



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 23rd 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

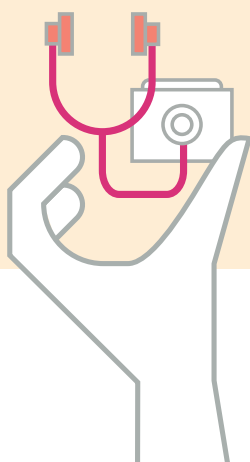
Very-low-frequency-monitored withstand test for 11-kV distribution cables

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.



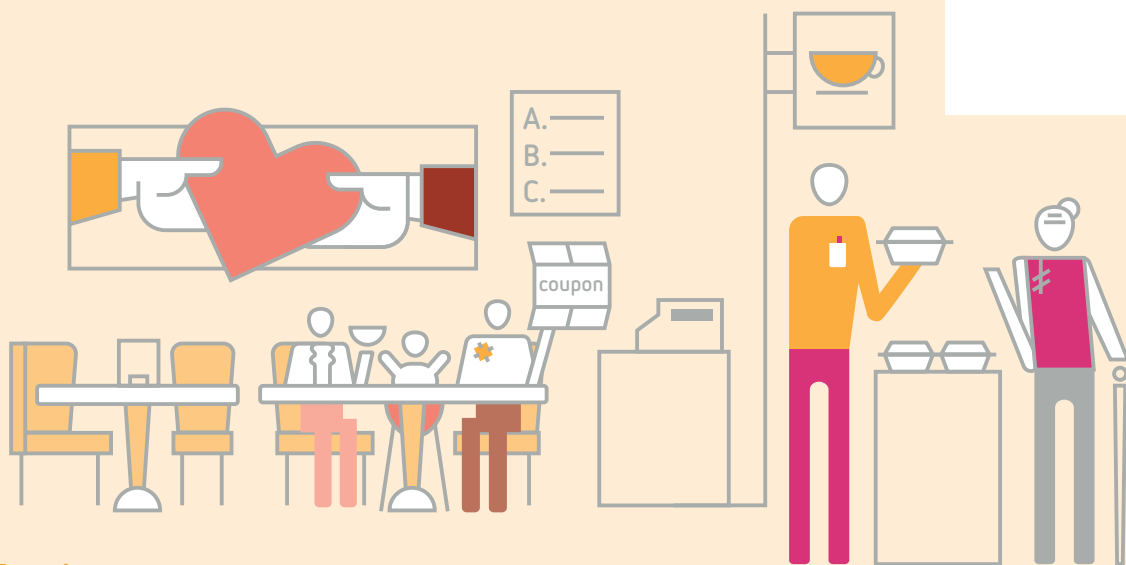
Alleviating Economic Hardship

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.



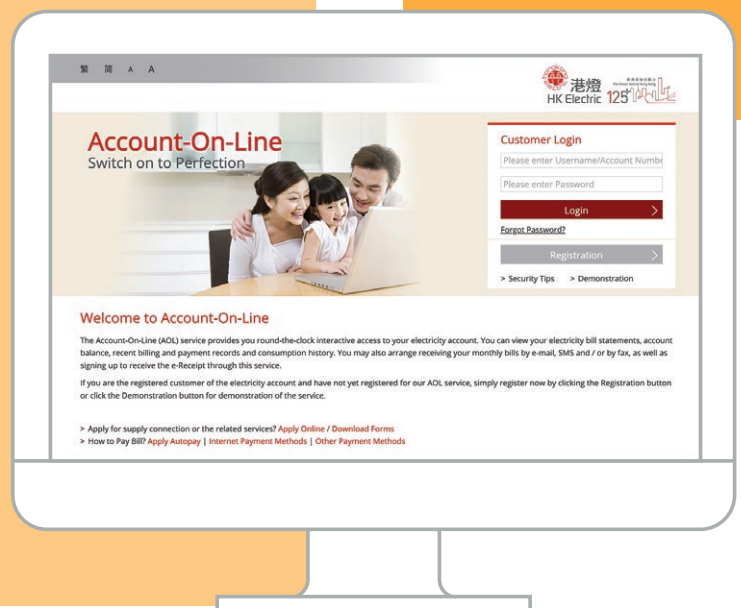
Caring for our Customers

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.



