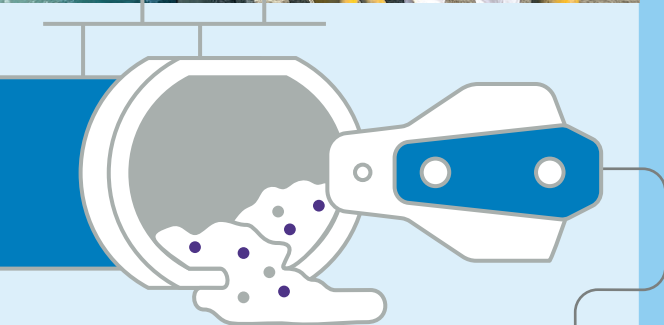
## Case Story 2

# Sustainability through innovation



At HK Electric, we work hard to promote a culture of innovation and experimentation. We believe that with their first-hand knowledge and experience, our employees are in the best position to identify areas for improvement.

"At LPS, we encourage our colleagues to apply their skills and creativity to enhance our operation and maintenance while also benefitting the environment," said General Manager (Generation) Chow Fo-shing.



## Enhancing maintenance efficiency while reducing safety risks

Like many other coastal power stations, LPS uses sea water as a cooling agent for condensers in its generating units. Cooling is an integral part of the power generation process involving the intake and discharge of sea water by a number of circulating water (CW) systems.

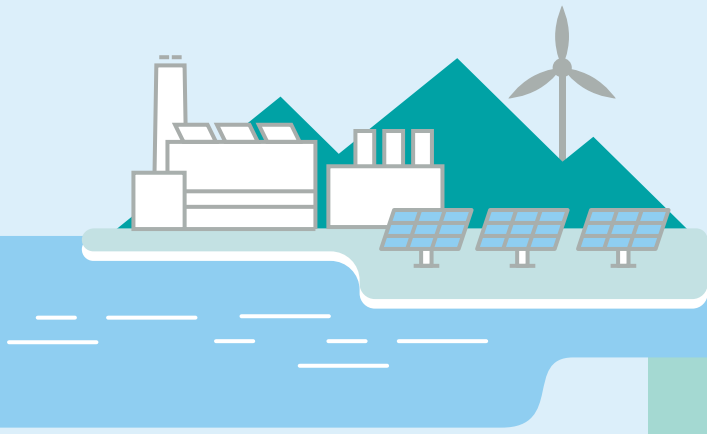
To maintain the reliability of our generating units, timely inspection and maintenance of the CW systems – in particular the inlet culverts – is critical. Tide level, accumulation of marine sediments and safety are all important factors to consider.

"Marine sediments at the inlet culverts have to be removed before they reach a level that could affect the intake of sea water during low-tide conditions. Inspection and maintenance works in the underwater environment need to be carried out by a diver and this gives rise to certain safety risks," Technician Ira Chan explained.

In 2018, we installed tide gauges and anemometers on Lamma Island as part of a joint study with HKO on tides and storm surge. The tide monitoring data has helped us plan our culvert inspections and sediment removal in a more efficient manner.

In March 2019, we trialled the use of a Remotely Operated Underwater Vehicle (ROV) to inspect our Gas Turbine Water Injection tank. We are now exploring the use of ROVs to inspect inlet culverts too. This technology should reduce safety risks for divers by minimising their time under water for maintenance work.





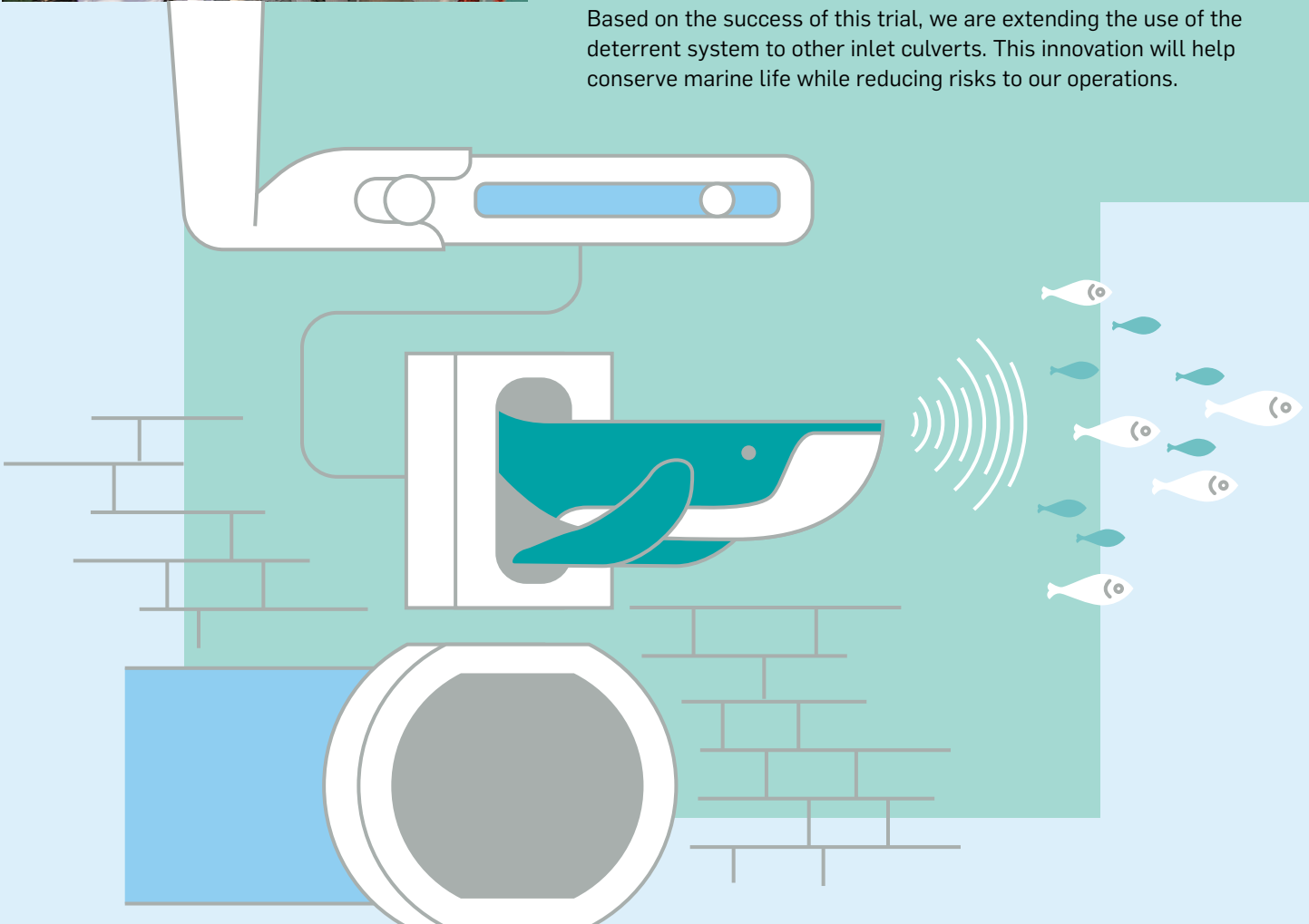
## Conserving the marine environment

### while reducing operational risks

Another issue for our CW systems is fish ingress, which is a common problem associated with sea water intake systems of coastal power plants. "Fish can get trapped and killed in the screen and may also cause plant damage," said Energy and Performance Engineer Jade Tse.

To address this issue, we have explored the use of a fish deterrent system that generates low-frequency sounds and whale voices to deter fish from swimming too near the inlet culverts. In June 2019, we completed a trial of this system at Unit L9 and found the quantity of marine life trapped in the screen reduced significantly compared with the same period in 2018.

Based on the success of this trial, we are extending the use of the deterrent system to other inlet culverts. This innovation will help conserve marine life while reducing risks to our operations.







Sharing  
our Planet





Sustainability at HKEI

Sharing our Planet

Serving Hong Kong  
Working with Partners







## Management Approach

HK Electric's commitment to safeguarding the environment is articulated in our Environmental Policy, which focuses on low-carbon power generation and promoting smart, renewable energy technology in line with Hong Kong's international commitments to reducing carbon emissions and the Government's long-term decarbonisation strategy.

Environmental considerations are fully integrated across all aspects of our business under the co-ordination by HK Electric's Environment Committee. We strive for continuous improvement against measurable

targets in accordance with environmental management and energy management systems that are certified to international standards ISO 14001 and ISO 50001, respectively.

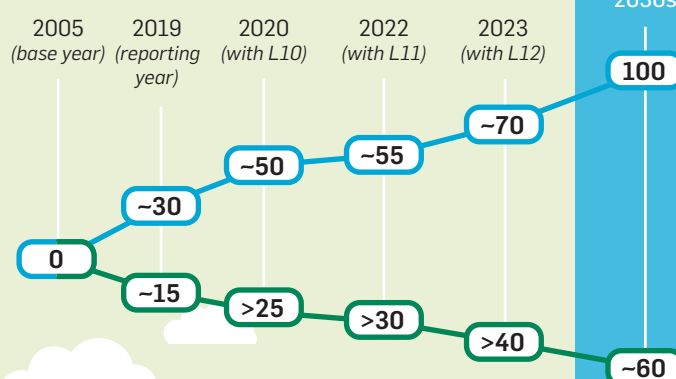
We know that environmental stewardship does not work in isolation, so we align closely with our stakeholders, such as the Government, business partners and non-governmental organisations (NGOs), to achieve shared aims. In addition to helping our customers conserve energy and make environmentally responsible choices, we actively reach out to the public at large through environmental awareness and education campaigns.

### Continuous Improvement

In 2019, we conducted a company-wide Environmental Climate Index (ECI) survey as part of our ongoing performance monitoring and improvement programme. Compared with the last one conducted in 2016, a higher overall ECI score was obtained in 2019 demonstrating improvement in environmental awareness among our employees.

### Pathway to 100% Gas-fired Generation

- Electricity output from gas (%)
- Reduction in absolute carbon emissions compared with 2005 (%)



Note: L10, L11, L12 are gas-fired generating units.

LNG



# Taking Action on Climate Change

HK Electric is committed to working towards decarbonisation targets consistent with the direction of the Paris Agreement. We are taking action on climate change by reducing the carbon emissions from our power generation and promoting energy efficiency and conservation (EE&C) and renewable energy (RE), while bolstering our network's resilience to extreme weather events through robust planning and precautionary measures.

We also share information about relevant strategies and actions through the annual CDP survey, and support the Business Environment Council's Low Carbon Charter initiatives to contribute towards Hong Kong's long-term decarbonisation.

## Transitioning from Coal to Gas

Switching from coal to natural gas provides a clean, reliable and cost-effective way to reduce carbon emissions. In 2019, power generated from natural gas comprised about 30% of total electricity output and the carbon intensity of our power supply was approximately 0.81 kg of CO<sub>2</sub>e per kWh.

As part of our 2019-2023 Development Plan, we are developing three more highly efficient combined-cycle gas-fired generating units known as L10, L11 and L12. Following successful synchronisation in October 2019, L10 was commissioned in February 2020, bringing our gas-fired generation to about half of our total output. We are also making good progress with L11 and L12, which we expect to be commissioned in 2022 and 2023, respectively. By 2023, gas-fired power will rise further to about 70% of our total output.

Moving forward, we have capacity to develop additional gas-fired generating units at our existing site in LPS to achieve full transition to gas-fired generation by the early 2030s. For more information about HK Electric's position on long-term decarbonisation strategy for Hong Kong, please refer to our [Response to the Long-term Decarbonisation Strategy Public Engagement](#) on our website.

To ensure the commercial and operational viability of coal-to-gas transition, we are working with CLP Power to develop an offshore liquefied natural gas (LNG) terminal using "Floating Storage and Regasification Unit" (FSRU) technology. The project comprises an FSRU vessel, a jetty and a network of submarine pipelines that will be connected to the concerned power stations, including LPS. Scheduled for commissioning in 2022, the project will provide a new channel for LPS to receive cost-competitive LNG supplies from different markets across the globe, thereby enhancing the security of our fuel supply.

In June 2019, a joint venture was established for the project and two third-party agreements pertaining to long-term LNG supply and leasing of an FSRU vessel were also signed.



Coal-to-gas transition is taking place at LPS.



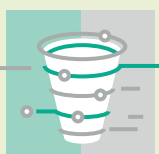
[An Era of Gas Generation](#)







## Building Resilience: Adapting to Change



### Stronger typhoons and more powerful thunderstorms

- Underground and submarine cables for almost our entire transmission network to minimise risks due to strong winds
- Standby typhoon emergency teams, equipped with action plans for different storm severity levels, to undertake operations and repairs
- Dedicated IT reporting platform with mobile apps for effective coordination of emergency response
- Decentralised storage of critical spares

## Building Climate Resilience

Climate change poses both acute and chronic physical risks to our business. Building resilience into our infrastructure to mitigate climate-related threats is of paramount importance for assuring supply reliability. In addition to implementing precautionary measures at our power station and throughout our network, we continuously enhance our contingency plans and emergency procedures through frequent drills and regular reviews.

