



Power Assets Holdings Ltd.
電能實業有限公司

(Stock Code : 6)

Accelerating towards a Sustainable Future



2020
Sustainability Report



About Power Assets

Power Assets Holdings Limited ("Power Assets" or the "Company", together with its subsidiaries, the "Group") is a global investor in energy and utility-related businesses with investments in power generation, transmission and distribution; renewable energy; energy-from-waste; gas and oil transmission as well as gas distribution.

Over the years, Power Assets has adopted a strategic approach to seek growth in stable and well-structured international markets. The Group has established a strong global presence with investments in Hong Kong, the United Kingdom, Australia, New Zealand, Mainland China, Thailand, the Netherlands, Canada and the United States, bringing reliable energy to about 19 million homes and businesses around the world. In terms of assets, the Group has interests in almost 10,000 MW of power generation facilities and 514,700 km of power, gas and oil networks.

Listed on the Stock Exchange of Hong Kong as a constituent share of the Hang Seng Index, Power Assets has been a constituent of the Hang Seng Corporate Sustainability Index since 2010. It is also one of the only twelve Hong Kong companies and seven Asia Pacific utility companies included in the Dow Jones Sustainability Index Asia Pacific.



Accelerating towards a Sustainable Future

Across Power Assets, our operating companies set themselves ambitious targets to contribute to a greener future and more sustainable communities. The Group is dedicated to providing the governance and resources required to nourish and groom their visions, cross-pollinating best practices among sister organisations to reap fruits faster and healthier. The cover of our 2020 Sustainability Report reflects this mutually supporting strategy, like interlinked gears, of tapping the best from our pools of expertise around the world to accelerate our move to more sustainable operations.

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Our Business Portfolio

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Canada

-  Canadian Power Holdings
-  Husky Midstream Limited Partnership
-  Energy Developments Pty Ltd


United States of America

-  Energy Developments Pty Ltd




United Kingdom

-  UK Power Networks
-  Northern Gas Networks
-  Wales & West Utilities
-  Seabank Power
-  Energy Developments Pty Ltd

Netherlands

-  Dutch Enviro Energy Holdings B.V.


Mainland China

-  Jinwan Power
-  Dali Wind Power
-  Laoting Wind Power


Hong Kong

-  HK Electric


Thailand

-  Ratchaburi Power Company

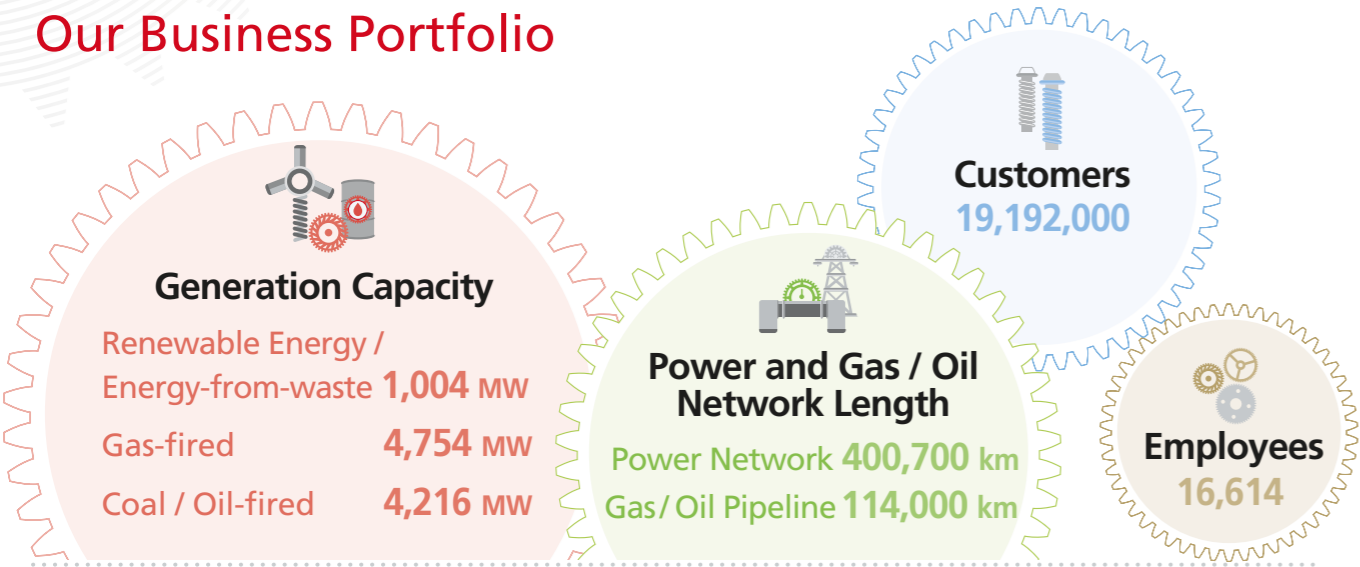
Australia

-  Australian Gas Networks
-  SA Power Networks
-  Victoria Power Networks
-  Australian Energy Operations
-  United Energy
-  Dampier Bunbury Pipeline and AGI Development Group
-  Multinet Gas
-  Energy Developments Pty Ltd

New Zealand

-  Wellington Electricity Lines

Our Business Portfolio



United Kingdom

UK Power Networks (UKPN)	
Network Length:	189,400 km
Customers:	8,400,000
Joined / Interest:	2010 / 40%
Northern Gas Networks (NGN)	
Gas Pipeline Length:	36,100 km
Customers:	2,700,000
Joined / Interest:	2005 / 41.29%
Wales & West Utilities (WWU)	
Gas Pipeline Length:	35,000 km
Customers:	2,500,000
Joined / Interest:	2012 / 36%
Seabank Power	
Installed Capacity:	1,144 MW
Joined / Interest:	2010 / 25%

New Zealand

Wellington Electricity Lines (Wellington Electricity)	
Network Length:	4,200 km
Customers:	171,000
Joined / Interest:	2008 / 50%

Mainland China

Jinwan Power	
Installed Capacity:	1,200 MW
Joined / Interest:	2009 / 45%
Dali and Laoting Wind Power	
Installed Capacity	
Dali:	48 MW
Laoting:	49.5 MW
Joined / Interest	
Dali:	2007 / 45%
Laoting:	2008 / 45%

Hong Kong

HK Electric	
Network Length:	6,600 km
Customers:	583,000
Installed Capacity:	3,617 MW
Established / Interest:	1889 / 33.37%

Thailand

Ratchaburi Power Company (Ratchaburi Power)	
Installed Capacity:	1,400 MW
Joined / Interest:	2001 / 25%

Australia

SA Power Networks (SAPN)	
Network Length:	89,400 km
Customers:	896,000
Joined / Interest:	2000 / 27.93%
Victoria Power Networks (VPN) (which owns Powercor and CitiPower)	
Network Length	
Powercor:	89,900 km
CitiPower:	7,700 km
Customers	
Powercor:	844,000
CitiPower:	332,000
Joined / Interest	
Powercor:	2000 / 27.93%
CitiPower:	2002 / 27.93%
Australian Gas Networks (AGN) (a member of Australian Gas Infrastructure Group (AGIG))	
Gas Pipeline Length:	26,400 km
Customers:	1,345,000
Joined / Interest:	2014 / 27.51%
Dampier Bunbury Pipeline and AGI Development Group (collectively known as "DBP") (a member of AGIG)	
Gas Pipeline Length:	4,100 km
Joined / Interest:	2017 / 20%
Multinet Gas (a member of AGIG)	
Gas Pipeline Length:	10,200 km
Customers:	718,000
Joined / Interest:	2017 / 20%
United Energy	
Network Length:	13,400 km
Customers:	703,000
Joined / Interest:	2017 / 20%

Energy Developments Pty Ltd (EDL)	
Installed Capacity:	1,086 MW
Joined / Interest:	2017 / 20%
Australian Energy Operations	
Network Length:	71 km
Joined / Interest:	2012 / 50%

Canada

Canadian Power Holdings (Canadian Power)	
Installed Capacity	
Meridian:	220 MW
TransAlta:	1,064 MW
Joined / Interest	
Meridian:	2007 / 50%
TransAlta:	2007 / 25%
Husky Midstream Limited Partnership (HMLP)	
Oil Pipeline Length:	2,200 km
Oil Storage Capacity:	5.9 million barrels
Pipeline Gathering	
System Capacity:	409,000 bbs/day
Joined / Interest:	2016 / 48.75%

Netherlands

Dutch Enviro Energy Holdings B.V. (which owns AVR-Afvalverwerking B.V. (AVR))	
Installed Capacity	
Waste-to-Energy Units:	115 MW
Biomass-Fired Units:	30 MW
Joined / Interest:	2013 / 27%

Message from the Chief Executive Officer



I am pleased to present the first standalone Sustainability Report of the Power Assets Group, marking a significant step for reporting on our annual sustainability efforts and achievements. Our commitment to sustainable practice is a driving force in our business operations – staying true to our mission, vision, values, caring for the environment and supporting our stakeholders across nine markets spanning four continents. We consciously align each of our strategies and actions with wider national and international sustainable development aspirations and where appropriate, we include in our report illustrations of activities undertaken by our various operating companies to better demonstrate the Group's commitment to a sustainable future. This commitment is particularly pertinent in the current context. While hope is on the horizon today in the form of vaccines, the COVID-19 pandemic took a heavy toll on communities and economies around the world in 2020, creating a need for communities to come together to support vulnerable people. This is in addition to climate change, which has emerged as one of the key challenges that the global community needs to address in a concerted manner and will remain so for years to come, especially for our industry.

The very ethos of the Power Assets Group is sustainable, long-term growth. Our services support economic and social development at the most fundamental level. All our activities are founded on sustainable practices and we are actively pursuing investment in renewables and embrace innovative technologies. We are fully committed to supporting the governments in our markets of operation to achieve their commitments in the United Nations Framework Convention on Climate Change as well as their strategies for net zero carbon emission in future years. In our key markets of the UK, Australia and Hong Kong, governments have already announced plans to achieve carbon neutrality by 2050. Needless to say we will support these endeavours.

Our strategy is built on five pillars which encompass our business, our people, the environment, the community, and our value chain. This is overseen by a newly-established board-level Sustainability Committee. The committee ensures systems and structures are in place to drive and integrate sustainability across all our operations.

Research into renewable energy is one of our top priorities to reduce our carbon footprint. In this area, we are pioneering in many of our markets, thanks to our focus on innovation through technology. For example, projects on safety case studies in the UK and Australia to demonstrate our existing gas networks can be repurposed to distribute hydrogen in the future, as well as the rollout of advanced automated low-voltage distribution network and metering infrastructure, are helping us meet customers' demand for reliable and clean energy supply. In Australia, EDL has commissioned two commercial-scale renewable hybrid projects which are great examples of clean energy: a unique combination of renewables to power off-grid, remote communities. In line with our strategy to expand on our renewable energy portfolio, Canadian Power entered into an agreement in February 2021 to acquire 100% interest of two major windfarms in British Columbia in Canada.

Equally, we are committed to the people who form a part of our business, whether as employees, customers, contractors, or the wider communities that we serve. Safeguarding them and contributing to their long-term welfare is important to us. Notable highlights of our commitment include UKPN ranking tenth in The Sunday Times 25 Best Big Companies To Work For in 2020 – manifestation of our ambition as an employer of choice. In Australia, Beon Energy Solutions (a VPN undertaking) was a finalist in the Clean Energy Council Community Engagement Award for the second year in a row. HK Electric continued to provide highly reliable power supply, reaching a record rating of over 99.9999% in 2020.

Even though we have made significant progress in the area of sustainability, there is still a long way to go before the goal of limiting global warming to "well below 2 degrees Celsius" can be achieved. I see this as a continuing voyage of education and innovation over the long term. Power Assets will continue to strive for excellence through advances in technology, and the education of our communities.