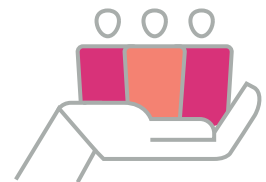
Caring for our Customers



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.



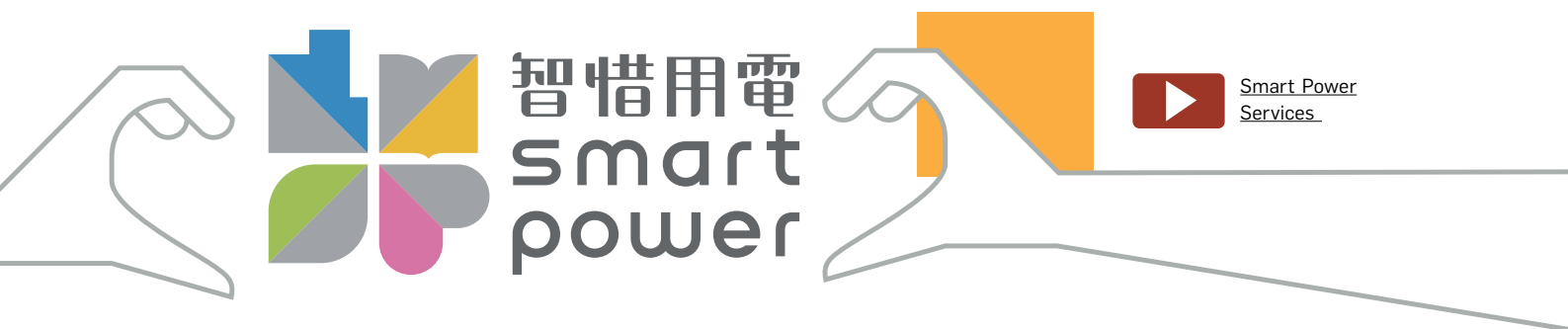
HK Electric's New Smart Power Gallery

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."





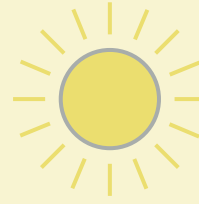
Case Story 4

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.

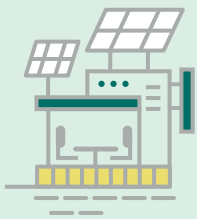
~60



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.

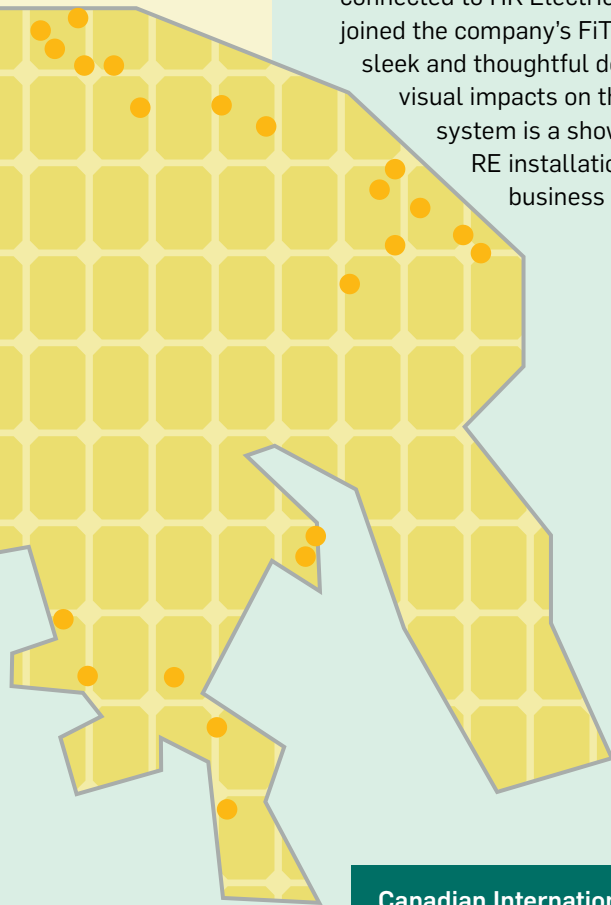


"Our solar panels are installed horizontally to minimise reflection disturbance to buildings nearby."

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 3rd 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 – 15th Anniversary Celebration](#)

HK Electric Volunteers Extending Care

The HK Electric Volunteers Team celebrated its 15th 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 15th Anniversary Celebration.