As part of our ongoing efforts, we are rolling out smart metering technologies to help identify and restore electricity supply outages during adverse weather conditions. The smart meter roll-out campaign will prioritise customers residing in remote areas.

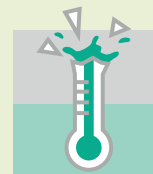
## Roles for RE and EE&C

HK Electric supports utilising RE resources for local power generation. We operate a wind turbine named "Lamma Winds" and a solar power system on Lamma Island, both on commercial scale. In 2019, these systems generated more than 1.7 GWh of green electricity.

We also extended our commitment to our customers by promoting RE technologies and EE&C through a package of "Smart Power Services". Please refer to the chapter on [Serving Hong Kong](#) for more information.

### Longer periods of higher ambient temperature

- Requiring new generation, transmission and distribution equipment to be able to withstand higher ambient temperatures
- Progressively converting 11-kV open-ring distribution feeders to 22-kV closed ring feeders that have more margin and greater resiliency against higher ambient temperature



### Rising sea levels and more erratic rainfall

- Anti-flooding systems at LPS and a higher ground-level design for new generating units
- Progressively installing flooding alarms, bund walls and sump pumps at all substations subject to flooding risk from storm surge
- Higher anti-flooding requirements for new substations vulnerable to storm surge
- Working closely with property managers in commercial and residential buildings to provide advice on installing anti-flooding systems in their switch rooms with high flooding risk

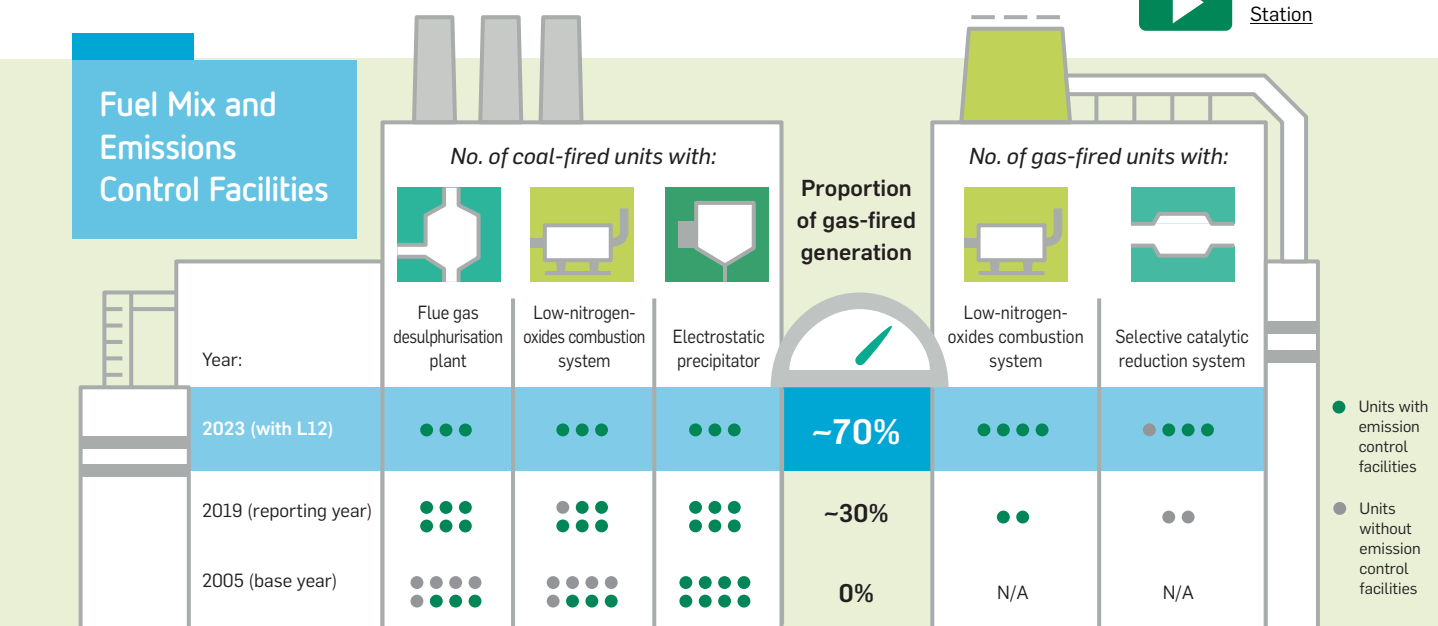


# Improving Air Quality

Air pollution is one of the most important issues impacting the health and wellbeing of our community. Air emissions produced locally in Hong Kong arise largely from shipping, coal-fired power generation and road traffic.



Lamma Power  
Station



## Emissions from LPS

In 2019, we continued to implement a range of emissions control measures for our coal-fired and gas-fired units to ensure full compliance with statutory emissions targets. Moving forward, we are increasing the proportion of natural gas – a cleaner and more efficient fuel than coal – in our fuel mix. Heat recovery steam generators in our new gas-fired units will also feature advanced active emissions control technology known as Selective Catalytic Reduction. We expect that when L12 is operational in 2023, emissions of sulphur dioxide, nitrogen oxides and respirable suspended particulates from LPS will decrease by approximately 75-90% compared with 2005 levels.

In anticipation of generating even cleaner power in the future, in 2019 we completed a review with the Government and agreed on a new regime of tighter emissions allowances from 2024 onwards as set out in the Eighth Technical Memorandum.

## Drive EVs • Charge Easy

We support widespread adoption of electric vehicles (EVs) because they produce zero emissions at source and could play an important role in helping improve roadside air quality in Hong Kong.

In 2019, 17 EV chargers were available for public use at 12 HK Electric charging stations covering every district on Hong Kong Island. EV drivers can continue to enjoy free charging services until the end of 2020.

We also offer a comprehensive range of EV charging support services to help both residential and commercial customers set up EV chargers. In 2019, our EV service team handled 280 enquiries and received 237 applications from our customers for installation of new EV risers and EV chargers in their buildings.

There have been some encouraging developments towards greater electrification of public transportation in Hong Kong. In 2019, for example, we provided technical support to Citybus and First Bus on proposed installation of charging facilities at Hong Kong Station Bus Terminus and Central Ferry Bus Terminus. We are also working with the Government and four inner harbour ferry companies to explore the feasibility of installing new charging facilities at specific ferry piers.

We have been greening our own vehicle fleet by replacing conventional vehicles with EVs for many years. As at the end of 2019, we owned and operated 149 EVs, which represent 47% of our total fleet. Year-on-year comparison of fuel consumption declined by about 16,000 litres or 12% compared with 2018.





# Responsible Resource Management

Natural resources are finite and we must not take their consumption for granted. In addition to implementing various energy saving strategies, we cultivate a culture of environmental stewardship among our employees based on the principle of 4Rs – Reduce, Reuse, Recover and Recycle.

## Partnerships to Protect the Environment

### Energy Saving

- Energy Saving Charter
- 4Ts Charter
- Energywise Certificate
- Charter on External Lighting



## Water Resources

At LPS, we strive to reduce fresh water consumption through collection and reuse of rainwater and plant processing water. In 2019, approximately 121,000 m<sup>3</sup> of water was collected for reuse. Smart water meters also enable us to monitor water use in real time and identify areas for improvement.

In order to avoid harmful impacts on the local ecosystem, wastewater from LPS is properly treated by removing oil, grease, suspended solids and heavy metals. We also have wastewater storage and treatment facilities in place to recycle and reuse wastewater produced during bore piling for the construction of our new gas-fired units.

## Energy Saving

Hong Kong's built environment presents significant energy saving opportunities for our customers. We enjoy the benefits of energy savings in our own office buildings by conducting energy audits and setting annual reduction targets. In 2019, we continued to implement measures that were identified in recent audits, including installation of additional energy meters to enhance monitoring of energy consumption patterns and retrofitting of LED lamps at appropriate locations.

During the year, we upgraded more mechanical ventilation and air-conditioning systems at LPS to improve their thermal insulations and efficiencies. To help reduce distribution losses in our power system, we also continued to optimise the arrangement of normal open points across our network.



## Water Resources

- Let's Save 10L Water Campaign

## Intelligent Savings

In 2019, we introduced artificial intelligence based-dynamic control technology to optimise airflow and cooling capacity in our Data Centre Infrastructure Management systems at Electric Centre and Electric Tower. This innovative technology has allowed us to realise 70% energy savings from the cooling systems in our data centres.



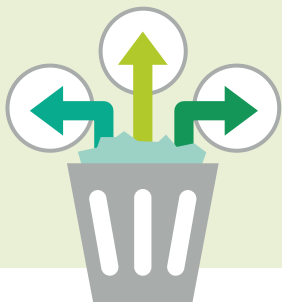


## Waste Management

We ensure that waste produced throughout our operations is disposed of responsibly in accordance with relevant laws and regulations. Hazardous waste such as waste oil, for example, is handled by licensed contractors under a trip-ticket system.

Ash and gypsum are two by-products from coal-fired power generation at LPS that constitute our main types of non-hazardous waste generated. In 2019, we supplied 230 kT of ash and 70 kT of gypsum to third parties as inputs for industrial production. Our major construction projects generated 99 kT of construction waste, of which 99% was recycled as public fill.

To promote a waste-free culture, we work with the Government and NGOs to implement various waste reduction and recycling initiatives. In our staff canteens for example, we have eliminated disposable tableware and plastic straws. We also no longer stock beverages in plastic bottles in the vending machines on our sites.



### Waste Management

- Wastewi\$e Certificate
- Food Wise Charter
- Green Event Pledge

To reduce food waste from our staff canteens, colleagues are incentivised to order their lunches in advance. Self-service stations for rice and soup encourage colleagues to take only what they need. After the meal, colleagues are asked to help separate food waste for processing. All surplus food is donated on a daily basis to a local NGO Food Angel for redistribution to people-in-need.

In our offices, we reduce paper consumption by digitalising our work processes and using thinner paper for printing whenever possible. In 2019, we also launched a campaign to encourage our customers to switch to e-bill and autopay services by offering a one-off \$50 incentive. Customers can choose to use the incentive either to offset their electricity charges or to make a donation to one of our designated green groups.

Vessel-based marine mammal monitoring for the offshore LNG terminal project.



## Biodiversity

- Greening Partner Charter



## Biodiversity

We have a proud legacy of conserving the ecological habitat of LPS and our surrounding environment. In addition to controlling the impacts of air and noise emissions, excessive illumination and human disturbance on plants and animals, we have a planting programme in place to promote biodiversity through cultivation of native tree and shrub species.

In 2019, we undertook monitoring to determine baseline water quality conditions and limits before commencement of dredging work for the LPS Navigation Channel Improvement project. We will monitor water quality regularly throughout the construction period to ensure that marine habitats are not adversely impacted.

During the year, we completed a 6-month programme of vessel-based marine mammal monitoring for the LNG terminal project. In December, we commenced monitoring for baseline water quality and a plankton survey.





## Education and Awareness

We believe that enhancing public education, awareness and participation is essential if Hong Kong is to realise a sustainable future by and for all.

### Happy Green Campaign

For many years, we have been promoting EE&C, RE and low-carbon lifestyle through our Happy Green Campaign (formerly known as Smart Power Campaign) which is supported by our Smart Power Education Fund. An advisory committee comprising representatives from the Government, academia, the engineering industry and green group provides guidance on how green messages can be spread among different sectors of the community.

In 2019, the Happy Green Campaign adopted the theme of "Smart Power for Smart City" in support of the Government's drive of developing Hong Kong into a smart city. Starring local actor Steven Ma, the Campaign's first mini-movie was launched during the year to remind us of the importance and urgency of living green to save our planet for future generations.

We also organised an exhibition with interactive displays, information kiosks and virtual reality games to showcase the six facets of a smart city – Smart Mobility, Smart Living, Smart Environment, Smart People, Smart Government and Smart Economy – and to illustrate how everyone can live smarter and greener by making changes in their daily lives.

An interactive roving exhibition to promote a greener, smarter city.



### Key Outcomes in 2019

#### First

mini-movie "Happy Green Today for Tomorrow" was launched



"Happy Green Today for Tomorrow"



~70

students became Happy Green Ambassadors to promote green messages

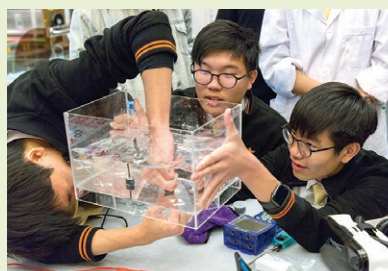
450+

primary and secondary schools participated in Happy Green Schools network



15

school teams were sponsored to make their Green Energy Dreams Come True



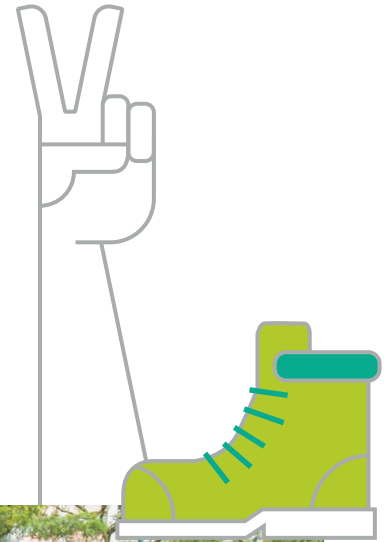


## Green Hong Kong Green

Green Hong Kong Green (GHKG), which has been running for over 14 years, is a programme co-organised by HK Electric and the Conservancy Association to foster public appreciation of Hong Kong's eco-heritage resources through guided tours. Currently, 10 eco-heritage routes are available on Hong Kong and Lamma Islands.