I would like to express my gratitude to the team of talented professionals across the Group whose passion to leave a cleaner and healthier world for future generations is at the heart of our success. I am proud to work with them.

I hope this report proves useful to you in understanding about our commitment to and actions for a sustainable future.

Tsai Chao Chung, Charles

Chief Executive Officer
Hong Kong, March 2021



2020 Highlights

Our sustainability activities can be categorised broadly into activities to enhance our governance, protect the environment and support our stakeholders. This section enlists selected highlights of the Group's sustainability performance in 2020.

Governance

- Sustainability Committee established as a Board Committee, overseeing the implementation of the Group's sustainability efforts.
- Disclosing more of the Group's sustainability-related policies including Information Security Policy, Supplier Code of Conduct, Human Rights Policy, Media, Public Engagement and Donation Policy etc., guiding the Group in setting the overall direction of its sustainability strategy to integrate sustainability across its worldwide businesses.

Environment

- Power Assets is on track with its decarbonisation plan and has reduced 2,485 MW of its coal-fired power generation capacity compared with that of June 2017. The following projects have been completed or are ongoing:
 - HK Electric's new highly-efficient combined-cycle gas-fired generating unit equipped with a selective catalytic reduction (SCR) system, known as L10, was commissioned in February 2020. Compared with 2019, the carbon emission from electricity generation in 2020 was reduced by about 16% with L10 in operation. HK Electric is building two more new gas-fired units (L11 and L12) with schedule to be commissioned in 2022 and 2023 respectively.
 - Canadian Power is converting its 2x400 MW Sheerness power plant from coal to natural gas firing. The conversion of the first unit was completed in 2020 and the second unit is due to be completed in 2021.

- Power Assets is working actively with industry peers along the entire product chain and policymakers to demonstrate and promote hydrogen as a reliable, clean and safe fuel for achieving the net zero targets set by various jurisdictions. The following hydrogen projects are being carried out by our gas distribution businesses:

- H21, a collaborative gas industry programme led by NGN, entered its 2nd phase in 2020. The project is now focused on delivering two key pieces of evidence, the ability to maintain a hydrogen network safely and the successful conversion of a small part of the live network to use 100% Hydrogen. This work is being undertaken at Spadeadam, with the construction of a micro-network, where an isolated section of the live network is to be converted. Testing is due to commence in early 2021. Ultimately, this work aims to provide the assurances required by UK Government that a decarbonised heating network converting from natural gas to 100% hydrogen is safe and cost-effective.
- HyDeploy – a 16-month live demonstration of up to a 20% blend of hydrogen into the natural gas network is taking place on Keele University's private gas network. This project is due to finish in March 2021 and will be succeeded by a 2nd trial, HyDeploy2. This trial will see up to a 20% blend of hydrogen provided to 670 properties connected to NGN's gas network. The project is due to commence blending in April 2021 running for 10 months in total. HyDeploy will provide evidence that the gas networks and existing domestic appliances can be used safely with a blend of hydrogen, with little or no cost or disruption implications to the customer. The ultimate goal is to replace natural gas by 100% hydrogen to achieve zero emission in our heating network.

- AGN and Multinet Gas' Hydrogen Park SA (HyP SA) Project, the first such project in Australia to produce renewable hydrogen for blending into the existing natural gas distribution network.
- AGN has also announced the construction of Hydrogen Park Gladstone for renewable hydrogen production, a facility involving the installation of a 175-kW electrolyser to deliver up to 10% blended hydrogen. This project is expected to begin production in Q3 2022.

Social

- A good health and safety record was achieved across our businesses, and in particular Group management remains vigilant and is closely monitoring the impact on the business caused by the COVID-19 pandemic. It continuously reviews and improves the guidelines and procedures and provides necessary support to meet changing domestic needs and requirements. We maintained critical services to our 19 million customers throughout 2020.
- Our businesses launched a number of tariff relief packages to assist our customers that were impacted by the COVID-19 pandemic. In Australia, eligible customers of CitiPower and Powercor could defer electricity network charges until

January 2021. SAPN is rebating (or writing off) some network charges to retailers and deferring payment terms for other network charges for residential and small business customers who were adversely impacted by the pandemic.

- In Hong Kong, HK Electric offered dining coupons to the underprivileged and subsidies for NGOs for use at small and medium-sized caterers, one of the hardest hit sectors. It continued to care for the vulnerable elderly through its re-engineered "CAREnJOY" programme. Regular news feeds and phone calls were arranged to replace home visits and community talks, keeping single elders connected to relieve the psychological impact of isolation following prolonged service and activity suspension.
- WWU provided additional assistance to the most vulnerable customers within its geographical coverage through its Social Obligations Steering Group.
- Our electricity and gas distribution companies continued to achieve excellence in customer satisfaction and received very high scores in various customer satisfaction surveys. UKPN was placed third in terms of complaint handling in the 2020 UK Customer Satisfaction Index and HK Electric received the "2020 Excellent Service Retailer of the Year" award.



COVID-19 Response

As a group, we have responded to the COVID-19 pandemic since the health crisis began – from deploying business continuity plans to protecting the safety of our people and those they work alongside, while providing the widest range of support possible to our stakeholders.



Employees

We have implemented a series of operational reinforcement measures to ensure employee health and safety and continued operations. Some of these actions include:

- Intensified hygiene and cleaning procedures in line with sanitary authorities' guidelines;
- Distribution of protective clothing and sanitisers;
- Establishment of work-from-home arrangements for employees whose jobs can be done remotely to restrict the spread of the virus;
- Physical segregation of teams, with video-conference shift transfers to prevent personal contact;
- Free employee assistance line providing counselling, financial advice, legal consultation and health advice;
- Financial support for employees and contractors who are required to self-isolate and had no leave entitlement; and
- Mental health care and well-being programme.

Customers

We are very conscious that many of our customers are currently experiencing additional financial challenges and have therefore introduced a range of initiatives for those experiencing financial hardship.

UKPN

Launched an app for engineers so they can support customers in vulnerable circumstances in the community. The app hosts useful information on medical support, coping with social isolation, well-being tips and more.



- An app developed by Kellie Dillon of the UKPN innovation team allows customers needing help under COVID-19 to access specialist partners.

Call centre is open 24/7 throughout the pandemic and enhanced services are available for the most vulnerable households via a Priority Services Register.

AGIG

Participated in the Energy Networks Australia's (representing electricity and gas networks in South Australia, Victoria and New South Wales) COVID-19 programme, which provides relief to small business and residential customers who are experiencing financial hardship, in support of the Australian government's COVID-19 stimulus packages.

HK Electric

Waived tariff increases for low-consumption non-residential customers and offered 2-month deferral of electricity bill payment for eligible SME caterers in 2020.

SAPN

Implemented a COVID-19 Tariff Relief Package which wrote off or deferred distribution network charges via the Retailers for residential and small business customers adversely impacted by the pandemic.

VPN

Offered financial support to eligible households and small businesses in Victoria by deferring their electricity network charges until January 2021.

Communities

In addition to helping our customers directly, we have allocated additional funds and introduced programmes to support charities and community projects at the forefront of the region's COVID-19 response. Power Assets and HK Electric donated over HK\$1.2 million to the Community Chest of Hong Kong through a matching scheme to help people through the pandemic.

EDL

Offered five local councils each AUD10,000 in COVID-19 relief funds.

UKPN

Led a collaboration involving eight utility firms to donate GBP500,000 to 21 community foundations, distributing fast funding to local charities, including local foodbanks, volunteer centres, food delivery services and outreach programmes for those at risk of isolation.

Repurposed its Power Partners' GBP300,000 scheme to help people struggling to pay their energy bills while out of work and at home.

WWU

Allocated GBP55,000 to charities and other groups under the Safe and Warm fund as a response to the challenges of COVID-19.

WWU's Safe and Warm fund offers a GBP55,000 pot to support the work of community councils, NGOs and charities during COVID-19.



Sustainability at Power Assets

We aspire to constantly enhance how energy is being generated and delivered to all our markets of operation, to create a more sustainable planet for future generations. We also aim to be a positive force in people's lives by being a best-in-class employer, a supportive partner, and a caring corporate citizen operating with the highest ethics and values.

Sustainability Governance

The Group’s sustainability governance structure provides a solid foundation for developing and delivering its commitment to sustainability. This is embedded at all levels of the Group, including the Board, the Sustainability Committee and the Sustainability Management Committee, comprising the CEO and other senior officials. The Sustainability Committee and the Sustainability Management Committee provide guidance to our businesses to maintain Group consistency in implementing their own sustainability strategies, manages goals, targets, reporting processes and strengthens the relations with internal and external stakeholders, and also ensure overall accountability.

The Group has formulated separate policies on sustainability, environment, supply chain management and human rights. These policies are primarily intended to serve as the ultimate guiding principles for sustainability practices within the Group, putting its values into action across the businesses and detailing the Group’s commitments to business integrity, people, environment and communities in which the Group operates.



The Group’s Sustainability Governance



The Board

The Board has ultimate accountability for the Group’s sustainability strategy, management, performance and reporting through the support of the Sustainability Committee.

The Board examines and approves the Group’s sustainability objectives, strategies, priorities, initiatives, goals and targets as well as the corresponding policies and frameworks that support their achievement.

The Sustainability Committee reports to the Board on sustainability risks and opportunities, and periodically discusses its impact on business strategy.

Our directors or executives are appointed to the boards and management committees of all material investments for overseeing and monitoring the sustainability performance of each business. The executive management team of each business is accountable for the conduct and performance within the agreed strategies.

Sustainability Committee

The Sustainability Committee was established as a Board committee. It is chaired by Mr. TSAI Chao Chung, Charles, Chief Executive Officer and Executive Director, and its other members are Mr. CHAN Loi Shun, Executive Director, and Mr. IP Yuk-keung, Albert, Independent Non-executive Director and Chairmen of the Audit Committee and the Nomination Committee.

The Sustainability Committee has an overarching role in supporting the Board on the matters of sustainability and oversees the implementation of the sustainability initiatives of the Group, including reviewing the related policies and practices, and assessing and making recommendations on matters concerning the Group’s sustainability governance, strategy, planning and risks. The Committee meets at least twice a year.

Key responsibilities of the Sustainability Committee include:

- Proposing and recommending to the Board the Group’s sustainability objectives, strategies, priorities, initiatives, goals and targets;
- Overseeing, reviewing and evaluating actions taken by the Group in furtherance of the sustainability priorities, goals and targets, including coordinating with the business units of the Group and ensuring that their operations and practices are in adherence;
- Reviewing and reporting to the Board on sustainability risks and opportunities;
- Monitoring, evaluating and reviewing emerging sustainability-related issues, trends and best practices that could impact the business operations and performance of the Group;
- Overseeing and reviewing the Group’s approach, and to recommend improvements;
- Considering the impact of the Group’s operations at various aspects to its stakeholders, including employees, shareholders, local communities as well as the environment;
- Reviewing and advising the Board on the Group’s public communication, disclosure and publications as regards to its sustainability performance; and
- Performing such further functions related or incidental to the foregoing which the Committee deems appropriate.

For more information, please refer to the [Terms of Reference](#) of the Sustainability Committee.

Sustainability Management Committee

Composed of Chief Executive Officer, an Executive Director, Chief Financial Officer, Group Legal Counsel and Company Secretary and selected members of the Group’s management, the Sustainability Management Committee focuses on addressing sustainability issues and policies and driving strategic initiatives across the Group. It reports to, and receives feedback from, the Sustainability Committee on a regular basis.

Approach to Sustainability

We operate our businesses in a responsible and sustainable way whilst remaining transparent and accountable to our stakeholders. The Group is committed not just to its shareholders but also to a wide range of stakeholders including employees, customers, suppliers, the local community, professional institutions, non-governmental organisations (NGOs) and the authorities. To more effectively manage sustainability, the Group reviewed its sustainability framework in 2020 and revised and developed relevant policies to align efforts across the Group.