In 2019, more than 700 participants took part in 57 eco-tours across Hong Kong and Lamma Islands. We introduced several new thematic tours that proved to be very popular, such as digital photography in Western District, Forest Bathing in the Aberdeen Country Park and "Somewhere in Time@Lamma". To enhance the educational value of these tours, we provided our volunteer eco-leaders with additional training, including field trips, refresher courses and sharing sessions.

We are currently developing a new eco-heritage route in the Eastern District of Hong Kong Island, which we plan to introduce by the end of 2020.



GHKG Night Safari

Highly popular GHKG eco-heritage tours.



## Environmental Campaigns

We strive to raise our employees' environmental awareness by encouraging them to support a range of green campaigns organised by the Government and NGOs.

In support of the United Nations' World Environment Day in June 2019, for example, more than 600 employees and their families made green pledges in their daily lives. Many also donated used mobile phones, digital cameras and books to benefit people-in-need.



HK Electric management team "walks the talk"; helping reduce carbon emissions from road transport.



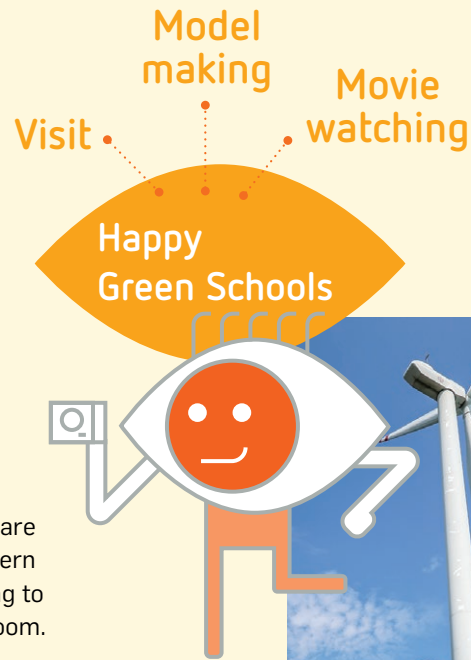


## Case Story 3

# Beyond the classroom



Traditional learning methods through textbooks and lectures are no longer the only ways to acquire knowledge. In today's modern and smart society, young people and their teachers are turning to new technologies and approaches to learn beyond the classroom.



*"We strongly believe that Other Learning Experience activities, such as visits to power plants, are great and effective ways to enhance our students' knowledge and broaden their horizons."*

Principal Yu Chi-yin

## Seeing is believing

On a clear day, students from Hong Kong Southern District Government Primary School in Ap Lei Chau – a member of the Happy Green Schools network – can look out of their classrooms to see the huge wind turbine and power station chimneys on Lamma Island. The facilities look impressive to the students, who are always curious to find out more.

Under HK Electric's Happy Green Campaign, students from the school visited LPS to gain first-hand knowledge of what HK Electric and power generation are all about. After the visit, they worked with wind power models to reinforce what they observed during their outing.



[Launching of the Mini-movie](#)

To further strengthen their learning, students also had the opportunity to preview the Campaign's first mini-movie "Happy Green Today for Tomorrow" during school talks. The movie and related interactive games tell a tale of time travel to promote green messages and sustainable lifestyle. Younger generations are encouraged to make green choices and to share knowledge about sustainability with their families in order to realise a greener future.

Through hands-on activities, students not only gain valuable knowledge, but also develop a personal connection to important environmental issues, such as global warming. Experiences such as these create powerful, long-lasting impacts that cannot be replicated by reading books or attending lectures alone.

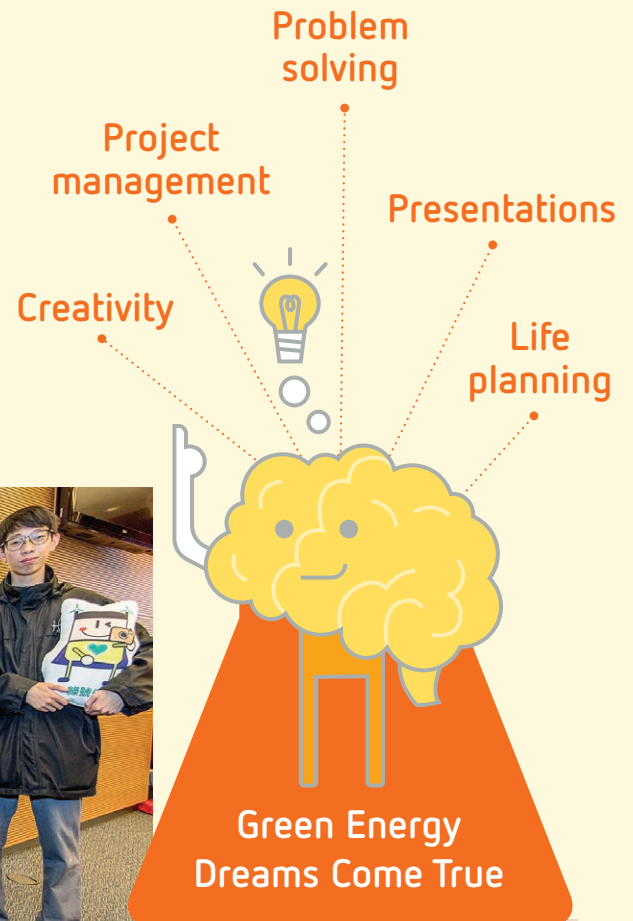


# STEAM

is part of life

Science, Technology, Engineering, Arts and Mathematics = STEAM. Schools throughout Hong Kong are exploring new ways to incorporate and develop these essential topics into the curriculum for their students.

HK Electric's "Green Energy Dreams Come True" competition offers an exciting opportunity for local secondary students to explore their own ideas and gain hands-on experience, while strengthening their project management, problem-solving and presentation skills, as part of the life-planning education advocated by the Government.



*"We had to overcome technical problems and build up the confidence to promote our ideas in a shopping centre! This competition is not only about STEAM, it's also about facing up to and overcoming real life challenges."*

Students from the winning team

School teams that enrol in this competition receive support in the form of seed money and technical advice from our engineers.

In 2019, a team of students from Helen Liang Memorial Secondary School (Shatin) won the competition with their kinetic-powered gym machine. The experience of preparing their proposal, turning their ideas into action and presenting their final product to the judges was educational and truly unforgettable.



[Green Energy Dreams Come True 2019](#)





Serving  
Hong Kong





Sustainability at HKEI  
Sharing our Planet

Serving Hong Kong

Working with Partners







## Management Approach

At HK Electric, we are dedicated to supplying electricity to our customers with world-class reliability and excellent service. This commitment is reflected in our Quality Policy, Customer Services Policy and Corporate Security Policy, which offer us guidance on continuously improving our services in order to exceed customer expectations and achieve total customer satisfaction.

Our Customer Services Steering Committee oversees performance of the company against specific and measurable targets, including a set of pledged Service Standards. We implement quality management, asset management and information security management systems certified to ISO standards 9001, 55001 and 27001, respectively.

Under the new SCA that came into effect in January 2019, we continue to support the Government's energy policy objectives to ensure the community enjoy safe, reliable and environmentally friendly electricity supply at reasonable cost. We have introduced a range of new measures under our Smart Power Services to support EE&C and local RE generation.

Ultimately, we strive to give back to the people we serve. Our community investment strategy reflects our deeply held belief that lasting impacts are created through partnerships. We engage different community groups and build social capital through various programmes aimed at promoting environmental protection and caring for Hong Kong's ageing population.

### Supply Performance in 2019

**>99.999%**

supply reliability rating for the 23<sup>rd</sup> year in a row since 1997

**<1 minute**

average duration of unplanned supply interruptions per customer for 11 consecutive years since 2009



# Reliable and Affordable Power Supply

Reliable and affordable power is essential for daily life and business in our city of skyscrapers with millions of commuters travelling by electric public transportation. An efficient and uninterrupted supply of power also underpins Hong Kong's status as an international centre for trade and finance as well as its ongoing transformation into a smart city.

## World-class Power System

We take a comprehensive and proactive approach to ensuring the reliability and robustness of our power supply system through strategic investments that maintain, upgrade and improve our equipment, technologies and processes.

In addition to building new gas-fired generating units that will replace our ageing coal-fired units at LPS, we invested in ongoing development projects to upgrade our power supply network, including those sections related to our new generating units and electricity supply for the MTR railway system.

In January 2019, we introduced new Strategic Asset Management & Operational Support Applications comprising structured IT systems designed to optimise and standardise our end-to-end asset management processes within and across all business units.

We adopt a proactive approach to avoid equipment failure.



## Proactive Risk-based Asset Management for our Network

### Risk monitoring approach

### Typical measures

### Risk avoided

**Condition monitoring and advanced diagnostic techniques for network components**

Advanced online partial discharge detection system for switchgears

Early detection of incipient faults to avoid potential component failures

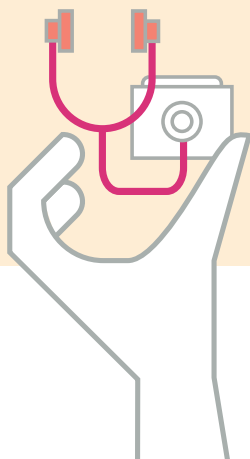
Very-low-frequency-monitored withstand test for 11-kV distribution cables

Early detection of water ingress in cable insulation layer to avoid potential cable faults

**"Health Indices" register for network components**

Formulation of critical indices for primary and secondary assets such as switchgears, transformers, relays and remote terminal units

Timely refurbishment or replacement to avoid equipment failure







## Control and Security of our System

HK Electric's 24-hour System Control Centre controls and monitors power generation, transmission and distribution, including remote restoration of power supply. It operates a sophisticated real-time computer system featuring Energy Management System (EMS) and Distribution Management System (DMS) with specially developed smart-grid features. These systems play a central role in enabling safe, reliable and efficient supply of electricity to our customers, while reducing emissions and minimising our carbon footprint.

Our Intelligent Volt-VAR Regulation (IVAR) Programme allows us to analyse vast amounts of EMS and DMS data in real-time so that we can better assess and control voltage and reactive power throughout our system. We are exploring ways to enhance the IVAR Programme using neural network technology and artificial intelligence so that we can achieve better voltage regulation and control operations with less power loss.

We have management systems in place to protect our facilities, technologies and information assets from both physical and cyber-security threats. In 2019, we continued to review the physical security of our power supply facilities and implement measures to enhance security of critical primary and distribution substations.

Our cybersecurity management framework addresses the technical, regulatory, and managerial aspects of cybersecurity on an ongoing basis while prioritising the confidentiality, integrity, and availability of our critical infrastructure and information assets. We have multi-layered security technologies in place that enable us to detect, identify, protect against, respond to, and recover from cybersecurity incidents.



## 2020 Relief Measures

### Non-residential customers

#### Grace Period for Customers under Non-residential Tariff

About 70,000 non-residential customers with low electricity consumption during 2019 have the tariff increase waived for the first six months of 2020.

#### Energy-efficient Equipment Subsidy Programme

HK Electric provides a subsidy capped at \$50,000/\$150,000 for each eligible non-residential customer, including SMEs, to retrofit or install energy-efficient equipment, including LED lights, air-conditioners with Grade 1 energy label and highly energy-efficient air-conditioning systems.



HK Electric's power network is monitored round the clock by our sophisticated System Control Centre.



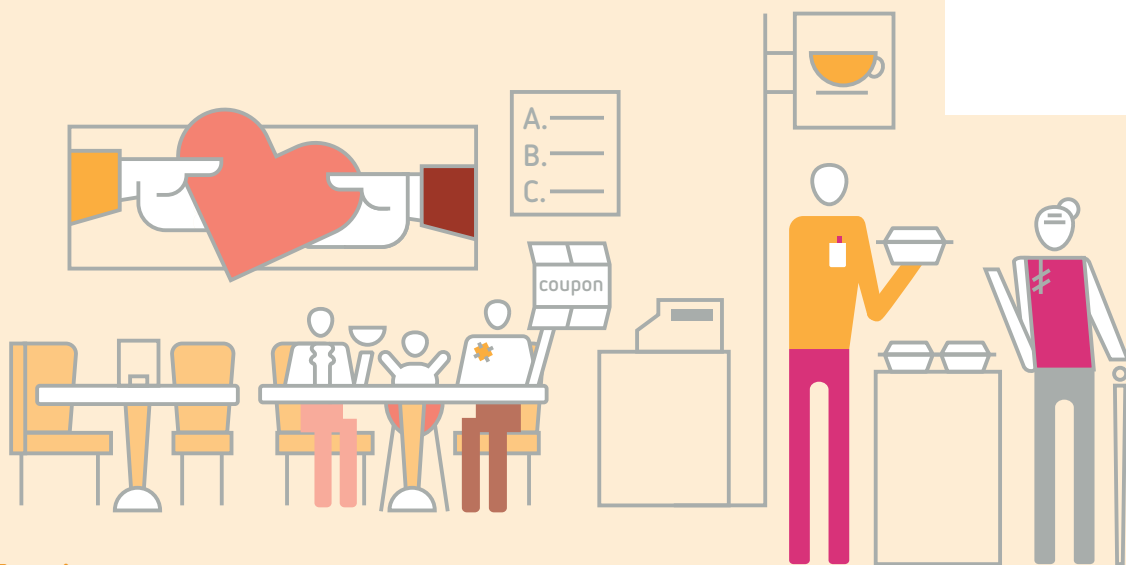
## Alleviating Economic Hardship

In addition to providing world-class electricity supply, we strive to maintain our tariffs at an affordable level. However, progress towards greener and smarter power, in particular coal-to-gas transition, inevitably places upward pressure on electricity prices. Going forward, strategic investments in energy infrastructure, such as the LNG terminal project, can help alleviate the increase in fuel costs and ease the upward pressure on tariffs in the long run.

Higher capital expenditure and fuel costs combined with much lower special rebates have resulted in a 5.2% increase in our net tariff for 2020 compared with 2019. However, at 126.4 cents per unit of electricity, the 2020 tariff remains lower than the rate of 130.8 cents that was forecast in our Development Plan and is comparable to the tariff level of 123.3 cents in 2011, notwithstanding inflation of close to 30% during the interim period. Excluding the impact of reduction in the two special rebates, the rate of increase would be 1.7%.

We have announced a series of relief measures to alleviate hardship for our eligible customers and to help them tide over the challenging socio-economic climate in Hong Kong. When these measures are taken into account together with various subsidy schemes introduced by the Government, we anticipate that nearly all of our customers will pay less for electricity in 2020 than they did in 2019, and that over 30% of our residential customers will not need to pay for electricity over the whole of 2020.

We continue to care for the more vulnerable members of our society by implementing concessionary tariff schemes for the elderly, the disabled, single-parent families and the unemployed. We also continue to offer the Super Saver Discount for residential customers with electricity consumption rates of not more than 100 units a month to encourage energy saving.



## SME caterers

### SME Caterers Bill Payment Deferral Scheme

Eligible SME caterers could apply to defer electricity bill payment of December 2019 and January 2020 for two months.

### "Care and Share" SME Caterers Subsidy Scheme

HK Electric will issue \$500 dining coupons to each eligible underprivileged family for use at SME participating eateries in its supply territory, aiming at providing support for those in need as well as bringing extra business to the SME caterers.

### NGO Catering Subsidy Programme

HK Electric provides a subsidy capped at \$60,000 for each eligible NGO community centre operating in its supply territory to purchase food and beverages from "Care and Share" SME caterers for activities serving underprivileged families and the needy.





## Serving our Customers

We strive to surpass our customers' expectations through continuous service improvement, and to engage with our customers in order to better understand and meet their needs.

### Excellent Service

In recognition of our customer service record, HK Electric has won a number of prestigious awards. In 2019, we met or surpassed all 18 of our own pledged Customer Service Standards covering electricity supply, connections, accounts and meters, enquiries and emergency services, among others.

During the year, HK Electric received 2,008 commendations, which is a record number that reflects a very high level of customer satisfaction. While we have received no service-related complaints, we handled two customer complaints relating to the quality of electricity supply which we have followed up immediately.



HK Electric clinches the "2019 Excellence Award" from the Hong Kong Retail Management Association.



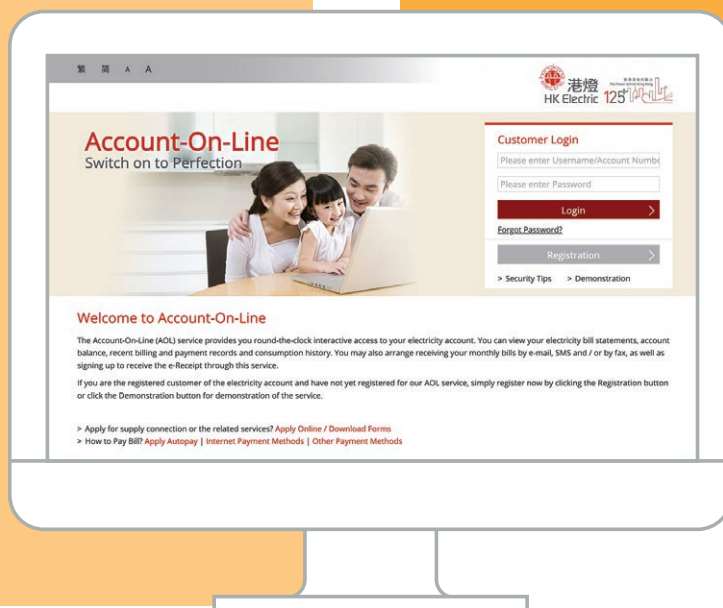
Caring for our Customers

### New Features for Better Service

In September 2018, the arrival of Mangkhut – one of the most intense typhoons impacting Hong Kong since records began in 1946 – not only presented a challenge to the resilience of our network, but also generated concerns from some customers.

During and after the typhoon, we received a large number of enquiries from concerned customers about the effects of extreme weather on the power supply. To increase our capacity to answer similar enquiries during future events, in 2019, we established a new feature in our Account-On-Line (AOL) service where customers can access up-to-date information on supply interruptions within the past 24 hours as well as planned shutdowns on our website.

During the year, we simplified the registration process for the AOL service and encouraged customers to switch to electronic billing. Customers can simply scan the "e-Bill Registration" QR code on their electricity bills and activate the service with just a few steps.





## Investing in a Smarter City

We are working hard to roll out Advanced Metering Infrastructure (AMI) – commonly referred to as “smart meters” across our network that will facilitate better energy management by our customers while helping transform Hong Kong into a world-class smart city.

Our AMI initiative builds on a smart meter pilot project that we completed in 2019. It involves the installation of smart meters on our customers' premises in phases to improve the efficiency and reliability of our electricity supply, facilitate greater transparency and improve customer service.

It is expected that upon completion of the programme in 2025, smart meters will operate in and bring benefit to every home and business throughout our network.



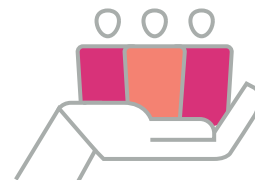
## Caring for our Customers



### Greater convenience

- **Customer Emergency Services Centre**  
24-hour emergency telephone call and SMS services
- **Account-On-Line Service**  
round-the-clock interactive access to electricity account via our website and app
- **E-billing / E-payment / Group Billing / Bill of Small Outstanding Amount Services**  
green and convenient options for billing and payment
- **One-stop Services for SMEs / Data Centres**  
comprehensive range for services on business startups and energy management
- **Customer Relationship Management Programme**  
ambassador visits to corporate customers with one-stop service on technical and account matters
- **Virtual Assistant, Elsie**  
launched on our website in October 2019 to answer general enquiries 24 hours a day, 7 days a week

### Supporting for special needs



- **Ethnic minorities**  
forms and pamphlets in eight minority languages
- **Hearing-impaired**  
information videos supported with sign language, SMS enquiry service and teleloop system at service counter
- **Visually-impaired**  
voice-assisted e-bill service and braille bills
- **Elderly**  
“Web for the Elderly” and express counter with magnifying glasses
- **Disabled**  
dedicated wheelchair-friendly express counter and automatic doors at the building's access to our Customer Centre



[Supporting for  
Special Needs](#)





## Connecting with our Customers

We regularly engage with our customers and listen carefully to their feedback and suggestions through a variety of channels. Our Customer Liaison Group is a valuable forum for exchanging ideas with our customers and gauging public opinion on important issues. This group comprises about 50 members, including customer representatives as well as representatives from district councils, community organisations and NGOs.

### Customer Communication Channels



- Customer Liaison Group
- Customer Service Hotline
- After-service surveys
- "We Meet on Friday" conversation series
- Customer Suggestion & Feedback Form
- Excellent Service Commendation Form
- Customer Services Brochure
- Quarterly newsletter "HK Electric On-line"



## Personal Data Protection

We are committed to respecting and safeguarding customer privacy in compliance with the Personal Data (Privacy) Ordinance and other relevant codes of practice, including our own Privacy Policy Statement and Group Personal Data Privacy Policy.

In order to raise our employees' awareness of protection of personal data, seminars on data privacy are organised regularly. In May 2019, we participated in the Privacy Awareness Week initiated by the Hong Kong Privacy Commissioner for Personal Data and conducted an in-house seminar related to outsourcing of work involving personal data.

In addition to issuing guidelines for our employees on handling customer data, we have a Data Loss Prevention (DLP) System in place to prevent unauthorised disclosure of personal data through the internet, emails, portable storage devices, and file transfers. This system of controls includes automated DLP incident response and formal incident response procedures.

Various cybersecurity protection measures are in place to safeguard the company's information assets against unauthorised access and malicious attacks. A dedicated in-house team of cybersecurity specialists works with external service providers to implement our cybersecurity programme. In 2019, we engaged an external consultant to assess our cybersecurity capabilities with a focus on protection of personal data.

We provide training and self-learning videos with quizzes on relevant cybersecurity matters to promote our employees' awareness and help them stay abreast of the rapidly changing environment. In addition to talks, training session and workshops, we provide employees with direct access to cybersecurity guidelines and policies through our intranet, including our quarterly publication "Cybersecurity Corner".



## Smart Power Services

In Hong Kong, the vast majority of energy saving opportunities present themselves in our built environment. Consequently, EE&C is key to reducing both the energy and carbon intensity of our city. HK Electric promotes the smart use of energy by assisting customers to enhance energy efficiency of their buildings and through educational programmes for the public while also supporting local development of RE.

In January 2019, we introduced a suite of new and upgraded funding and service schemes – collectively known as Smart Power Services – to foster EE&C and promote RE in the community. These initiatives help fulfil our obligations under the new SCA while making a meaningful contribution to Hong Kong's transformation into a smart city.

The Smart Power Services package is designed to cater for different sectors including residential, commercial and industrial customers as well as education and welfare organisations. We prioritise helping the most vulnerable members of our society while also supporting building owners who lack financial resources and technical expertise.

We engage with our stakeholders about the Smart Power Services through a range of channels, including a dedicated webpage, mobile app, phone hotline and email enquiry service as well as posters, leaflets and infographic videos. In 2019, we held over 150 events, including talks, seminars and workshops on our Smart Power Services to promote participation from targeted stakeholder groups.



### HK Electric's New Smart Power Gallery

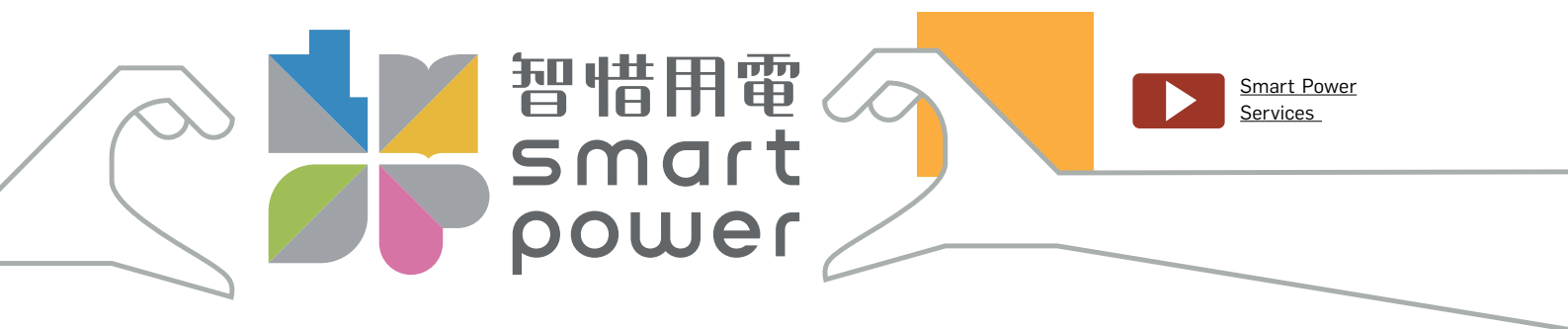
In April 2019, we opened our Smart Power Gallery in a newly renovated five-storey building on Possession Street in Sheung Wan that was once a pay-in centre of the company.