Sustainability Pillars and Policies

The Group’s overall sustainability approach and priorities are built on five pillars, namely The Business, Human Capital, The Environment, The Community and Value Chain. Each pillar is supported by Group-wide policies, leadership at the Group level and collective efforts across its businesses. These five pillars guide the Group in integrating sustainability across all our operations. The Group has policies, procedures and guidelines in place to support management in addressing material sustainability issues across the Group, as described throughout this Report.

These principles are adopted Group-wide and implemented by each business unit based on local social, economic and environmental needs. The execution and compliance are monitored continuously through regular management reviews and reporting.

For more information on relevant policies and procedures in place, please refer to the [Corporate Policies](#) on the Group’s corporate website.

The Group’s Sustainability Pillars

Value Chain

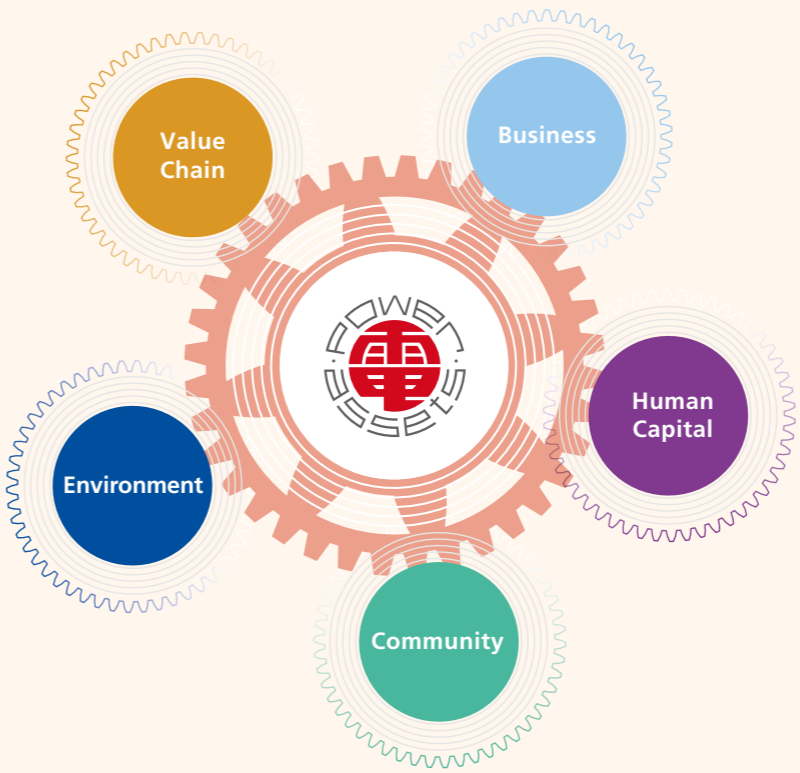
- Run a management system to identify and mitigate supply chain risk.
- Have Supplier Code of Conduct in place which covers environmental standards for the suppliers’ processes, products or services, child labour, fundamental human rights, working conditions, remuneration, occupational health and safety, and business ethics.
- Work with suppliers and business partners who can demonstrate their commitments to uphold the principles under the Power Assets’ Supplier Code of Conduct.
- Develop procedures to monitor suppliers’ products, services and processes.
- Invest in technologies and innovative solutions to enhance customer experience, communication, health and safety, privacy and protection in our business operations.

The Environment

- Comply with or exceed the requirements of relevant laws and regulations to control any greenhouse gas emissions, discharges into water and land, and waste generation.
- Minimise the impact of its business activities on the environment and natural resources.
- Develop Climate Strategy to identify and manage climate risk and implement appropriate innovations and new technologies to capture the opportunities arising from this risk.
- Set targets and review and assess the results regularly to ensure the effectiveness of emissions control mechanisms.
- Monitor and manage the use of resources, including energy, water and other raw materials.
- Develop and implement environmentally-friendly products and processes with potential commercial applications.
- Encourage and provide support for conservation and environmental protection programmes.

The Business

- Enhance long-term return for its shareholders.
- Focus on sustainable development of its businesses and the communities it operates in.
- Comply with all relevant and applicable laws and regulations within its operational frameworks.
- Conduct business with uncompromising integrity.
- Safeguard against unfair business practices.
- Achieve a high standard of corporate governance and emphasise a quality board, sound internal control, transparency and accountability to all stakeholders.



Human Capital

- Uphold a high standard of business ethics and personal conduct of its employees.
- Adhere to non-discriminatory employment practices and procedures.
- Provide a safe workplace for all its employees and a positive work environment that values the wide-ranging perspectives inherent in its diverse workforce.
- Foster individual growth and achievement of business goals, offering a wide range of training and development programmes, interest courses and activities.
- Maintain proper systems to ensure internal equity and external competitiveness of staff remuneration and recognition.

The Community

- Engage with local communities and undertake initiatives catered to the needs and benefits of the communities within which it operates, with a focus on education, medical, health and elderly care, arts and culture, sports and disaster relief.
- Educate the public, in particular younger generations, on the importance of energy efficiency and low-carbon lifestyles.
- Implement internal guidelines and controls on donations and contributions to safeguard stakeholders’ and shareholders’ interests.
- Encourage employees to play a positive and active role in the community.

Stakeholder Engagement

The Group endeavours to communicate openly and transparently with its key stakeholders to gather their views on the issues that concern them the most. Given the diversity of the businesses, the Group and the operating companies deal with different stakeholder groups including employees, customers, business partners, suppliers and investors as well as with regulatory authorities, NGOs and the community. We regularly collect their views through various channels, such as meetings, workshops, seminars, interviews and surveys.

The Group and its businesses use stakeholders’ input to understand shifting market needs, which in turn helps to inform the Group’s decision making in relation to its sustainability practices, initiatives and disclosures. As an example, regular consultation meetings are being held by all of our utility companies as well as HK Electric’s Customers Liaison Group.

Materiality Assessment

The Group updated its materiality analysis during 2020 to define the material sustainability issues that are considered to be most significant to the Group and its stakeholders.

Materiality Assessment Process

1. Identification	<ul style="list-style-type: none">Identified sustainability issues that are considered relevant and important to our businesses and stakeholders based on a review of our sustainability-related practices and the previous year’s process.
2. Prioritisation	<ul style="list-style-type: none">Mapped the issues identified as material for the energy and utilities sector by local and international reporting frameworks such as MSCI and DJSI ESG ratings.Assessed the importance of issues based on the expectations of regulators, sustainability ratings and industry peers.Prioritised issues that have a significant impact on the Group’s ability to create long-term and sustainable values.
3. Validation	<ul style="list-style-type: none">Reviewed and approved the material issues by the Sustainability Committee.

The material sustainability issues identified can be assigned to three categories:

Environment	Social	Governance
<ul style="list-style-type: none">Combating Climate ChangeOpportunities in Clean TechnologyPreserving Natural Environment (including biodiversity, water, effluent and waste)	<ul style="list-style-type: none">Human Capital DevelopmentOccupational Health and Safety (including emergency response)CybersecuritySupply Chain ManagementCommunity Engagement	<ul style="list-style-type: none">Corporate Governance*Business Ethics

* Information on corporate governance is covered separately in Corporate Governance Report in the Annual Report 2020.



The 10 issues listed in the table above are identified as material sustainability issues relevant to the whole Group or specific businesses based on their circumstances.

The material sustainability issues include environmental, social and governance concerns reflecting diverse external stakeholder priorities and the Group’s operational and regulatory risk focus. The materiality result supports the identification of the focus areas for continuously managing and monitoring its sustainability performance and the development of sustainability strategies. They indicate the main challenges and opportunities for the Group as it operates and manages sustainability based on its principles and pillars.

Business Ethics

Challenges and Opportunities

Bribery and corruption are important topics for the industry. As providers of critical infrastructure, utilities have close relationships with government officials as well as suppliers, third-party contractors and customers. There are potential risks of bribery and corruption in certain parts of the world.

As utilities are heavily regulated, they are subject to investigations and lawsuits by regulatory authorities, possibly leading to huge penalties. We believe it is important to take a proactive and holistic approach to avoid any incidents of bribery and corruption, driven by our own ethos and regulatory obligations. This requires operating companies to develop well-rounded anti-corruption policies and whistleblower programmes as well as training to its staff, based on the requirements of the Group and local authorities.

Our Commitment

The Group values and upholds the highest standards of business integrity, honesty and transparency in its overall business activities. The Group has zero tolerance on any form of fraud or bribery and is committed to the prevention, deterrence, detection and investigation of all forms of fraud and bribery.

The Board holds the overall responsibility for business ethics as an essential part of its corporate governance responsibilities. On behalf of the Board, the Audit Committee and the Executive Directors are responsible for ensuring the effective implementation of internal controls for material fraudulent or bribery activities committed within the Group on an ongoing basis.



How We Work

Governance policies

The [Code of Conduct](#) (the “Code”) sets out the professional and ethical standards to observe in all business dealings, including provisions dealing with conflict of interest, fair dealing and integrity, corruption, political contribution, confidentiality, personal data protection and privacy, as well as reporting of illegal and unethical behaviour. The Code applies to the Group and all its subsidiaries, where every employee is required to adhere strictly to the Code including all applicable laws, rules and regulations within the jurisdictions the Group operates in. For non-controlled affiliates, employees serving as directors would, to the extent possible, encourage those affiliates to adopt and follow the Code.

Business partners and suppliers of the Group are encouraged to maintain the highest standards of ethical conduct and professionalism in accordance with the [Supplier Code of Conduct](#). They are required to implement appropriate anti-fraud and corruption policies as well as compliance programmes to verify their compliance to the policies. Relevant anti-fraud and corruption clauses are incorporated into the contracts with business partners and suppliers to ensure that they are fully aware of the Group’s requirements.

The [Anti-Fraud and Anti-Bribery Policy](#) outlines the Group’s zero-tolerance stance against bribery and corruption and assists employees in recognising the circumstance which may lead to or give the appearance of corruption or unethical business conduct. It includes provisions dealing with kickbacks, political and charitable contributions, facilitation payments, gifts and hospitality, and procurement of goods and services. It is the Group’s general policy to avoid any form of donation to political associations or individual politicians.

Other policies relevant to ethics and compliance include our:

- [Information Security Policy](#)
- [Media, Public Engagement and Donation Policy](#)
- [Policy on Inside Information and Securities Dealing](#)
- [Procedures for Reporting Possible Improprieties in matters of Financial Reporting or Internal Control](#)

Communication and training

The Code forms part of the mandatory induction training which all employees need to attend upon joining the Group. It is the responsibility of every employee to familiarise and comply with the Code. During the year, the Group provided a seminar relating to anti-corruption to the Directors to help them keep abreast of current trends and issues facing the Group. Regularly, tailor-made training on specific topics such as anti-fraud and corruption is assigned to employees based on their role and area of responsibility.

Each of our businesses also provides sufficient training for its employees. For example, all the new joiners of UKPN will have an overview of fraud, bribery and corruption risks and the Business Integrity function and resources, and information on the Confidential Reporting Line to report any concerns in the staff induction training. During the year, over 240 employees of HK Electric attended on-line training to improve their awareness and refresh their understanding of the Prevention of Bribery Ordinance and corresponding company policies and guidelines on anti-corruption. More than 70 new hires completed similar training as part of their Orientation Programme. Laoting Wind Power organises annual compliance training on bribery and anti-corruption every year to increase staff awareness.

Ongoing assessment

Business practices and controls for preventing and combating corruption and other misconducts are continuously assessed at both Group level and business unit level.