Equipped with multimedia displays and interactive games showcasing information about EE&C, RE, climate change and smart cities, this is an ideal venue for hosting STEAM workshops for students as well as talks, seminars, and other gatherings on the latest smart technologies and sustainability issues. During the year, we hosted 134 visits at this new educational facility.



[Smart Power  
Gallery](#)





## Building Energy Efficiency



### Smart Power Building Fund

Provides subsidies for building owners to enhance energy efficiency of communal building service installations (\$25 million allocated annually)

### Smart Power Energy Audit

Provides free energy audits for non-residential customers

### Smart Power Loan Fund

Provides eligible customers with interest-subsidised loans to finance energy efficiency enhancement projects

#### 2019 Accomplishments

- approved **~60** applications involving **>80** buildings and **~\$23 million** subsidies

- conducted **>200** free energy audits

- signed **MoUs** with two major banks

## Renewable Energy



### Feed-in Tariff

Purchase all electricity generated by customers' RE power systems at \$3-5 per unit of electricity

### RE Certificates

Offered to interested customers at \$0.5 premium per unit of electricity

#### 2019 Accomplishments

- facilitated **~60** grid connections amounting to **~1 MW** total capacity

- generated **~2.3 GWh** green electricity and were fully subscribed

## Green Education



### Smart Power Education Fund

Supports our Happy Green Campaign to promote energy efficiency, RE and low-carbon lifestyle to the public in particular Hong Kong's youth (\$5 million allocated annually)

#### 2019 Accomplishments

- ~110,000** participants in various activities



## Supporting the Needy



### Smart Power Care Fund

Operates three programmes to provide energy-efficient appliances, improve electrical safety and offer tariff relief to people-in-need (two new programmes were launched in January 2020)

#### 2019 Accomplishments

- **>1,100** underprivileged families benefitted from:
  - Energy-efficient Appliances Subsidy Programme
  - Sub-divided Unit (SDU) Electricity Charges Relief Programme
  - SDU Rewiring Subsidy Programme
- formulated **2** additional programmes for implementation from January 2020:
  - Energy-efficient Community Subsidy Programme
  - Smart to Care Subsidy Programme

## Small Things that Matter



In 2019, we were proud to improve the quality of life for more than 1,100 households with a range of targeted subsidies under the Smart Power Care Fund.

The Sub-divided Unit (SDU) Rewiring Subsidy Programme, for example, provides financial support for occupants of SDUs to rewire and install HK Electric's individual electricity tariff meters.

"With my new individual tariff meter, I now pay direct according to my actual consumption," said Ms. So who resides in an SDU. "I feel relieved that my electricity expense is now under my full control and it is much lower than before."



Smart Power  
Care Fund

Guo Yan, a beneficiary of our Energy-efficient Appliances Subsidy Programme, purchased a new washing machine and dehumidifier.

"Before getting the new washing machine, I washed all our clothes by hand. I felt sorry for my daughter because sometimes she had to wear a damp uniform to school. My new energy-efficient appliances have improved not only the environment inside our flat, but also my daughter's wellbeing because she can now wear clean and dry clothes every day."







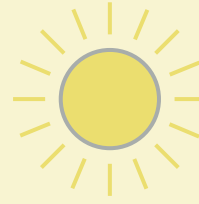
## Case Story 4

# Renewable energy is coming to town



It has been just a little over a year since the implementation of our Feed-in Tariff (FiT) Scheme in January 2019, but we are delighted with the positive response from our customers. We are keen to support the wider deployment of RE throughout our service area. This is a meaningful and practical way for the community to play an active role in Hong Kong's transformation into a low-carbon smart city.

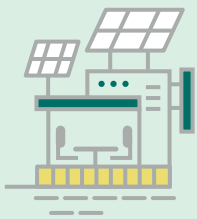
~60



About 60 RE installations at schools, residential premises and small to large enterprises such as Ocean Park have been connected to grid through the FiT Scheme as at end 2019, amounting to a total capacity of around 1 MW



[Support FiT to Combat Climate Change](#)



## Deliciously sustainable

### Rainbow Seafood Restaurant

Rainbow Seafood Restaurant was the first of several small businesses on Lamma Island to install solar panels under our FiT Scheme. The 20-kW capacity solar system on its rooftop is expected to produce 20 MWh of green electricity annually, while providing shade that helps reduce the cooling load and energy consumption of the restaurant on hot and sunny days.



*"As there is plenty of open space with fewer hills on Lamma Island, it is geographically ideal for installing solar power systems."*

Wendy Chan  
Managing Director of  
Rainbow Seafood Restaurant



[FiT @ Lamma Island](#)



## Chater House

### Smart power for smart city



Chater House has installed 108 building integrated photovoltaic (BIPV) panels which have been connected to HK Electric's grid since 2011. It joined the company's FiT Scheme in 2019. With its sleek and thoughtful design aimed to minimise visual impacts on the surroundings, this BIPV system is a showcase for similar rooftop RE installations in Hong Kong's central business district.

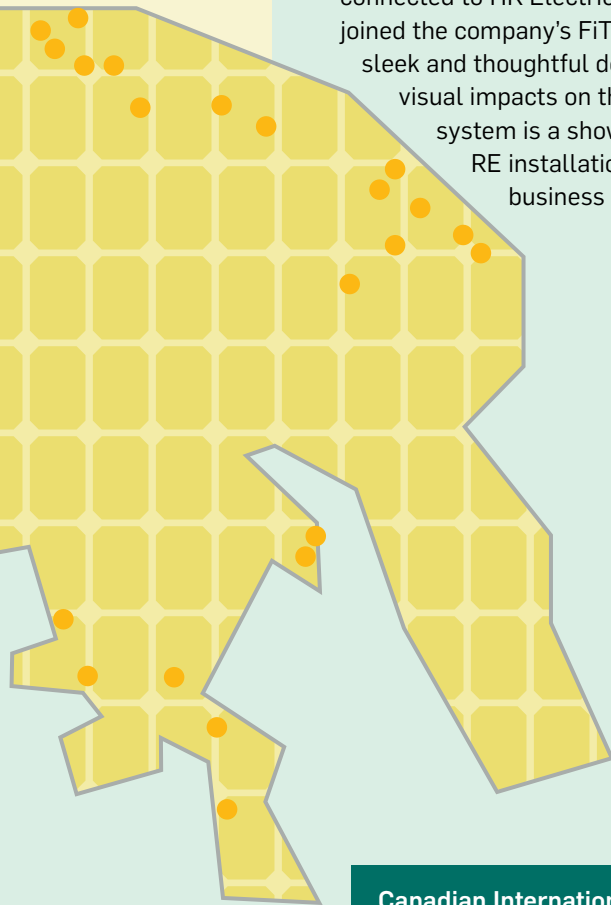


*"Our solar panels are installed horizontally to minimise reflection disturbance to buildings nearby."*

Andy Yeung  
Head of Technical Services and Sustainability of  
Hongkong Land (Property Management) Limited



[FiT @ Chater House](#)



## Canadian International School of Hong Kong (CDNIS)



### Empowering with green education

Our team has worked closely with CDNIS on installing more than 340 photovoltaic solar panels at its campus in Wong Chuk Hang with a capacity of about 130 kW.

The digital display installed in the lobby allows students, parents and visitors to learn more about the solar power system on campus. To provide additional learning opportunities for the students, the school has set aside revenues generated through the FiT Scheme for further investment in RE projects to be initiated by its students.

*"This installation demonstrates our commitment to saving the environment and our passion for green education. HKElectric has not only provided technical support, but also trained our students on ways to monitor electricity consumption through energy audits."*

Peter Wong  
Project Director, Business Administration of CDNIS



[Solar System @CDNIS](#)



[Solar System @CDNIS Time Lapse](#)





## Caring for the Community

Caring for the community is part of our corporate mission. We are proud to put our resources and technical expertise to good use by lending a helping hand to those in need. All along, our focuses have been on elderly care and green education. Our strategy is to work closely with NGOs and the Government on these pressing social issues to address genuine needs.



### Creating a Dementia-friendly Community

#### Caring for an Ageing Population

Through "CAREnJOY for the Elderly", a programme founded in 2008 under a different name, we have been working closely with all four District Councils on Hong Kong Island, the Rural Committees for Lamma North and Lamma South as well as nine elderly care NGOs to extend care to the elderly who have limited or no access to community support.

Recognising the prevalence of dementia among the elderly in Hong Kong, the "CAREnJOY for the Elderly" programme incorporated new elements in 2019 to better inform our senior citizens about dementia, its possible symptoms, prevention and proper treatment.

During the year, information regarding dementia was communicated to the elderly during home visits when HK Electric volunteers joined elderly ambassadors from NGO centres to help deliver daily necessities and carry out simple electrical safety inspections. We also hosted district-based electrical safety talks to share tips on safe and efficient use of electricity and simple exercises to promote brain health.

In support of the Government's appeal, HK Electric was among the first corporations in the city to join the "Dementia Friendly Community Campaign" in 2019. We held a talk for our employees and encouraged them to become "Dementia Friends", by watching out for signs of dementia among their elderly relatives and neighbours.



During the year, we reached out to more than 2,250 single elders through home visits and district talks and gatherings. During these activities, fun and laughter was shared by all, as our volunteers and ambassadors led body coordination and balance exercises and played Tangram with the elders to help stimulate their brains. Some of them even showed greater vitality than our volunteers both in memory power and creativity!



## Embracing the Golden Third Age

Age is never a limit to learning, to pursuing good health and to giving back to our community. The University of 3<sup>rd</sup> Age (U3A), co-founded by HK Electric and the Hong Kong Council of Social Services in 2006, continues to promote lifelong learning, physical and mental fitness, and volunteerism among retirees in Hong Kong. It encourages retirees to take a proactive approach to learning, sharing, and administering the activities, all by themselves.

Our first Smart Power Ambassadors Training was launched in 2018 to promote green education in addition to the lifelong learning and volunteerism advocated by U3A. In early 2019, 10 ambassadors were recognised for their commitment to leading a greener life and passion in encouraging others to do the same.

Aged between 65 and 80, these ambassadors share a keen desire to make the world a better place by learning and sharing their knowledge, and contributing to their communities in a ways big and small. A follow-up course was held in 2019, covering major topics on smart city, tree preservation, sustainable consumption, green power and energy efficiency.

In 2019, we supported 51 self-learning centres operated by 16 social service agencies, which provided more than 940 classes and over 17,000 learning opportunities. New courses such as zentangle, virtual reality, preventing dementia, gerontechnology and financial knowledge proved very popular among the U3A students.



U3A students embracing a "golden third age" through learning and giving back to society.



[U3A Completion Ceremony 2019](#)







## Green Ambassadors Spread their Wings



More than 20 Ambassadors are trained to help conduct tours at our Smart Power Gallery.



[U3A & Smart Power Ambassadors](#)

In 2019, our Smart Power Ambassadors continued to impress with their ability to motivate and inspire people to live more sustainably.

During the year, they conducted about 70 sharing sessions for close to 1,600 attendees from all walks of life. Some demonstrated their creativity in promoting green messages through drama, rap songs, videos, action cards, and DIY green corner. Others successfully persuaded their building management to adopt energy saving proposals and encouraged their friends and relatives to conduct energy audits at homes.

Our Ambassadors also organised tours, served as docents at the company's new Smart Power Gallery, and participated in Eco Expo Asia, where they were able to expand their knowledge about the latest green technologies.



## Giving to Good Causes

Other than the U3A programme, the company's Centenary Trust also provided 70 scholarships for secondary school students with financial needs in 2019. In addition, the company supported numerous charitable causes through sponsorships and donations. Beneficiaries ranged from students of low-income families to NGOs, green organisations, community groups and social enterprises. We also donated computers and related equipment to organisations for passing onto the underprivileged.



*"I am so glad to receive the scholarship, which I can use for joining tutorial classes and buying more workbooks for improving my English. This has given me motivation to work harder and aim for a university degree."*

Li Yong  
Student of Cotton Spinners Association Secondary School and a beneficiary of the Upward Mobility Scholarship with HK Electric being one of the sponsors



One of our outstanding volunteers believes that helping others is a great way to relieve work stress – just another reason why she never wants to miss out on lending a hand!



[HK Electric Volunteers Team – 15 Years of Services](#)



[HK Electric Volunteers Team – 15<sup>th</sup> Anniversary Celebration](#)

## HK Electric Volunteers Extending Care

The HK Electric Volunteers Team celebrated its 15<sup>th</sup> anniversary in 2019. Since its revamp in 2004, the team has grown from just a few hundred volunteers to more than 1,200 today and accumulated over 69,000 service hours. While elderly care and green education remain our service priorities, we are diversifying into new partners and services to meet changing social needs and employee interests.

In 2019, the team worked with 17 new partners supporting new services and events, such as dinners with hostel inmates organised by The Society of Rehabilitation and Crime Prevention, "Riding High Together Festival" organised by the Hong Kong Jockey Club, "Tai Chi for Parkinson Disease" organised by The Hong Kong Parkinson's Disease Foundation, and a Chinese New Year gathering organised by Bauhinia Association. Throughout the year, we supported 94 activities contributing 4,766 service hours to various causes.

Leveraging new technology and communication platforms, we introduced a new "HK Electric Volunteers Team" module on our "My HKE" app to provide employees with the latest volunteering opportunities to facilitate enrolment and sharing. In the year, a Volunteers Leave Policy has also been introduced to encourage employee participation.

It's Love, Harry

Stick to the Road

Marvel Heroes



NGO partners sing praises of the HK Electric Volunteers Team at its 15<sup>th</sup> Anniversary Celebration.









Sustainability at HKEI  
Sharing our Planet  
Serving Hong Kong

Working with Partners



# Working with Partners





## Management Approach

We recognise employees, contractors and other suppliers as essential partners for achieving our mission to serve Hong Kong in a sustainable and responsible manner.

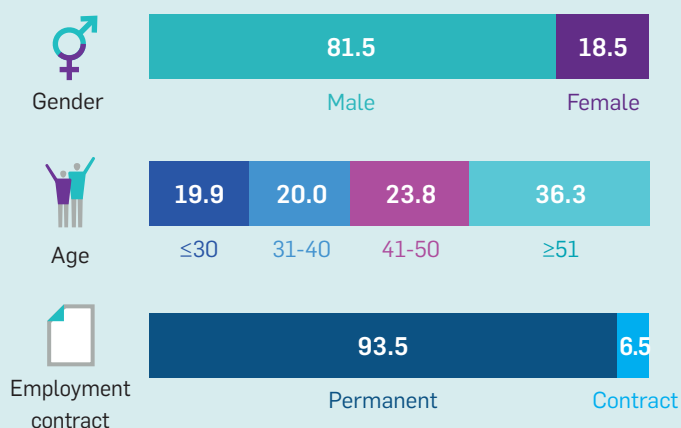
We pride ourselves on being an employer that nurtures people to fulfil their full potential. We value teamwork and collaboration, encourage our employees to be actively engaged at work, and support them to achieve a healthy work-life balance.

“SHINE” represents our values of developing human resources which stands for “**S**ynergy”, “**H**olistic development”, “**I**deal workplace”, “**N**urture future leaders” and “**E**xcellence”. Our Human Resources Steering Committee guides the company’s efforts in nurturing a harmonious and productive workforce.

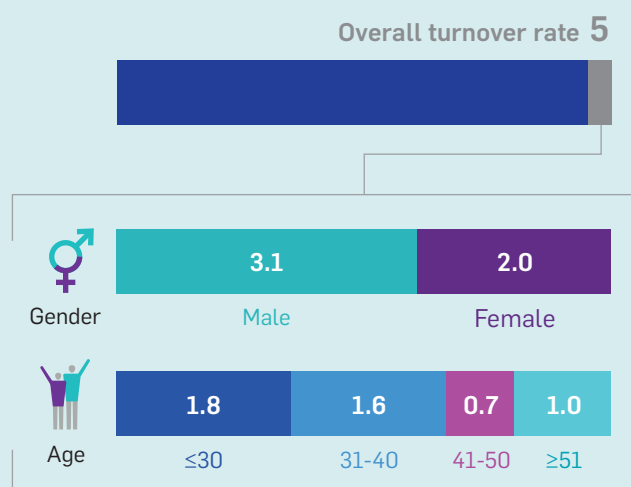
We are committed to providing a safe and accident-free workplace to our employees and contractors. Our Health & Safety Policy, which applies to all areas of our business, is overseen by our Health & Safety Board. We have safety management systems in place that conform to international standard ISO 45001.

We require all suppliers to share our core values and work with them closely to achieve shared goals. Our “Code of Practice for Suppliers” outlines standards for them on business ethics, human and labour rights, health and safety, and environmental protection.

### 2019 Employee Profile (%)



### 2019 Turnover Rate (%)





# Building Strong Relations with Employees

HK Electric is recognised as an employer of choice. In 2019, we ranked fourth among Hong Kong's Top 20 Most Attractive Employers in the Randstad Employer Brand Awards, moving up from sixth place in 2018 and seventh place in 2017 and 2016.

We treat our people fairly, listen to their feedback, respond to their needs and reward their performance. By providing an appealing work environment, extensive career-development opportunities and attractive remuneration, we strive to ensure that our employees will grow together with the company, develop their talents and achieve their aspirations.

Consequently, many employees enjoy long and fulfilling careers with us. Our voluntary turnover rate, which was 5% in 2019, remains consistently low.

## Providing Equal Opportunities

HK Electric is an equal opportunity employer committed to fair and equal treatment in all aspects of human resources management, from recruitment and training to promotion, compensation, benefits and termination. We do not tolerate discrimination, harassment, vilification or victimisation of our employees under any circumstances.

We brief all newly-hired employees on equal opportunity issues and Hong Kong's anti-discrimination ordinances as part of their orientation and also organise regular seminars for all employees. In 2019, more than 330 employees attended training to enhance their awareness and understanding of the anti-discrimination ordinances.

Our E-buddy programme aims to help our new hires assimilate quickly and effortlessly into our corporate culture.



Fair and competitive remuneration is a cornerstone of our human resources strategy. We appraise and reward our employees in accordance with the Pay-for-performance policy. Our remuneration packages are reviewed annually with reference to comparable organisations in related industries. In 2019, we added a new travel allowance to subsidise employees' local transportation expenses.

## Listening to Employees' Voices

We are committed to hearing and taking into serious consideration the opinions of all employees. For more than 40 years, our Joint Consultation (JC) Committee has facilitated open communication between employees and management. In 2019, six JC panels comprising more than 70 directly-elected representatives from various employee groups met 20 times to discuss a range of topics related to business operations and employee welfare.

Senior management is committed to engaging directly with colleagues at all levels. Each year we organise a series of meetings to facilitate a company-wide exchange of views. In 2019, these included open discussions on promoting innovation as well as a "can-do" attitude.

In addition to inviting employees to participate in quarterly focus groups on specific topics, we regularly hold management forums, subject matter briefings and taskforce meetings. Employees are always welcome to provide their feedback via our employee hotline and suggestion boxes. In March 2019, we introduced a new mobile application, "My HKE", as a two-way communication platform for our employees to connect with the company and their colleagues in a seamless way.





## Case Story 5

# When we "can-do", we will do better



At HK Electric, we recognise that our employees are essential to the success of our business and we value their contributions and achievements, big and small. We aim to cultivate a healthy, engaged, dedicated and productive workforce and to provide our employees with rewarding careers and work-life balance.

This approach is underpinned by a "can-do" spirit that permeates everything we do. We encourage our employees to be responsible and proactive, adopt a positive and open attitude, embrace challenges and build resilience. With this, we believe our employees can surpass their own expectations and make great things happen.



"At HK Electric as in any organisation, every one of us individually is only a small cog in a big machine, but collectively, we could make a difference. Our ability to provide a world-class electricity supply service for Hong Kong relies on the collective contributions from us all," said HK Electric Managing Director Wan Chi-tin at a communication session with about 500 employees in January 2019.

We are grateful that our employees embrace this proposition. In 2019, several colleagues who were eager to champion this "can-do" spirit helped create a series of mini-movies in which they shared their experiences.

*"My job is to provide back office support and my services may not be visible to our customers, but it still means a lot to me when I provide my ungrudging support to our frontline colleagues."*

Tang Ping-fai  
Senior Tradesman  
Transmission & Distribution Division

## Committed

*"Hong Kong has a scenic night view which has to be built up and maintained with devotion and commitment as we have to keep the lights on all the time. I endeavour to tackle electricity network issues by heart no matter how easy or difficult they are and whether the customers are located in urban areas or on a far-reaching outlying island. Helping our customers solve these problems made me happy."*

Chiu Ho-fai  
Construction & Maintenance Engineer  
Transmission & Distribution Division

## Adaptable



## Caring

*"Customers can feel my empathy over the phone because I always want them to know how much I care."*

Katy Ng  
Senior Customer Services Executive  
System Control Department

*If you are  
happy, I am  
happy*

*"I always think that if I have any creative ideas that can help my colleagues in other teams do their jobs better, why not share my thoughts and skills with them? It is good for the company and win-win for all."*

Tsang Wing-chi  
Manager (Mechanical Contracts)  
Group Commercial Division

## Proactive

*Moving forward  
together as one*

## Whole-hearted

*Every little effort counts*

*"I believe that even for simple requests, customers will feel good if we serve them sincerely with care and attention."*

Anthony Tobias  
Senior Customer Services Executive  
Customer Services Division

## Can-do Spirit

*The simple things  
can be the most  
important*

*"I can remember the details because I learn them by heart. I perform simple jobs but with great care. Seeing the sincere and smiling faces of colleagues receiving my tea service makes me feel satisfied too."*

## Trustworthy

Wong Yung-koi  
Office Attendant  
Human Resources Division

*Doing a job  
well requires  
attention to  
detail*

*Lighting  
up each  
home  
with love*







## Nurturing Talent

Our employees' performance is essential to our success, so we invest continuously in the personal and professional development of our people. To overcome labour-supply challenges in our industry, we aim not only to attract experienced candidates, but also to inspire young people to embark on new careers with us in the power sector.

One of our key objectives is to ensure that our workforce will continue to provide the skills and expertise we need to excel in all core areas of our business without relying on external expertise. To achieve this, we facilitate long-term career planning to retain and nurture talent within the company.



[Belt and Road  
Advanced Professional  
Development  
Programme in Power  
and Energy](#)

HK Electric supports the "Belt and Road Advanced Professional Development Programme in Power and Energy" and shares with the participants Hong Kong's strengths and experience in the energy sector.

## Trainee Recruitment

We raise awareness among young people about career opportunities with HK Electric by promoting our trainee programmes through career fairs and expos, participating in talks organised by universities and the Vocational Training Council, and arranging visits to our operations and facilities for both secondary school and university students.

University students may also qualify to participate in internship and placement opportunities through our Vacation Trainee and Industrial Placement programmes, in order to gain valuable on-the-job experience.

In 2019, we recruited nine Graduate Trainees, three Trainee Technicians and five Trainee Technicians (II). We also revamped our Graduate Trainee programmes to ensure they address the latest requirements of the Competence-based Professional Assessment introduced by the Hong Kong Institution of Engineers.

## Opportunities for Growth

Talent development is a key challenge for our business. To meet this challenge, we adopt a multi-pronged approach of aligning the talent development programmes with our business needs, strengthening succession planning, and striving to meet our employees' goals and aspirations.

We offer a range of learning opportunities to help employees enhance their professional knowledge and competencies. Selected employees receive tailored project exposure, job rotations, mentorship, and classroom training on leadership and management skills. These leadership learning and development programmes build on a 4-level Competency-based Leadership Framework with e-learning and multimedia resources for self-initiated, interactive learning.



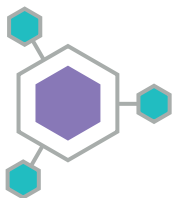
## Talent Development

### Development programme



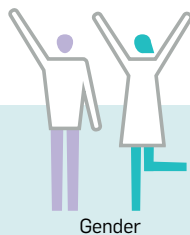
<b>Trainee programmes</b>	To support trainees to build a professional career	Activities include familiarisation visits, environmental seminars, sharing sessions, a mentorship programme, and workshops on career development, presentation skills, business etiquette, team building and inter-generation communication and, graduation camps.
<b>Young talent development programme</b>	To accelerate advancement of talented, young individuals to become successful first-line leaders	Tailor-made learning based on competency assessments and personal development planning. Activities include experiential learning, case discussion, experience sharing, benchmarking visits and action-learning projects. Department heads are invited to serve as mentors.
<b>Leadership development programme</b>	To inspire and prepare mid-level leaders to succeed in critical leadership roles	A two-year intensive development programme involving the mapping of development focuses and actions through development centre, and one-on-one mentorship by senior executives. Structured learning takes place through book reviews, topical workshops and action-learning projects as well as visits to other organisations cum sharing with their management.

### Knowledge sharing

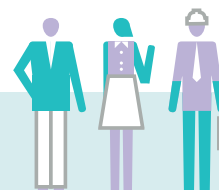


<b>HK Electric Institute</b>	To enable the smooth transfer of knowledge and expertise to younger employees	Courses on power engineering delivered by highly experienced incumbent and retired employees.
<b>Seminars and workshops</b>	To strengthen learning culture at all levels	Knowledge-sharing seminars and workshops on specific topics such as big data, smart city, problem solving and use of office software.
<b>Knowledge inventory</b>	To codify critical knowledge items and enable systematic planning for knowledge transfer	Individual business units update their knowledge inventories annually to define critical knowledge items, identify respective knowledge owners and successors, assess their proficiency level, and map out individuals' learning plans.

### 2019 Employee Training



Gender



Employee category

	Male	Female	Senior staff	General staff	Workman	Overall
Percentage of employees who participated in training courses	99.0	95.7	99.3	98.3	97.9	98.4
Average training hours per employee	32.2	26.0	29.6	33.1	14.6	31.0





## Showing that We Care

We want our employees to be healthy in body and mind. We are pleased to participate in the Joyful@Healthy Workplace Charter organised by the Department of Health and the Occupational Safety & Health Council.