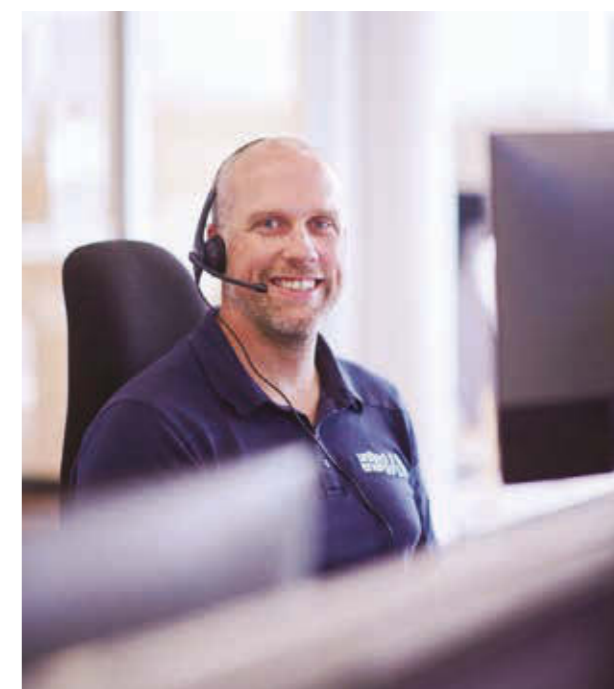
At Group level, an anti-bribery and anti-corruption control assessment is conducted biannually to evaluate the effectiveness of controls for managing bribery risks.

At the business unit level, each operating company conducts a risk-based audit to ensure that focus is on key risk areas. These audits also consider the design and operating effectiveness of processes and controls. Deficiencies with potential for fraud and other corruption would be covered during the audit.

Whistleblower programmes


All directors, employees and other relevant stakeholders are expected to report any potential violation of the Code. Escalation channels are set up to allow reporting of improprieties or business conduct concerns, with the option of anonymous reporting. All reported incidents are treated confidentially and the informants are protected from any retaliation such as unfair dismissal, victimisation or unwarranted disciplinary action. All breaches are recorded, investigated and reported to the Board through the Audit Committee, and substantiated violations would result in appropriate disciplinary actions, including termination of employment.

In addition to Group-level processes, each core business derives its own set of internal escalation procedures to cater to its operational needs. Each operating company has its own whistleblowing system and needs to report to the Group’s Head of Internal Audit. The internal audit department manages the system and reports serious issues to senior management and the Audit Committee.



For example, United Energy provides an independent anonymous 24/7 free service line named Speak-up Anonymous to employees to report on misconduct. To protect the employees who report suspected misconduct, United Energy implements a safe reporting mechanism to ensure the confidentiality of anonymous reports. It is available to suppliers, customers and other third parties. EDL has a Whistleblower Policy aimed at encouraging internal or external stakeholders to report any misconduct or wrongdoing. Stakeholders can call the confidential, independently managed hotline or approach the CEO, CFO, Company Secretary, director or other senior managers to report the matter.





Green Energy for a Sustainable Future

The Group is conscious of the environmental impact associated with its operations. It is committed to protecting the environment and supporting sustainable development by managing its environmental footprint across its operating markets and conducting its business in an environmentally responsible manner. The Group strives to adopt behavioural change as well as the use of the latest clean technologies, processes, and systems to drive and monitor reduction initiatives. We are on track with our decarbonisation plan replacing coal-fired generating units with gas-fired units.

Our operating companies around the world aim to constantly contribute to the battle against climate change. Many of them are implementing initiatives supporting local governments' commitments to achieve the goals set by the United Nations Framework Convention on Climate Change. Each of our companies engages in a number of activities throughout the year to improve on their own environmental performance through a range of initiatives across all operations.



Combating Climate Change

Challenges and Opportunities

Electricity generation is the largest source of greenhouse gas (GHG) emissions in the world. As environmental regulations become increasingly stringent in the coming decades, especially in Europe and Mainland China, electricity and utility companies would require significant investment as the world transitions to a low-carbon economy. Failure in keeping up with the transition may negatively impact returns or even lead to asset write-downs in the long run.

Electricity and utility companies are working with their respective governments to identify solutions for possible future decarbonisation pathways. Through careful planning of infrastructure investments, companies could ensure an energy mix capable of meeting the emissions requirements set forth by regulators together with the implementation of industry-leading technologies and processes. Proactive reduction of GHG emissions in a cost-effective manner can also create a competitive advantage for utilities and mitigate unanticipated regulatory compliance costs.

Our Commitment

We recognise that investor and stakeholder interest in climate change has increased significantly and will continue to grow. Meeting the growing demand for energy while ensuring that the supply is reliable, affordable, clean and low emission is both a challenge and an opportunity for our industry.

As core participants in the energy sector, we understand that utilities play a key role in achieving the target adopted by many governments which are parties to the Paris Agreement to limit the increase in the planet's temperature to below 2°C, and our operating companies are investing in innovation and green energy to support the fight against climate change. Currently our renewable energy operations include:

- Dali (48-MW) and Laoting (49.5-MW) wind farms – generated 207 GWh of wind power in 2020 which abated 199 kT of CO₂;
- EDL's global operations abated and avoided 8.9 million tonnes of CO₂ emissions. In 2020, EDL delivered the Agnew Hybrid Renewable Projects in Western Australia comprising 18 MW wind, 4 MW solar and 13 MW/4 MWh battery, and commissioned the Indy High BTU Renewable Natural Gas Plant in Indiana, USA.
- AVR's energy-from-waste and resource recovery – sorted 26,000 tonnes of plastics for reuse;
- AVR's CO₂ capture plant in Duiven, the Netherlands – captured 31 kT of CO₂ and transported it to greenhouses to support cultivation of vegetables, fruits and flowers; AVR is planning to increase the carbon capture and utilization capacity to 100 kT; and
- HK Electric's Feed-in Tariff (FiT) Scheme – about 130 renewable energy installations at schools, residential premises and small to large enterprises were connected to the grid through the FiT Scheme as at end 2020, amounting to a total capacity of around 2.3 MW.

Both our Chairman and CEO have made public commitments in the Annual Report to fully support governments around the world in achieving the goals set by the United Nations Framework Convention on Climate Change.

To put our commitment into practice, we have developed the following strategies in supporting global efforts to decarbonise energy.

Goals

To address climate change risk and to capitalise on those opportunities arising from it

Strategy

Decarbonising the generation portfolio by replacing or converting coal-fired units to gas-fired units, and to expand renewable energy, waste to energy, renewable natural gas and carbon capture and utilisation capacity.

To accelerate and support decarbonisation by continuously modernising and digitising electricity networks to accommodate the projected influx of distributed renewable energy sources as well as the anticipated surge in the required charging networks for a massive uptake of electric vehicles.

Decarbonisation of our gas network by blending hydrogen into existing gas distribution networks and ultimately replacing natural gas with hydrogen to achieve the net zero targets set by local governments. (Covered in "Opportunities in Clean Technology" on pages 30 to 31)

How We Work

Understanding climate-related risks

We are exposed to both the physical and transition risks of climate change. Physical risks of climate change could come in the form of acute events such as severe tropical cyclones and flooding, or chronic changes such as water stress, prolonged periods of drought and heatwaves that increase the chances of wildfires. In the short term, the acute events could directly damage our facilities and assets and disrupt our service delivery. In the long term, the changes in climate could also gradually damage our assets and lead to asset write-downs.

In addition to the physical risks, climate-related transition risks could have a material adverse effect on the Group's business, financial condition and results of operations, and could adversely impact the Group's reputation. Understanding the location, nature and scale of these potential risks is crucial for effectively mitigating the impact.

Besides assessing at the Group level the material impacts of climate-related risks and opportunities, each business also carries out its own climate impact assessment. For example, UKPN has carried out a flood mapping exercise across its footprint, and site surveys have been undertaken to predict flood depths in extreme events to help design flood protection measures. UKPN has invested more than GBP11 million in permanent flood defences to increase the resilience of equipment that serves more than 2.9 million properties in the last nine years.

WWU has used their Adaptation to Climate Change risk assessment, in line with UK Climate Projections 2009 (UKCP09) models, to determine the future extent of climate change impacts. The output of this model identifies the degree of impact for individual climate change risks and allows WWU to work towards quantifying the relative number of assets that are forecast to be impacted in the future. WWU will then be able to use this to identify future action points where climate change risks become unacceptable and adaptations could be implemented as part of planned works in advance of an impact.



Responding to the physical and transition risks of climate change

The Group is committed to reducing emissions of GHG and other air pollutants within its operations and supporting the move to a low-carbon future through innovation and adoption of the latest technology and processes alongside environmentally-friendly energy sources. Our target is to reduce our coal-fired generation installed capacity from about 50% of our total generation portfolio in July 2017 to about 22% post-2023. We are working on the following initiatives to help reduce GHG emissions:

Connecting renewable energy to the grid

To promote grid-connected renewable energy power systems (REPS), HK Electric purchases all electricity generated by customers' REPS at Feed-in Tariff rates. In 2020, Renewable Energy Certificates covering about 3.5 GWh of zero-carbon electricity generated by REPS of FiT customers and HK Electric's own REPS were purchased by customers to offset their Scope 2 carbon emissions.



EDL's hybrid renewable microgrid at the Agnew gold mine in Australia successfully demonstrates the potential for renewable energy with storage in the mining sector.

UKPN has invested GBP15 million in Active Network Management (including a new intelligent software platform) to enable over 1 GW of additional renewable energy to connect to the network cheaper and faster, which is enough to power more than a quarter of a million homes.

EDL is developing a number of renewable hybrid projects in off-grid, remote communities. Following the success of Coober Pedy Hybrid Renewable Project (4-MW wind generation, 1-MW solar PV, a 1-MW/500-kWh battery) which supplies about 75% of the town's power through renewable energy, EDL has delivered the 56-MW microgrid at Gold Fields' Agnew gold mine incorporating wind, solar and thermal generation and battery storage. This microgrid has surpassed EDL's target of providing Gold Fields with energy that is more than 50% from renewable sources, with 99.99% reliability. A 50% renewable energy fraction cuts 46,400 tonnes of carbon dioxide per year. EDL is about to commence construction on the Jabiru Hybrid Renewable Project in Australia's Northern Territory.

Carbon capture, utilisation and storage

AVR is the first European energy-from-waste company capable of large-scale CO₂ capture and delivery. After commissioning of the CO₂ capture plant in Duiven in 2019, AVR has started with capture and supply of CO₂ to greenhouse horticulturists, contributing to reduced natural gas usage, therefore making greenhouse horticulture more sustainable. The carbon capture installation has a total capacity of 100,000 tons per year. AVR is planning a similar installation in Rotterdam with a capacity of 500,000 tons per year. Besides, carbon capture and storage in depleted gas fields offshore is foreseen. The Dutch energy-from-waste sector has set a target of reducing CO₂ emissions by 1 million tons by 2030.



AVR's carbon capture plant in Duiven, Netherlands, makes greenhouse horticulture more sustainable while putting CO₂ emissions to productive use.

Efficient operations

As part of its 2019-2023 Development Plan, HK Electric is in the process of replacing aging coal-fired generating units at Lamma Power Station (LPS) with new gas-fired combined-cycle generating units, known as L10, L11 and L12. L10 was successfully commissioned in February 2020.

As the first gas-fired generating unit in Hong Kong equipped with selective catalytic reduction system, L10 offers excellent thermal efficiency and performance while ensuring air pollutant emission (in particular nitrogen oxides) is minimised. Compared with 2019, HK Electric achieved about 16% carbon reduction from electricity generation in 2020 with L10 in operation. Proportion of gas-fired electricity generation in its total output has also increased from about 30% to about 50%.

Ratchaburi Power adopted a new type gas turbine air inlet filter that improved the plant's cycle efficiency by 0.5%, resulting in improved fuel consumption and cost savings.