We offer a wide range of activities and services to support the holistic wellbeing of our employees. In 2019, the theme of our Employee Wellness Programme continued to be "Drive your own Purpose". The objective is to motivate our employees to set personal goals for maintaining good work-life balance and improving their physical and emotional health.

### Running Together

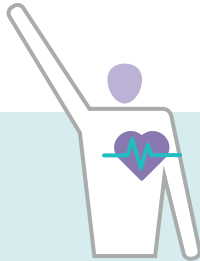
HK Electric's "Runners' Club", established in 2018, provides training by a professional coach on running posture, stretching, balance and coordination, and increasing one's running speed, etc. It is a good opportunity for employees to run in the company and under the encouragement of fellow colleagues.

After a year of training, many runners have reported noticeable improvements in speed and endurance. In 2019, club members volunteered to race in several meaningful charitable events, including "Green Run", "AVS Run and Walk for Volunteering" and "Run for the Roses".





## Drive your Own Purpose 2019



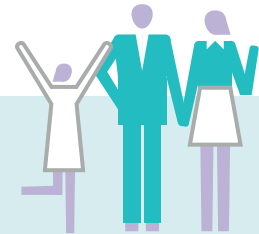
### Physical and intellectual wellbeing

- Interest activity groups and classes
- Health talks, fitness courses and recreational facilities
- Distribution of free fruits
- Free flu vaccinations
- Medical check-ups for eligible employees
- Self-service health booths located on our office premises to allow employees to regularly self-assess body weight and blood pressure



### Emotional and social wellbeing

- Outings and eco-heritage tours
- Volunteering activities
- Employee Recreational Subsidy
- 24-hour Employee Counselling Hotline Service manned by professional counsellors
- Good Neighbours' Club (a continuous learning and resource platform for employee volunteers to provide emotional support to their peers)
- Sharing sessions and workshops on promoting emotional wellness



### Good family relationships

- 5-day week
- Maternity leave entitlement increased from 10 weeks to 14 weeks
- Paternity leave entitlement increased from 3 days to 5 days
- Lactation rooms for breastfeeding mothers
- Medical check-up plans and flu vaccinations for employees' family members at preferential rates
- Children's Education Subsidy







## Health & Safety

We take a proactive approach to mitigating all health and safety risks, which primarily arise from:

- Workplace incidents involving employees and contractors;
- Power supply interruptions affecting critical community facilities and customers with special needs;
- Incidents of power equipment affecting neighbouring communities; and
- Unsafe use of electricity on customer premises.

### Safety is our First Priority

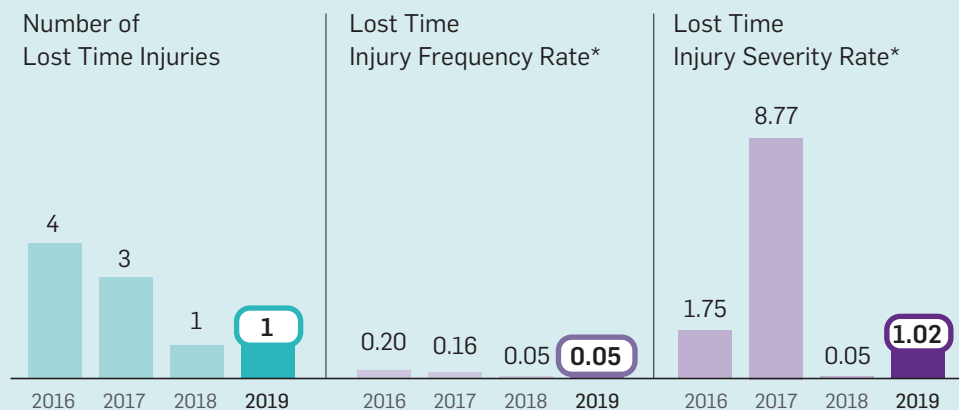
We have three safety management systems in place covering the operations of LPS, the operations of our electricity network and the development of our power infrastructure. All three management systems conform to the latest international standard, ISO 45001:2018. LPS also has a Natural Gas Safety Management System governing the design, construction, commissioning, operation and maintenance of our gas facilities and gas-fired generating units.

We achieve health and safety awareness throughout our organisation by fostering a “culture of safety” and offering a wide range of incentives that motivate our employees to strive towards incident-free operations.

Four HK Electric teams are Champions and 1<sup>st</sup> Runners-up in both Cup and Plate competitions (Enterprise Category) of the Safety Quiz 2019 co-organised by the Labour Department and the Occupational Safety & Health Council.



### Safety Performance



\* Per 200,000 employee-hours

### Risk Prevention Indicators 2019

Number of Work Safe Behaviour observations

>200

Number of safety inspections

>2,700

Average safety training hours per employee

~9

## Key Elements of our Management Approach to Health & Safety

### Rules, practices and procedures



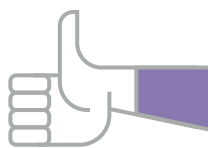
- Comprehensive safety rules, procedures and instructions to ensure all operations are conducted in a safe and responsible manner
- Company-wide system for appointing and registering competent and authorised persons to ensure that only personnel with the necessary skills and experience can perform work on or near our facilities
- Regular risk assessments and preventive or mitigation measures to eliminate or minimise risks
- Ad hoc and regular safety audits and inspections to identify improvement opportunities
- Systematic reporting and follow-up on every workplace incident to prevent recurrence
- Work Safe Behaviour programme to eliminate risky behaviour in a range of operational areas
- 5S Good Housekeeping programme to enhance workplace efficiency, occupational health and safety, space utilisation and cleanliness
- Workplace hygiene inspections and participation in Hong Kong's voluntary Indoor Air Quality Certification Scheme to ensure a healthy working environment
- Oil-free distribution substations and zone substations to reduce potential fire hazards

### Training and awareness



- Comprehensive safety training for employees with the introduction of virtual reality technology to bring training sessions to near real-life environment
- Health and safety alerts for employees
- Company-wide Safety Climate Index (SCI) survey every three years
- Various promotional campaigns for employees and contractors including Health & Safety Forum; Health & Safety Week; Safety, Health & Environment Day; Environmental, Health & Safety Quiz; and health and safety talks
- Relevant safety information on our website for third-party contractors carrying out works near our power supply lines
- Promoting safe use of electricity to customers through group tours of our Power Quality Centre and electrical safety talks at community centres and housing estates

### Encouragement



- Various incentive and award schemes to recognise employees for zero-accidents
- Launched a Continuous Safety Improvement and Innovation Scheme in the year
- Incentive scheme for reporting near-miss incidents which was enhanced in 2019 with an additional reporting channel using chatbot technology
- Membership of the "Charter on Preferential Appointment of OSH Star Enterprise", involving a pledge to give preference to contractors that have effective safety management systems in place for repair, maintenance, alternation and addition works





## Contingency Preparedness

Interruptions to electricity supply may significantly affect community facilities such as hospitals, road traffic control systems, communication infrastructure, escalators and lifts of buildings. We make every effort to deliver a reliable source of power and provide 24-hour emergency support to our customers via telephone and SMS.

We take extra care of the special power supply needs of customers operating life-support equipment by encouraging them to register with us so that we can provide advance notification of planned power supply interruptions. We also have contingency power supply plans in place for hospitals.

Please refer to the chapter on [Serving Hong Kong](#) for more information about our supply reliability and customer service.

We are well-prepared for potential emergency situations such as fire, oil and chemical spills, typhoons, flooding, emergency evacuations, rescues from confined spaces and heat-stroke treatment. We identify potential health and safety risks for our employees, contractors and customers as well as for the public, and mitigate these risks by developing and implementing appropriate procedures. We also conduct regular drills to enhance our response capabilities to these situations.

We have established a 3-level contingency plan to minimise health risks to our employees and the community as well as to maintain our business continuity and electricity supply services during an outbreak of influenza or similar diseases.

## Developing Safely

In 2019, HK Electric's Projects Division won a Gold Award in the RoSPA Health & Safety Awards. This prestigious industry awards scheme hosted by The Royal Society for Prevention of Accidents (RoSPA) in the United Kingdom receives entries from organisations around the world. The Gold Award recognises the company's achievements in health and safety management for development projects, particularly our leadership and workforce involvement practices.



## Safety is a Common Culture

HK Electric's Generation Division hosted its annual Outstanding OSH Employee Award Ceremony in December 2019. Besides our employees, some contractor personnel from different ethnic groups were also recognised for their outstanding safety performance.



Confined space rescue drill.

### 2019 Suppliers by Geographical Region

Hong Kong	957
Mainland China	17
Asia (excluding Hong Kong, Mainland China)	47
United Kingdom	14
Europe	12
Australia	5
United States	16
Other region	3
<b>Total</b>	<b>1,071</b>



# Managing our Supply Chain

We depend on a variety of suppliers, including contractors and consultants, to help us construct, operate and maintain our power facilities and support our daily operations.

All of our suppliers must adhere to our “Code of Practice for Suppliers”, which sets forth clear standards on business ethics, human and labour rights, health and safety, and environmental protection. We encourage our suppliers to report publicly on their CSR performance and to influence their business partners to abide by our Code as far as practicable.

## Responsible Procurement

Every tender or quotation that we receive is processed according to established commercial procedures. Our major suppliers are required to undergo assessment and screening in order to be listed on our Recognised Tenderers Register (RTR). We periodically review the RTR and request major suppliers to submit an update on their CSR performance. In 2019, for example, we evaluated the CSR performance of 53 major suppliers under the RTR system.

Special procedures are in place to handle our fuel, limestone and urea suppliers on a case-by-case basis, which include consideration of their CSR performance. These suppliers accounted for approximately 1.2% of all our suppliers in 2019.

When making procurement decisions, we consider impact on the environment together with other criteria such as quality, price and punctuality in supplying products or services. In accordance with our Green Purchasing Policy and Green Purchasing Guidelines, we strive to work with suppliers who conserve resources and protect the environment.

## Influencing our Suppliers

We value our suppliers as respected business partners who are integral to helping us achieve our corporate mission, and we engage with them regularly to pursue shared goals for sustainable development.

In particular, we actively pursue with our contractors on measures to improve their environmental, health and safety performance. Please refer to the previous section on [Health & Safety](#) for more information.

HK Electric was named “HSBC Living Business Sustainable Supply Chain Leader” at the HSBC Living Business Awards in 2019. We were delighted that during the year some of our contractors received similar awards in recognition of their CSR performance.

## Promoting Sustainable Procurement

HK Electric is a founding member of the Hong Kong Sustainable Procurement Charter (SPC), established by the Green Council in 2018. In September 2019, we hosted an SPC meeting in the company's Smart Power Gallery for members to discuss the latest sustainable procurement trends, share best practices and learn about energy saving technologies that are modelled in the Gallery.







# Key Statistics and Targets

## Status of Targets in 2019

### Environment

### Status

Collect at least 100,000 m <sup>3</sup> of plant effluent and rain water for reuse at LPS in 2019.	Achieved
Plant diverse species of native trees or shrubs at LPS in 2019 to support biodiversity.	Achieved
Reduce food waste at the canteen of LPS by 1% in 2019 as compared to 2018.	Achieved
Reduce vehicle fleet's fuel usage in 2019 as compared to 2018.	Achieved
Increase EV mileage in 2019 as compared to 2018.	Achieved
Obtain at least one WastewiSe Certificate and one EnergywiSe Certificate under the Hong Kong Green Organisation Certification Scheme in 2019.	Achieved
Commission three new gas-fired generating units, L10, L11 and L12, at LPS in 2020, 2022 and 2023, respectively.	In progress
Reduce CO <sub>2</sub> e per electricity unit sold to not higher than 0.6 kg/kWh in 2023 from 0.93 kg/kWh in 2005 (the year before natural gas was introduced at LPS).	In progress
Reduce total electricity consumption of seven main buildings at LPS by 10% in 2025 as compared to the baseline figure in 2013.	See note <sup>[1]</sup>

### Health & Safety

### Status

Achieve a reduction in the Lost Time Injury Frequency Rate (LTIFR) in 2019 as compared to the average over the previous three years.	Achieved
Achieve a reduction in the Lost Time Injury Severity Rate (LTISR) in 2019 as compared to the average over the previous three years.	Achieved
Obtain at least three Excellent Class Indoor Air Quality (IAQ) Certificates under the Government's IAQ Certification Scheme in 2019.	Achieved
Organise a series of health talks, physical exercises and interest classes to enable our employees to maintain a healthy and balanced lifestyle in 2019.	Achieved

### Partners & Community

### Status

Fulfil all our customer service pledges, embracing supply reliability, speediness of provision of supply and other customer services, including emergency services, in 2019.	Achieved
Complete 200 audits for Smart Power Energy Audit in 2019, particularly for NGOs, schools and SMEs.	Achieved
Approve 100 buildings for Smart Power Building Fund in 2019, including those from residential buildings, NGO premises and schools.	See note <sup>[2]</sup>
Launch a promotion programme on electronic billing/autopay in 2019 to encourage more customers to go green.	Achieved
Further expand the Plant Ownership Programme at LPS by adding at least one new project in 2019 to enhance plant reliability and availability, and to facilitate development of young engineers.	Achieved
Organise more than 300 corporate visits for various stakeholders in 2019.	See note <sup>[3]</sup>
Reach out to 100,000 participants under Happy Green Campaign in 2019.	Achieved
Enhance the necessary electricity infrastructure for the MTR Shatin to Central Link (North South line [Hong Kong Section]) by 2020 to support economic and social development of local communities.	In progress
Develop a fraud-risk assessment framework and facilitate divisions/departments to perform fraud-risk assessments in 2019 to identify assets or areas that are prone to fraud risks and enhance employee awareness of fraud risks.	See note <sup>[4]</sup>

#### Notes:

- [1] In 2019, new mid-term corporate targets were established to reduce electricity, water and paper consumption, and to reduce waste generation in our main office buildings. Details can be found in the Looking Ahead section of this chapter.
- [2] Subsidies for more than 80 buildings were approved in 2019, and the subsidised energy enhancement projects carried forward from previous years for more than 20 buildings were completed in 2019.

- [3] Some corporate visits originally scheduled during the period from September to December 2019 were cancelled in consideration of social unrest. As a result, only about 260 corporate visits were organised in 2019.
- [4] Development of the fraud-risk assessment framework was in progress by end 2019 and the framework will be implemented in 2020.



## Summary of Statistics

### Environment

	2019	2018	2017
<b>Fuel Consumed (TJ) <sup>[1]</sup></b>			
Gas	27,568	30,011	30,914
Coal & oil <sup>[2]</sup>	82,996	80,405	79,258
<b>Licence Compliance</b>			
Percentage of Compliance (%)	100	100	100
<b>Air Emissions</b>			
SO <sub>2</sub> (kT) <sup>[1]</sup>	1.94	2.87	2.21
NO <sub>x</sub> (kT) <sup>[1]</sup>	7.59	7.79	8.14
RSP (kT) <sup>[1]</sup>	0.18	0.20	0.20
CO <sub>2</sub> (million T) <sup>[1]</sup>	8.48	8.37	8.36
CO <sub>2</sub> e (million T) <sup>[3]</sup>	8.51	8.41	8.41
CO <sub>2</sub> e per electricity unit sold (kg/kWh) <sup>[3]</sup>	0.81	0.80	0.79
<b>Material Non-Hazardous Wastes (kT) <sup>[1, 4]</sup></b>			
Ash produced	230	235	229
Ash collected for industrial uses	230	237	235
Gypsum produced/collected for industrial uses	70	69	61
<b>Material Hazardous Wastes <sup>[5]</sup></b>			
Waste oil collected for recycle (litre)	2,000	3,000	18,400
Waste oil collected for disposal (litre)	132,087	88,687	79,160
Other material hazardous wastes recorded in volume for recycle (litre)	0	0	0
Other material hazardous wastes recorded in volume for disposal (litre)	0	3,400	11,240
Other material hazardous wastes recorded in weight for recycle (kg)	0	850	22,212
Other material hazardous wastes recorded in weight for disposal (kg)	23,694	17,459	25,853
<b>Water Consumption/Discharge <sup>[1]</sup></b>			
Sea water withdrawal & discharge (million m <sup>3</sup> )	1,930	2,031	1,926
Town water consumption (thousand m <sup>3</sup> ) <sup>[6]</sup>	2,353	2,187	2,375
Wastewater discharge (thousand m <sup>3</sup> )	263	148	160
<b>Noise Abatement Notice</b>			
Number of notices received	0	0	0
<b>Certificate Accreditation</b>			
Number of ISO 14001 certificates	3	3	3
Number of ISO 50001 certificates	1	1	1

Notes:

[1] For power generation only.

[2] Fuel oil is mainly used for starting and flame stabilisation of coal-fired units and hence, specific breakdown for fuel oil is not given.

[3] The methodology used for calculation is drawn from Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, taking into account greenhouse gas emissions generated from the processes of power generation, transmission and distribution.

### Operations

	2019	2018	2017
<b>Customer Service</b>			
Number of customers (thousands)	581	579	577
Average rating of customer satisfaction level (5-point scale)	4.6	4.6	4.6
Number of pledged service standards	18	18	18
Percentage achieved (%)	100	100	100
<b>Installed Capacity (MW) <sup>[1]</sup></b>			
Gas	680	680	680
Coal & oil <sup>[2]</sup>	2,555	2,555	2,805
Renewable energy	1.8	1.8	1.8
<b>Performance</b>			
Electricity sold (millions of kWh)	10,519	10,537	10,615
Plant availability (%)	90.9	90.7	87.1
Thermal efficiency (%)	35.5	35.6	35.9
Transmission and distribution losses (%)	3.4	3.4	3.3
<b>Electricity Supply Reliability</b>			
Supply reliability rating (%)	>99.999	>99.999	>99.999
Unplanned customer minutes lost (minutes)	0.6	0.6	0.5
<b>Certificate Accreditation</b>			
Number of ISO 9001 certificates	8	8	9
Number of ISO 27001 certificates	1	1	1
Number of ISO 55001 certificates	2	2	2
<b>Health &amp; Safety</b>			
Number of fatalities	0	0	0
Number of lost time injuries	1	1	3
Lost Time Injury Frequency Rate (LTIFR) (per 200,000 employee-hours)	0.05	0.05	0.16
Number of days lost/charged (no. of employee-days)	19	1	168
Lost Time Injury Severity Rate (LTISR) (per 200,000 employee-hours)	1.02	0.05	8.77
Longest period without a lost time injury (no. of days)	213	315	150
Number of reported traffic accidents (no. of cases)	6	7	9
Traffic Accident Frequency Rate (TAFR) (no. of cases per million km travelled)	3.4	3.8	4.8
Number of ISO 45001 / OHSAS 18001 certificates	3/0	1/2	0/3

[4] HK Electric's material non-hazardous wastes are ash and gypsum.

[5] HK Electric's material hazardous wastes are those wastes required to be managed under the mandatory trip ticket systems. These wastes were collected and treated by licensed waste collectors and facilities.

[6] Town water is provided by the Water Supplies Department of the HKSAR Government.

[7] For economic/financial data, please refer to our [Annual Report](#).





## Looking Ahead

We understand that, as a power utility in Hong Kong, we play a crucial role in supporting the city's economic and social development. As a responsible business, we have a duty of care for the environment, the community, our employees and other stakeholders. To realise these commitments, we regularly review our performance and set specific goals for the future.

Outlined below are the targets we set in the areas of Environment, Health & Safety, and Partners & Community for 2020 and beyond. Specific targets corresponding to the United Nations' Sustainable Development Goals that are material to our business can be found in the [Sustainability at HKEI](#) chapter.

### Environment

- Collect at least 100,000 m<sup>3</sup> of plant effluent and rain water for reuse at LPS in 2020.
- Plant diverse species of native trees or shrubs at LPS in 2020 to support biodiversity.
- Reduce food waste at the canteen of LPS in 2020 as compared to 2019.
- Reduce vehicle fleet's fuel usage in 2020 as compared to 2019.
- Increase EV mileage in 2020 as compared to 2019.
- Obtain at least one WastewiSe Certificate and one EnergywiSe Certificate under the Hong Kong Green Organisation Certification Scheme in 2020.
- Commission three new gas-fired generating units, L10, L11 and L12, at LPS in 2020, 2022 and 2023, respectively.
- Reduce CO<sub>2</sub>e per electricity unit sold to not higher than 0.6 kg/kWh in 2023 from 0.93 kg/kWh in 2005 (just before natural gas was introduced at LPS).
- Reduce total electricity consumption, water consumption, paper consumption and waste generation of our key office premises including Hongkong Electric Centre, Electric Tower, Electric Centre and seven main buildings at LPS by 5%, 1%, 10% and 10%, respectively in 2024 as compared to the baseline figures in 2019.
- Reduce production of ash and gypsum at LPS by 30% in 2024 as compared to the baseline figures in 2019.

### Health & Safety

- Achieve a reduction in the Lost Time Injury Frequency Rate (LTIFR) in 2020 as compared to the average over the previous three years.
- Achieve a reduction in the Lost Time Injury Severity Rate (LTISR) in 2020 as compared to the average over the previous three years.
- Obtain at least three Excellent Class Indoor Air Quality (IAQ) Certificates under the Government's IAQ Certification Scheme in 2020.
- To organise a series of health talks, physical exercises and interest classes to enable our employees to maintain a healthy and balanced lifestyle in 2020.

### Partners & Community

- Fulfil all our customer service pledges, embracing supply reliability, speediness of provision of supply and other customer services, including emergency services, in 2020.
- Complete 200 audits for Smart Power Energy Audit in 2020, particularly for NGOs, schools and SMEs.
- Confirm energy efficiency enhancement project subsidies for 100 buildings in 2020, including residential buildings, commercial buildings, NGO premises and schools.
- Launch a promotion programme on electronic billing/autopay in 2020 to encourage more customers to go green.
- Further expand the Plant Ownership Programme at LPS by adding at least one new project in 2020 to enhance plant reliability and availability, and to facilitate development of young engineers.
- Launch a new GHKG eco-heritage route in Eastern District in 2020.
- Engage 20,000 fans via our Facebook pages in 2020.
- Enhance the necessary electricity infrastructure for the MTR Shatin to Central Link (North South line [Hong Kong Section]) by 2020 to support economic and social development of local communities.
- Develop and implement a fraud-risk assessment framework and facilitate divisions/departments to perform fraud-risk assessments in 2020 to identify assets or areas that are prone to fraud risks and enhance employee awareness of fraud risks.



# Verification Statement



## VERIFICATION STATEMENT

### Scope of Verification

Hong Kong Quality Assurance Agency ("HKQAA") has been commissioned by HK Electric Investments and HK Electric Investments Limited (collectively known as "HKEI") to undertake an independent verification for its Sustainability Report 2019 ("the Report"). The scope of HKQAA's verification covers the data and information associating to HKEI's sustainability performance for the period of 1<sup>st</sup> January 2019 to 31<sup>st</sup> December 2019. The Report articulates HKEI's commitment, strategies and progress towards sustainability.

### Level of Assurance and Methodology

The process applied in this verification was referring to the International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. Our evidence gathering process was designed to obtain a reasonable level of assurance for devising the verification conclusion. The extent of this verification process undertaken was based on the Core option of the Global Reporting Initiative's Sustainability Reporting Standards ("GRI Standards"), the Electric Utilities Sector Disclosures, and the Environmental, Social and Governance Reporting Guide ("ESG Guide") of Hong Kong Exchanges and Clearing Limited.

In order to understand the process that HKEI adopted to ascertain the key sustainability issues and impacts, the Report compilation process was discussed including stakeholder engagement and materiality assessment processes. Also, system and process for collecting, collating and reporting sustainability performance data were verified. Our verification procedure covered reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the Report and verifying the selected representative samples of data and information used for preparing the Report. Raw data and supporting evidence of the selected samples were also thoroughly examined during the verification process.

### Independence

HKEI is responsible for the collection and presentation of the information presented. HKQAA does not involve in calculating, compiling, or in the development of the Report. Our verification activities are independent from HKEI.

### Conclusion

On the basis of our verification results and in accordance with the verification procedures undertaken, it is the opinion of the HKQAA's verification team that:

- The Report has been prepared in accordance with the Core option of the GRI Standards, the Electric Utilities Sector Disclosures and the ESG Guide. Besides, the Report also addresses a significant number of material disclosures required under the Comprehensive option of the GRI Standards;
- The Report illustrates HKEI's sustainability performance, covering all material and relevant aspects in a balanced, comparable, clear and timely manner; and
- The data and information disclosed in the Report are reliable and complete.

The Report reflects HKEI's sustainability context and materiality appropriately. It allows stakeholders to have a clear understanding of HKEI's commitments and stewardship towards sustainability.

### Signed on behalf of Hong Kong Quality Assurance Agency

Connie Sham  
Head of Audit  
March 2020





# 港燈電力投資

## HK Electric Investments

### HK Electric Investments (港燈電力投資)

(as constituted pursuant to a deed of trust on 1 January 2014 under the laws of Hong Kong,  
the trustee of which is HK Electric Investments Manager Limited (港燈電力投資管理人有限公司))

and

### HK Electric Investments Limited (港燈電力投資有限公司)

(a company incorporated in the Cayman Islands with limited liability)

(Stock Code: 2638)

## Share Your Views with Us!

We value your views on this report and our sustainability performance, as your feedback will help us realise our vision for a sustainable future. Please share your comments by completing the [feedback form](#) on our website or by contacting us at:

Environmental Affairs Department  
Corporate Development Division  
The Hongkong Electric Co., Ltd.

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