Jinwan Power has completed its upgrade and could provide 200 tons of steam-thermal energy per hour per machine set, raising the heat-to-power ratio to 21%. It also expects to raise the capacity to 280 tons per hour per machine set in five years. This would enable the plant to operate at a higher efficiency and achieve co-generation certification to enjoy favourable dispatching arrangements.

Demand side management

UKPN is investing in innovative and smart technologies to mitigate transition risks by reducing its carbon emission through better management of electricity demand. UKPN through its flagship Flexibility programme uses demand-side response in situations where peak loads cannot be managed within existing firm capacity due to reduction, demand movement or autonomous network management. The deployment of predictive cooling on a number of major transformers in London networks enables UKPN to operate at an extended peak level for longer as transformer oil has been cooled prior to the peak load being experienced.

UKPN has also launched Domestic DSR projects which aim to provide services that deliver the best value to customers and address their changing needs. Three key projects were implemented to increase access for customers to Low Voltage flexibility – the Urban Energy Club, which supports customers living in small flats, Home Response, which explores social innovation for customers living in social housing, and Core4Grid, which provides individual home balancing with low carbon technologies. In 2020, UKPN achieved a world first by enabling domestic customers to participate in the flexibility market, providing demand side response services to the DNO. UKPN undertook a study and appraisal for energy efficiency across the DNO real estate.

United Energy deployed "Summer saver programme" for demand-side load management. Customers were given cash incentives to reduce electricity consumption. In addition, peak demand reduction helped defer network augmentations.

United Energy received funding from the Australian Government to trial voltage-reduction demand response capabilities on their electricity distribution network to help drive grid stability. United Energy used their voltage management system to deliver 30 MW of emergency reserves. This helped prevent power outages for 14,000 customers each hour during heatwave events in summer.

Reducing air and fugitive emissions

To reduce air emissions, HK Electric used cleaner fuels such as natural gas and low-sulphur coal with lower ash content. In addition, HK Electric continued to make use of emissions reduction facilities such as a selective catalytic reduction system, flue gas desulphurisation plants and low-nitrogen-oxide burner systems to reduce and control air emissions from LPS.

It is expected that in 2023, when its three new gas-fired generating units (L10, L11 and L12) are in operation, the emissions of sulphur dioxide, nitrogen oxides and respirable suspended particulates will decrease by around 75-90% from 2005 levels.

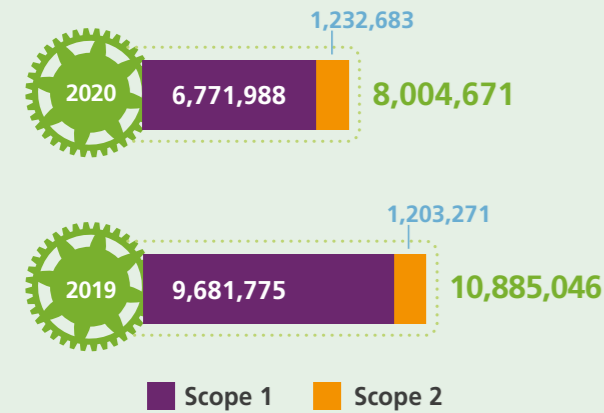
Our gas distribution networks have plans to replace legacy pipe materials (cast iron, unprotected steel and other) in order to reduce fugitive emissions of methane from networks as well as moving toward making

networks hydrogen ready. Other benefits include improved reliability of supply and reduced public risk associated with gas leaks. NGN, WWU and AGIG have replaced 422km, 337km and 417km of old gas pipelines respectively during 2020. NGN and WWU are ahead of their targets to reduce leakage:

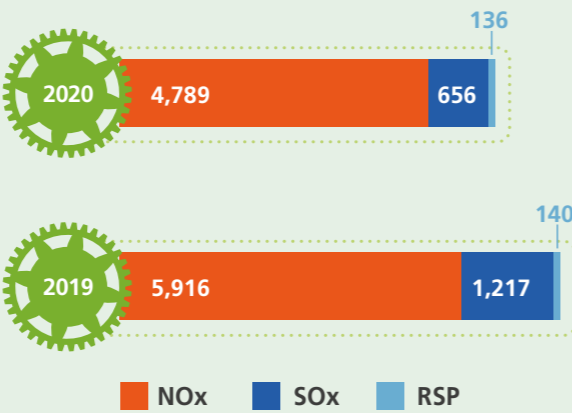
- NGN: actual 27% against a target of 18% during the regulatory period from April 2013 to March 2021; and
- WWU: actual 19.7% at March 2020 against its target of 16% by March 2021.

UKPN has been participating in the Ofgem Decarbonisation and Environment Working Group to establish the requirements and features of an Environmental Action Plan. Besides, UKPN has completed the materiality assessment for its Scope 3 emissions which form part of its submission to the Science Based Targets initiative (SBTi) for approval. The assessment result clearly indicates UKPN needs to address the emissions in its supply chain as part of its work on moving the company to a net zero trajectory. Subject experts have participated in UKPN's Critical Friend Panels to discuss and share views on its Green Action Plan (GAP) progress and SBTi Net Zero project.

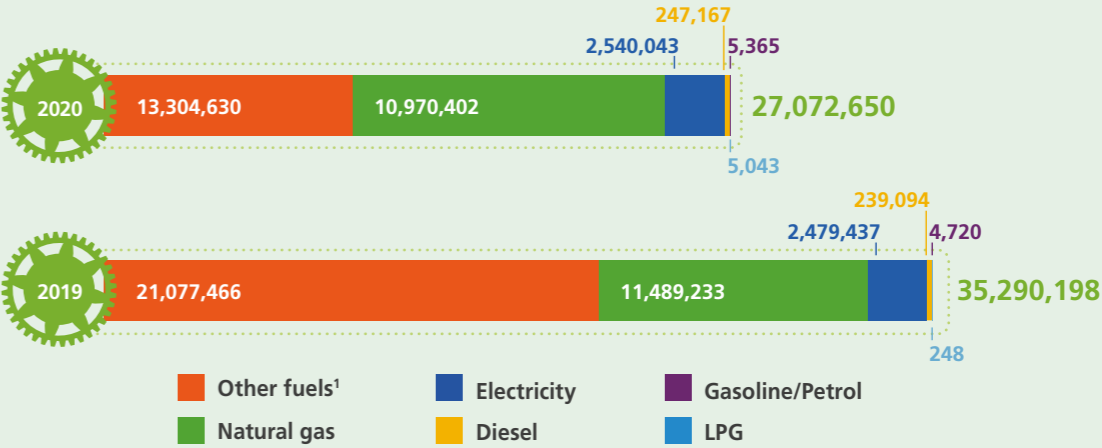
GHG Scope 1 and 2 emissions (tCO₂e)



Air emissions (tonne)



Energy consumption ('000 kWh)



Note 1: Other fuels include lignite, residual fuel oil, industrial waste and biomass (e.g. landfill gas, sludge gas, etc).

Looking forward

We will continue working with industry peers and policymakers to identify possible decarbonisation pathways. We are committed to reducing our coal-fired generation installed from about 50% of our generation portfolio in July 2017 to about 22% post-2023. We will actively look into suitable investment opportunities in clean energy and provide necessary support including funding to our investments to expand their renewable energy portfolio.

In addition to the Group-wide commitment, each business has also pledged to decarbonise. For example:

- AGIG
- Continue working with Australia's five peak gas bodies to develop Gas Vision 2050 – a pathway to achieve near zero emissions in the gas sector
- Canadian Power
- Move to 100% capable of gas-firing by 2022
 - Convert Sheerness power plant from coal to natural gas firing. The conversion of the first unit was completed in 2020 and the second unit is due to be completed in 2021
- HK Electric
- Reduce CO₂e per electricity unit sold to no higher than 0.6 kg/kWh in 2023 from 0.93 kg/kWh in 2005

- HMLP
- Reduce carbon intensity by 20% by 2025, compared with 2017
- NGN
- Achieve net zero operational Scope 1 and 2 carbon emissions by 2031 (excluding gas shrinkage) and 2050 (including gas shrinkage), in line with science-based targets
- UKPN
- Reduce business carbon footprint (BCF) by 2% per annum. Since 2014/15, UKPN has reduced BCF by 25.5%
- VPN
- Construct a 120-MW Bomen Solar Farm and associated network assets
- WWU
- Reduce GHG emissions by 37.5% by 2035 compared to 2020 levels
 - Reduce gas shrinkage by 10% by 2026
 - Ensure at least 75% of company vehicles are hybrid or ultra-low-emission vehicles by 2026
 - Reduce carbon emissions associated with non-operational travel by 5% by 2026
 - Become a net-zero ready carbon emission network by 2035

Opportunities in Clean Technology

Challenges and Opportunities

Hydrogen economy is a relatively new concept that can potentially offer a promising path for energy security, along with other environmental and economic benefits. Green hydrogen can drive decarbonisation and is viable with strategic offtake agreements and government support frameworks. However, there are still many challenges to realising a hydrogen economy, as the transition from a conventional petroleum-based energy system to a hydrogen economy involves many uncertainties, such as the development of efficient fuel cell technologies, problems in hydrogen production and distribution infrastructure and the response of petroleum markets. Other factors are cost competitiveness, a good safety system and public acceptance.

With continued technology improvements and cost declines, hydrogen as an energy source could present the Group with new opportunities in providing a cleaner energy alternative to customers.

Our Commitment

The Group seeks to prepare its electricity and gas networks to support smart cities and the hydrogen economy. We will embrace the viability of a hydrogen economy with gas networks working on hydrogen blending, and seek to introduce hydrogen in gas distribution networks where applicable. We will also support governments in different jurisdictions to turn into smart cities by rolling out smart meters, provide adequate EV charging facilities, and educate the community on sustainability, energy efficiency, and renewable energy.



How We Work

Hydrogen economy

Power Assets is a member of the Hydrogen Council and is working actively with industry peers along the entire product chain and policy makers to demonstrate and promote hydrogen as a reliable, clean and safe fuel for achieving the net zero targets set by various jurisdictions. In the gas distribution sector, NGN and WWU are founding members promoting the H21 (hydrogen in the 21st Century) concept and related projects. H21 is a collaborative gas industry programme focused on demonstrating how converting the UK gas network to carry 100% hydrogen can tackle the UK's decarbonisation challenges. H21 is now focused on delivering two key pieces of work, to enable a first policy decision on hydrogen to be made.

- H21 – construction work of the Spadeadam micro network and the Redcar test site commenced and will be completed in early 2021, with testing commencing shortly afterwards. These tests aim to give confidence to the industry and UK policy makers that conversion of the gas networks to 100% hydrogen is achievable and safe.
- HyDeploy – a 16-month live demonstration of up to a 20% blend of hydrogen into the gas network is taking place within Keele University's private gas network and will be completed in March 2021. Following this HyDeploy2 will start blending up to a 20% blend of hydrogen into NGN's domestic gas network in April 2021. This will provide 670 properties on NGN's gas network with a hydrogen blend for 10 months and aims to demonstrate that this level of blend is safe to use both within the existing network and with existing domestic gas appliances – allowing carbon emissions to be reduced at no significant extra cost to the customer.

NGN plays a leading role in the H21 project in Buxton which seeks to repurpose the gas network to carry hydrogen, delivering clean energy to homes and businesses in England.

WWU has assessed the combined energy demands and researched hydrogen supply and hybrid heating within the UK with the Hybrid-Hydrogen project. The research project is studying how to incorporate these two technology vectors into the transition to net-zero carbon emissions. This allows wider regulatory and policy stakeholders to be engaged and provides long-term savings to customers with better long-term planning decisions.

AGN and Multinet Gas progressed the construction of a 1.25-MW hydrogen electrolyser plant at the Tonsley Innovation District in South Australia for the Hydrogen Park SA (HyP SA) project. HyP SA is the first Australian project to produce renewable hydrogen for blending with natural gas and supply to domestic customers via AGIG's existing gas distribution network in South Australia. A 5% hydrogen blend is the first step to lower GHG emissions and the next step is to extend the hydrogen footprint with projects considering up to 10% hydrogen blend before 100% conversion. The HyP SA project also supplies to industry via tube trailers and aims to supply the transport sector in the future. This project will be used to analyse and develop business models for the use of "green" hydrogen utilising excess solar energy during the daytime and the excess wind energy during the night to progressively decarbonise gas supply. Its importance is reflected through receipt of the 2020 Australian Engineering Excellence Award for South Australia and the 2020 Australian Pipeline and Gas Association Environment Award.

To expand AGN's renewable gas footprint into Queensland, the company has announced the construction of Hydrogen Park Gladstone (HyP Gladstone) with a grant funding of AUD1.7 million provided by Queensland Government in February 2020. This AUD4.2 million HyP Gladstone renewable hydrogen production facility involving the installation of a 175-kW electrolyser, is able to deliver up to 10% blended hydrogen across the city's total 770 residential, small commercial and industrial customer base. The project is currently focusing on customer engagement, detailed engineering and design, and is expected to begin production in Q3 2022.

Smart Cities

WWU continued development work on the Pathfinder 2050 model that allows cities, regions and countries to evaluate future scenarios of low-carbon supplies for heat, power and transport, allowing them to view the impact of increased integration of the gas and electricity networks in terms of costs and CO₂ reduction, collaborating with other industry players to share these insights. In addition, a new investment model was developed to access how the gas network was impacted by changes to customer behaviour and the installation of new technologies, such as hybrid heating systems that allow customers to arbitrage between natural gas and electricity.

UKPN is developing systems to collect and use both voltage-related data and smart meter energy consumption data to enable further improvements in the efficiency and cost-effectiveness of its electricity distribution network to provide a superior service to its customers. As of end 2020, there are approximately 3 million smart meters (equivalent to 40% of all domestic customers) installed in UKPN Regions.

HK Electric is in support of the Hong Kong government's vision to turn Hong Kong into a smart green city. It has commenced a full-scale rollout of smart meters in phases across its supply territory. It is expected that upon completion of the programme in 2025, smart meters will have been installed in every home and business throughout the network.

United Energy has been chosen as the only network in Victoria to take part in a new EV smart charging trial. This trial is supported by a grant of AUD835,000 from the Australian Renewable Energy Agency and will see smart chargers installed across the residential, commercial and industrial parts of the network. The trial will remotely monitor and control the chargers via Origin Energy's existing platform for managing distributed energy. Smart chargers will allow control of EV charging in order to avoid negative impacts on the grid, and maximise the use and value of renewable energy. The AUD2.9 million-trial looks to help the energy sector better understand EV driver behaviour and whether drivers are comfortable with a third party having control of the charging process.

Preserving Natural Environment

Challenges and Opportunities

Preserving biodiversity is extremely important and energy and utility players that have operations in ecologically sensitive areas are subject to extensive environmental impact assessments and checking by the local regulators for project approval.

The possible negative impacts of existing assets and infrastructure projects such as power plants, transmission towers and wires, oil and gas pipelines and oil tanks on the surrounding ecosystem would also lead to scrutiny from regulators. Therefore careful project planning, design, and operation is a must for the Group to minimise its impact on the local ecosystem and biodiversity.

Our Commitment

We are committed to protecting the environment and biodiversity, and supporting sustainable development by conducting our business in an environmentally responsible manner.

We aim to minimise the impact of our operations on the environment while addressing the global concern about climate change. We comply fully with all applicable laws and regulations and endeavour to integrate environmental considerations into all aspects of our business operations.

As a player in an essential utility sector in numerous markets around the world, we are also committed to supporting local governments in achieving the goals set by the United Nations Framework Convention on Climate Change. For more information, please refer to “Combating Climate Change” on pages 24 to 29, and “Opportunities in Clean Technology” on pages 30 to 31.

How We Work

Environmental management system

Power Assets is implementing an Environmental Management System (EMS) with an aim to contribute to the ‘environmental pillar’ of the company’s sustainability development. This EMS serves to ensure continual environmental improvement, monitor compliance with relevant laws and regulations, fulfil supply-chain requirements, promote staff environmental awareness and increase financial savings resulting from resource saving and cost reduction. Most of our business units have their EMS with details of each company given as below:

HK Electric has three ISO14001:2015-certified EMS in place, which covers the generation, transmission, and distribution of electricity to Hong Kong Island and Lamma Island, and the development of power infrastructure. Other businesses with ISO14001:2015-certified EMS include NGN, WWU, UKPN, Seabank Power, AVR, VPN, Jinwan Power and Ratchaburi Power. The EMS of SAPN is also developed in line with ISO14001.

Environmental awareness is one of the strategic focuses of our [Environmental Policy](#) and forms an integral part of our EMS. UKPN conducts Working in the Environment training that highlights the potential impacts of its business on the environment. The course helps colleagues understand how to manage environmental issues and where to get information to alleviate or resolve such issues. In 2019/20, 76 employees attended the course, taking the total number to 303 by the end of March 2020.

Protecting biodiversity

It is part of our [Environmental Policy](#) to protect the biodiversity and habitats in the area around our projects. We seek to minimise and mitigate the impact of our developments before we begin a project, and continuously monitor the potential impact of operating projects on biodiversity.

In addition to controlling the impacts of air and noise emissions, excessive illumination and human disturbance to plants and animals, HK Electric also has a planting programme in place to promote biodiversity through the cultivation of native trees and shrub species, and attract local wildlife.

UKPN has committed to a Networks Green Action Plan to enhance biodiversity around the sites, in particular substation sites. As part of the Green Action Plan initiative, UKPN identified 100 sites where it believes it can make a difference and has set a target of improving the biodiversity potential by at least 20%. UKPN partnered with ecological experts (ADAS and Wildlife Trusts) to assess the sites and determine a baseline biodiversity measurement. Following each survey, a biodiversity management plan was prepared with site-specific measures to enhance the biodiversity

potential. In 2020 the main focus was on determining the 100 sites and setting plans. By 2021, UKPN aims to increase the biodiversity value by up to 30% at 100 sites to actively contribute towards minimising species decline and promoting net gain.

To ensure that works can be designed to have no significant impacts on wildlife and biodiversity, NGN carefully plans necessary works in areas of known biodiversity sensitivity, such as Special Areas of Conservation or Sites of Special Scientific Interest, avoiding such areas wherever possible. Site-specific ecological assessments (desktop and site surveys) are undertaken as necessary to minimise the impact of work carried out. The target area includes land owned by NGN and by third parties. This process often includes discussions with national regulators to obtain permissions/consents for works and agreement on mitigation measures. As for WWU, project-specific works are undertaken to avoid detrimental impacts on biodiversity, with local and limited improvements applied.



SAPN has been working with Greening Australia and the Department of Environment and Water to improve biodiversity outcomes associated with SAPN's operations and infrastructure. Initiatives include revegetation at the Kangaroo Island Power Station, investigating new types of wildlife diverters, mitigation of street light pollution and the relocation of a significant raptor nest near Kingscote.

CitiPower and Powercor are continually pursuing bushfire risk reduction best practice through new technology trials and adoption:

- High voltage cover conductor (LoSAG) in the Powercor Network – 50-km trial installation.
- Early fault detection technology continuously monitors disturbances along overhead conductors and aims to trigger an inspection response prior to a defect condition manifesting into a permanent fault.
- Light Detection and Ranging (LiDAR) is used to conduct an annual vegetation inspection programme. This technology is more accurate than a ground-based visual inspection, and assists with data-driven assessment of vegetation growth to help optimise treatment cycles and prevent encroachment on to the minimum clearance space.



• Drones with powerful cameras and thermal imaging devices patrol powerlines across dense forest to keep network infrastructure safe from bush fire risk.

Water management

Water is a basic and irreplaceable natural resource. Based on the water risk framework of the World Resources Institute's (WRI) publication on financial risks from water constraints on power generation, we currently have no production plants/sites located in water-stressed areas and our operations are considered of low risk. Despite this, we have devised a plan for water conservation which includes reusing wastewater and rainwater at our power stations, adopting water efficiency appliances in our premises and preserving water quality by reducing discharge.

HK Electric strives to reduce freshwater consumption at LPS through the collection and reuse of rainwater and plant processing water. In 2020, more than 123,000 m³ of water was collected for reuse. Smart water meters also enable the company to monitor water use in real time and identify areas for improvement.

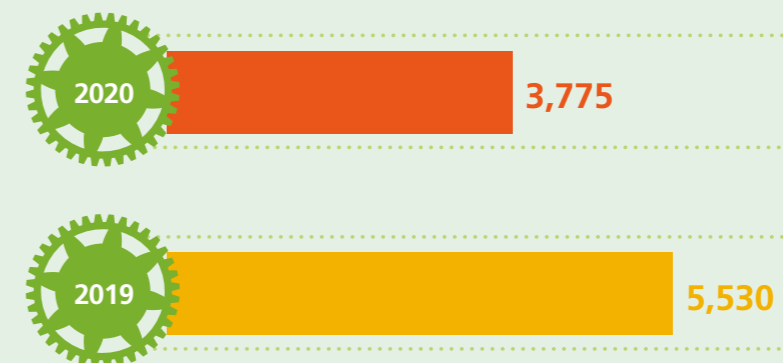
UKPN is implementing water efficiency measures that have resulted in a 15% reduction in the water use at its offices. A trial has been launched at the head office to install cistern hippos to the toilet facilities, and push-tap installation is planned to minimise water wastage.

Ratchaburi Power uses heat recovery steam generator (HRSG) blow down for watering to reduce water usage. The cycle of cooling water is also optimised to reduce raw water use and water discharge.

Jinwan power plant modified its setup to use a dry cleaning process of flushing water for its coal pulveriser pyrite system.

We will continue to pursue opportunities to reduce water usage across our businesses in future. In particular, UKPN aims to reduce existing water consumption at the top six depots by 10-15% by 2021.

Water consumption in past two years ('000 m³)



Managing waste and effluent

Another strategic objective of our [Environmental Policy](#) is the sound management of waste and effluent. In order to continuously improve, we look for opportunities to implement reuse and recycle initiatives that result in net positive impacts on the environment.

Proper disposal

To expand its range of environmental services, AVR launched one of the largest plastic separation facilities in the Netherlands, with a capacity of 430,000 tonnes. At its Rozenburg facility, the company also extended its biomass processing capabilities to provide, apart from electricity, heat and steam to key customers, while at the same time investigating the feasibility of increasing the amount of hazardous waste processed.

To ensure adequate management and storage of chemicals, EDL has greatly improved waste tracking and reporting processes and is working on reducing waste generation, particularly in the areas of engine oil, oily water, and coolants. At NGN, approximately 99.5% of waste by weight is excavation spoil. Spoil is excavated, segregated by type on-site and assessed

for contamination. Clean spoil is sent off-site to recycling centres for processing into recycled aggregate. Contaminated soil is segregated, tested, classified and then sent to the appropriate facility for treatment and/or disposal. Jinwan achieved flue gas wastewater zero-discharge at the end of 2020 and is also modifying its coal pulveriser pyrite system to use a dried clearing system instead of flushing water. This can reduce the amount of effluent produced. The modification work was completed in January 2021.



• Ratchaburi Power monitors water quality at drainage points to protect the community.

Hazardous waste management

We are extremely careful about managing waste generated from our operations, including the by-products of energy generations. Our collective efforts to reduce waste involve our employees, contractors, suppliers, regulators and other third parties. We advocate waste reduction at the source and encourage the reuse and recycling of waste for other projects. Waste management plans have been formulated and implemented to enable recycling and reuse, and proper storage, collection, treatment and disposal of waste. Temporary wastewater storage and treatment facilities have been installed at power plant construction sites to recycle wastewater generated from bore piling work to reduce wastewater discharge. Furthermore, our power plants have been collecting generation by-products including ash and gypsum for industrial use, such as manufacturing of cement.

At WWU, hazardous solid waste is stored securely at depots within locked units or managed open storage areas. Waste is segregated into clearly-defined hazardous waste streams at each depot.

SAPN conducts substation audits each year to assess its oil-filled assets (such as high voltage transformers and insulators) against safety, condition and environmental criteria. They also check for PCB (polychlorinated biphenyl) contamination from old transformers and circuit breakers. Substations located close to homes, offices, waterways or conservation areas, or considered high risk, may require the installation of bunding (a type of wall) around transformers to protect the surrounding area from a leak.

HMLP continues to reduce the probability and consequence of a pipeline incident with advancements in pipeline integrity management, operational integrity management, control room management, and innovative technology. Fibre optic cables supplement existing leak detection systems along new pipeline segments helping to monitor temperature, strain, and acoustics to pinpoint a leak. Drones with thermal imaging are available to substitute regular aerial flights. An extensive geohazard programme is complemented by radar-equipped satellites and slope inclinometers to detect ground movements.

Reduce, reuse and recycle

The Group is implementing the “4R” Policy – reduce, reuse, recover and recycle materials and resources. It collects ash and gypsum from power plants for industrial use and limits the amount of excavated spoil sent to landfill by using recycled aggregates rather than virgin aggregates.

According to its Environmental Policy, HK Electric seeks to reduce, reuse, recover and recycle the waste generated. Waste generated from the construction activities associated with the gas-fired generating units, L11 and L12 generators at the LPS are recycled or properly disposed of by different methods. Temporary wastewater storage and treatment facilities have been installed on-site to recycle wastewater generated from bore piling work to reduce wastewater discharge.

Looking forward

In 2021, we will continue to strive to reduce waste sent to landfill. Our focus on waste includes reducing, reusing, recovering and recycling materials and resources. Many of our businesses have made formal commitments to reduce waste. For example:

HK Electric

- Collect at least 100,000 m³ of plant effluent and rainwater for reuse at LPS in 2021.

Seabank Power

- Investigate new technologies and the ability to reduce the amount of back-up biocide dosing being used in chemicals for the secondary treated sewage water used as process cooling water.

UKPN

- Divert more than 90% of the waste from landfills and recycle more than 80% of the waste from the top six sites by December 2021. To achieve this target, UKPN is progressing with plans to pilot best-practice recycling which involves establishing improved monitoring and measuring recycling practices, and initiatives such as the enhanced behavioural campaign and the roll-out of new fit for purpose bins.

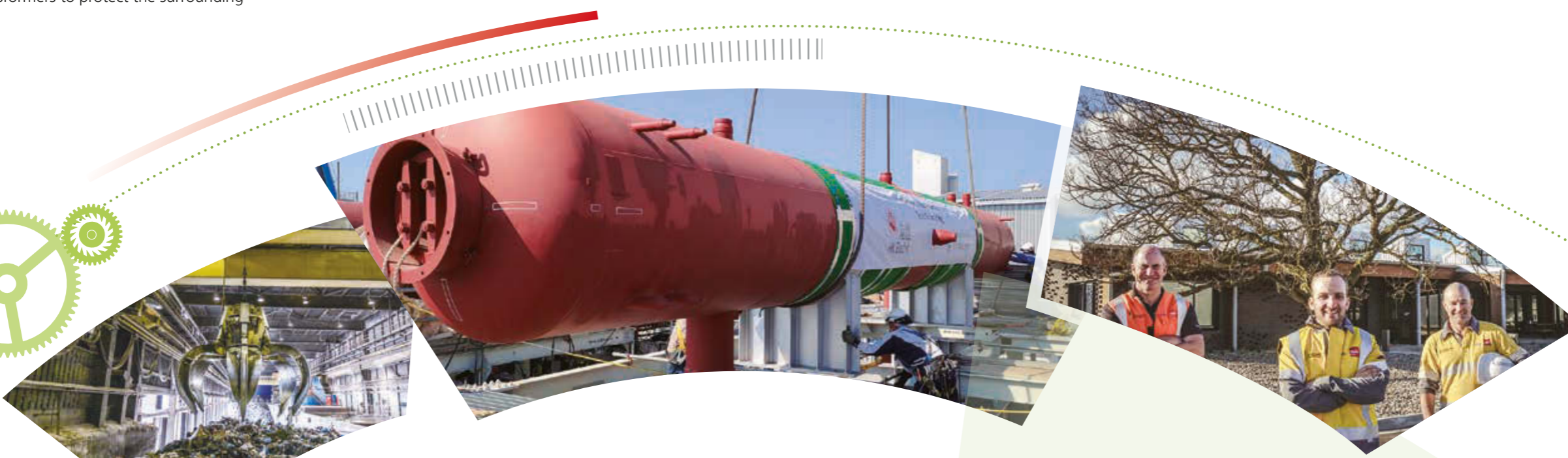
WWU

- Divert at least 80% of excavated spoil materials, which accounts for over 95% of total waste generated by WWU, from landfill by 2026.

Regulatory Compliance

We regard compliance with laws and regulations as one of our top priorities and there are established policies and accountability mechanisms to ensure compliance in all aspects of our operations. Our management is committed to staying abreast of the latest regulatory developments and providing all necessary training for relevant personnel. We also dedicate extensive efforts to ensure there are effective monitoring and detection measures to track compliance.

During the reporting period, we were not aware of any non-compliance with laws and regulations having a significant impact on the Group relating to air and GHG emissions, discharge into water and land, and generation of hazardous and non-hazardous wastes.



We are a responsible employer, business partner and corporate citizen.



Our aim is to positively influence the wellbeing of everyone we come into contact with – including our employees, customers, suppliers, contractors and the wider community. We strive to be a partner that achieves the best for ourselves and others, by always behaving in a manner that embodies integrity, responsibility, respect and empowerment.

Human Capital Development

We strive to provide a safe and rewarding workplace for our employees, and aspire to be an attractive employer.

Challenges and Opportunities

The attraction, retention and development of talent is essential for the Group's long-term development. Risk of increased turnover and associated costs of rehiring, loss of intellectual and human capital attrition may pose threats to the ability to attract and retain talent. In recent years, the rapid evolution of utilities businesses and need to modernise the grid are leading to increased demand for employees with IT and data analytics skills. There is also risk of operational disruption from labour strikes which may negatively impact utilities' service to customers.

Decarbonisation through a replacement of coal-fired power generation with a combination of renewables and natural gas-fired power, along with the implementation of smart meters, demands a shift in skillset for the existing workforce.

Through revisiting the recruitment process and focusing on diversity in the workplace, we can improve our recruitment and retention strategies to attract the right talents. With the increasing participation of women in the utilities sector, focusing on diversity is likely to improve the industry's ability to meet its workforce needs.

Our Commitment

The Group's success through excellence depends on the performance of its employees at every level. The values the Group inculcates in its employees are candour, courtesy, an ability to deal with change and respect for humanity, personal dignity and privacy.

As stated in our [Sustainability Policy](#), we are committed to:

- being an equal opportunity employer;
- creating a diverse and inclusive workplace by respecting the values, customs and traditions of our employees in different operating markets;
- caring for the well-being and health of our employees and aiming to achieve a workplace free of injuries; and
- assisting staff to develop in an engaged workplace and caring for them and their families.

How We Work

To recruit and retain diverse talent

The recruitment, hiring and performance appraisal processes form the foundations of positive and long-term employee relations.

To retain talent, HK Electric provides competitive compensation packages, and eligible employees are entitled to additional incentives for their contributions to the company's growth, profitability, and other goals.

To increase the pipeline of diverse and qualified candidates, HK Electric participated in the Virtual Career Fair organised by The City University of Hong Kong to promote its employer brand and different entry positions in customer service and IT. Online recruitment talks are also delivered to students of local universities to promote our Graduate Trainee Programme, which is the company's key breeding ground for future talents. In 2020 it recruited a total of five graduate trainees who will undergo an intensive training programme covering a wide scope of learning areas.

As an additional measure to reinforce employees' sense of belonging and commitment, WWU has introduced a flexible benefits scheme, allowing colleagues to choose additional benefits alongside their standard benefits packages. Every year WWU improves the offering with additional benefits in response to colleagues' feedback.

We seek to protect the well-being of our staff by encouraging a healthy work-life balance. To ease work-related stress, we offer a range of generous paid-leave entitlements and flexible working arrangements. A wide range of initiatives including interest classes, seminars, health talks, training courses and fitness activities ran to help staff maintain work-life balance. Many of these went online in 2020 as a result of the pandemic.

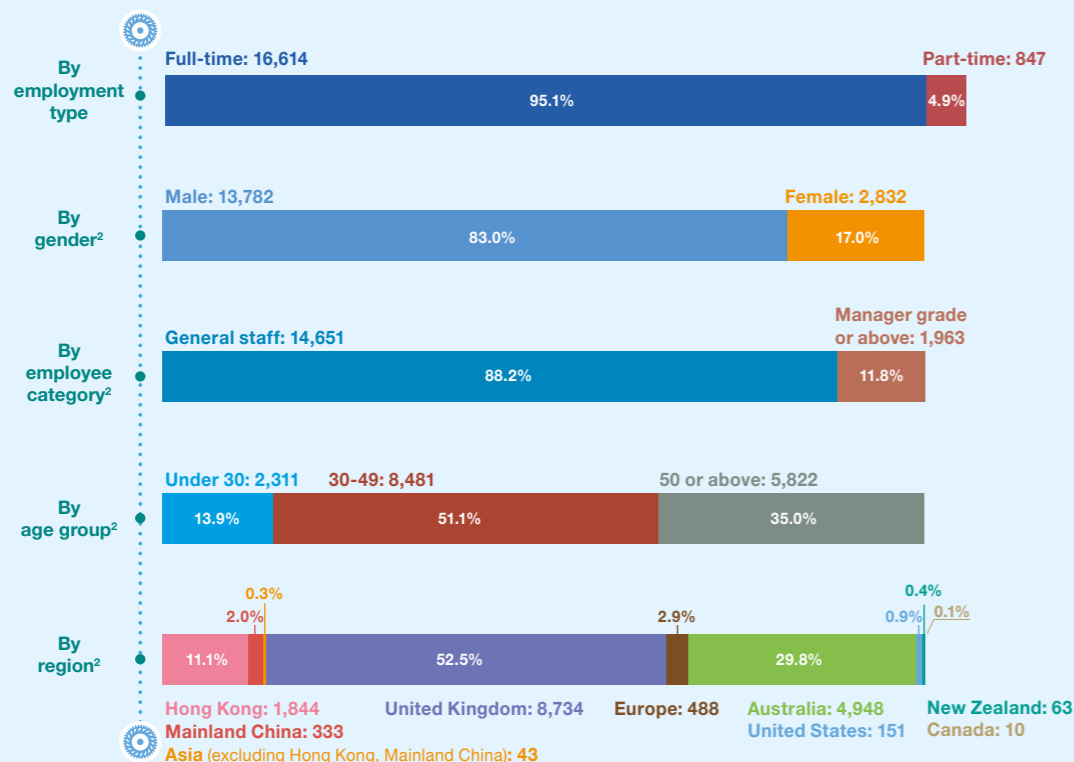


HK Electric is a signatory to the Joyful@Healthy Workplace Charter launched by the Department of Health and the Occupational Safety and Health Council. To promote employee well-being, the company organised a series of online interest classes such as DIY face mask cover, leathern rose, and towel animals. These were conducted through online live broadcasts for employees to join via their office desktop computers. The company also offered flexible work arrangements to employees during the COVID-19 pandemic.

Our employee performance review process connects employee compensation with individual goals and aligns performance with business objectives and outcomes, creating a win-win situation for the employee and the Group.



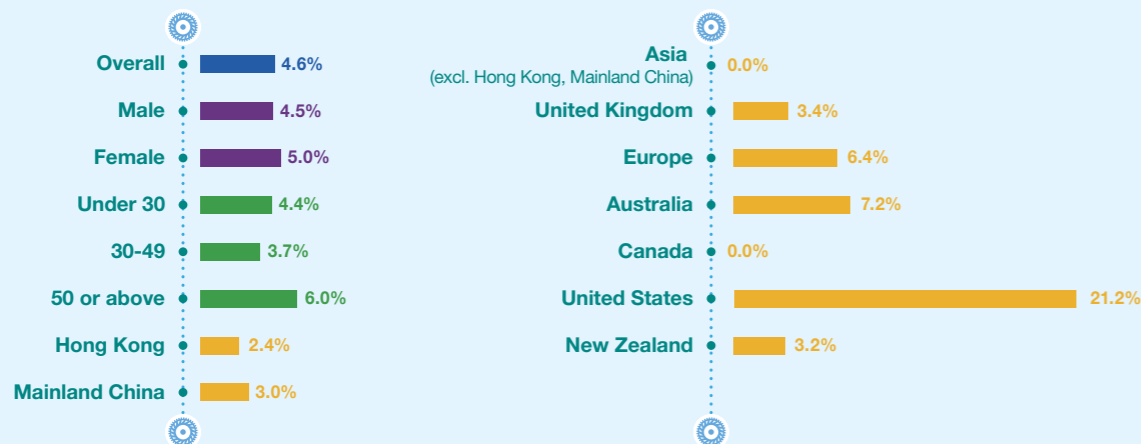
Employee Profile¹



Note:

- (1) Exclude Husky Midstream, as all the employees are outsourced from Husky Energy
- (2) Full-time employees only

Employee Turnover¹



Note:

- (1) Turnover rate refers to full-time employees only, which is calculated based on the employee departure during the year, divided by the average total number of employees as at 31 December 2020.

Training and development

The professional growth of our people is essential to the growth of our business. We invest heavily in training to keep our people abreast of the latest developments in the industry and enhance their knowledge and performance. Training programmes are developed by respective business units to provide the most relevant learning experience that suits employees' specific needs.

The Group ensures that all our skilled staff members are professionally trained and suitably qualified for their roles. All operating companies are required to submit annual training logs to ensure that the requisite credentials for all skilled staff have been suitably attained and that all refresher courses are conducted where needed.

Furthermore, the Group and most of our operating companies conduct various employee development programmes to suit their specific business needs. We run rigorous leadership development programmes to support succession planning.

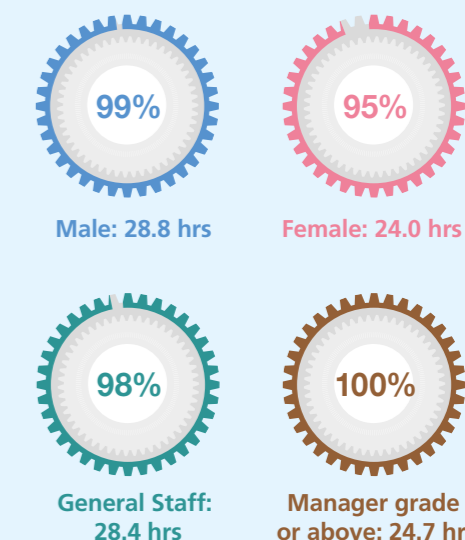
VPN conducted learning and development programmes for staff to reduce incidents associated with human factors. These human factors refer to autopilot, distraction, shortcuts and assumptions, and workload. The training provided by the Field Services Teams strived to reinforce staff knowledge of these factors and raise the organisation's awareness of relevant counter measures.

Employees at every level globally are provided with opportunities to develop themselves as leaders.



In 2020 we provided 464,470 hours of training and development for full-time employees.

Percentage of employees who received training and average hours of training per employee by gender and by employee category



HK Electric operates talent development programmes to inspire future leaders. In 2020, the company stepped up actions to nurture leadership opportunities through leadership bootcamp initiatives, book review sessions, coaching and mentoring, and action-learning projects. Apart from these activities, the participants receive mentorship from senior executives or department heads to widen their perspectives and enhance their skillset.

HK Electric further adopted e-learning and multi-media approaches to facilitate interactive and self-initiated learning. Harnessing a newly set-up e-learning portal, the company offered six webinars on leadership and two e-learning series to the Leadership Development Programme participants. Since the inception of the Leadership Development Programme in 2010, 85.7% of the 77 mid-level participants remain with the company, while 64.9% have already been promoted to senior leadership positions. HK Electric also directed more resources in conducting lecturer-led training via online conference tools in response to COVID-19. All employees could undertake self-learning by accessing the learning resources available on employee communication platforms such as the company's intranet portal and "My HKE" mobile app.

Diversity and equal opportunity

Having a diverse and inclusive workforce can provide different perspectives on how we conduct our businesses and ultimately benefits our business performance. We strive to provide an equal opportunity working environment that is free from harassment and discrimination and promotes unbiased decision-making.

We enforce an anti-discrimination policy and have zero tolerance for harassment in any form. All employees, irrespective of race, gender or religious beliefs, receive equal opportunities and our recruitment and promotion processes are based purely on performance. A Diversity Committee comprising representatives from different business units has been established in many of our operations over the world to raise awareness on diversity among the workforce.

EDL achieved several diversity and equal opportunity goals in 2020. EDL is on track to meet its gender diversity target of 25% females in its global workforce by 2023, achieving 20% in 2020 – one of the initiatives in support of this includes a maternity leave policy of at least 3 months' full pay for the primary caregiver across all countries where EDL operates. EDL also rolled out online Diversity and Inclusion training globally, which will be refreshed every two years. In Australia, EDL provided summer internships to participants from CareerSeekers and CareerTrackers, not-for-profit organisations that respectively assist migrant and Aboriginal and Torres Strait Islander university students into career pathways. EDL's Australian business also launched its inaugural Reconciliation Action Plan, to improve opportunities for engagement and participation with First Nations peoples. In USA, the North American D&I Committee was established to focus on USA and Canadian diversity and inclusion programmes.

Measures to promote gender diversity continued in 2020. EDL addressed female university students studying in science, technology, engineering, mathematics (STEM) and offered them post-study employment. This helped improve the diversity in the workplace through the graduate programme recruiting process.

UKPN has retained its National Equality Standard accreditation, the UK's highest standard of recognition for best practice on equality, diversity and inclusion, and is ranked third on the list of the Inclusive Top 50 UK employers. The median gender pay gap in 2019 (published in April 2020) narrowed slightly from 13% to 12% compared to 2018. In the three years since the introduction of the Gender Pay Regulations in 2017, the difference between Median men and women's pay has decreased by 18.5%, demonstrating its commitment to gender pay equality at all levels in the business as well as its dedication to equality in recruitment, development and promotions.

AVR seeks to promote diversity as part of the selection process. In 2020, AVR ensured that there was at least one female worker on each shift at the Rozenburg production plant.

Two-way communication

The Group always strives for effective, open two-way communication and various effective communication channels are in place.

Regular open forums are conducted to allow employees and the senior management to communicate on organisational updates and employees' concerns. Theme talks, topical briefing sessions, and focus group meetings on company issues are also conducted as required to explain and convey company issues and policies to employees, and collect their opinions and feedback in the process.

In order to understand employee perspectives, attitudes and opinions, UKPN conducted monthly polling and an annual survey for improved awareness, full compliance and increased levels of employee engagement.

Uniform communication procedures are applied across AGIG to allow employees to provide honest feedback to the company about their employment experience. AGIG also provides employees with channels to escalate any unfair or unequal treatment they encounter.

Occupational Health and Safety

Challenges and Opportunities

Due to the nature of their operations, our investments are exposed to a range of health and safety risks. Any fatal or injurious accident involving members of the public or our employees or contractors could have significant consequences, resulting in widespread distress and harm or significant disruption to the operations, followed by possible regulatory action, legal liability, material costs and damage to the Group's reputation. During the pandemic, we need to take necessary measures to protect our employees and contractors from being infected while maintaining a stable operation, since utilities play an especially vital role in keeping society running during emergencies.

Our Commitment

The Group is committed to offering a safe and secure environment for our employees, contractors, customers and other stakeholders when they are at the Group's facilities and premises. We encourage a company-wide safety culture where everyone is responsible for making every workday healthy and safe – from our top management and throughout the group.

The commitment of top management to health and safety issues is formalised in the [Health & Safety Policy](#), which is based on the following key principles:

- Complying fully with all applicable laws and regulations and integrating health and safety considerations into all aspects of our business activities;
- Nurturing and supporting a company culture that promotes employee wellness and enhances health and safety awareness among our stakeholders by providing appropriate and timely information and training to identify hazards and manage risks;
- Adopting and maintaining safety management systems and measures to monitor and manage the health and safety performance of our business and its contractors and suppliers; and
- Ensuring commitment from our stakeholders in all our markets to share the same vision, values and responsibilities for health and safety and meet the same standards.



How We Work

Health and safety management system

Power Assets is implementing a Health and Safety Management System (HMS) with the aim of contributing to the ‘human capital pillar’ of the company’s sustainability development.

This HMS serves to ensure continual health and safety improvements, monitors compliance with relevant laws and regulations, fulfills supply-chain requirements, and promotes staff health and safety awareness to achieve a no-injury work place.

To ensure our operating companies have followed the guidance given in the [Health and Safety Policy](#) of the Group, our directors or executives that sit on the Board of our material investments continually exercise their influence and encourage the businesses to adopt our Group’s principles in developing their own approach and practices that are most appropriate to their operations and geographic locations. Power Assets delegates its directors to determine a high-level health and safety strategy and policy, set corresponding targets and oversee the health and safety performance of material investments.

Well-established health and safety management systems have been adopted in different business units to ensure compliance with local regulatory requirements. Most of our operations like HK Electric, UKPN, WWU, Seabank Power, SAPN, AVR, Ratchaburi Power and Jinwan Power have their own Occupational Health & Safety Management Systems in place that conform to international standard ISO45001 or OHSAS 18001, to manage its exposure and protect its employees, customers, contractors and the public by conducting its business in a safe and socially responsible manner.

The effectiveness of the management system and the health and safety performance of Power Assets and each of its businesses is subject to a biannual internal review in the Health and Safety Management Meeting.

Emergency preparedness and crisis management

Our goal is to enhance business resilience by creating a controlled working environment where our people and assets are safe and our operations pose minimal impact on the environment and the communities. We have plans and processes in place to help prevent and be prepared for, respond to, and recover from potential emergencies such as fire, oil and chemical spills, typhoons, flooding, emergency evacuations, rescues from confined spaces and heat-stroke treatment.

UKPN established the High Impact Low Probability (HILP) programme to ensure UKPN has an enhanced programme in place to effectively respond to large scale high impact events. The programme is underpinned by workstreams that cover all of the important aspects expected within such a response. For instance, UKPN took part in a national cybersecurity exercise to test its current processes and identify further opportunities for improvements to ensure that there is sufficient protection and a robust response in place for a cyber-attack as one kind of high impact event. To minimise the impact of a crisis on the delivery of service to customers, a central team coordinates the response at either a strategic or tactical level. UKPN also has a holistic Business Continuity Management System that builds a framework for resilience by identifying potential threats to the business and the impacts on the business operations these might cause.



EDL conducts Emergency Management and Crisis Management Awareness training to ensure senior managers are well prepared to respond swiftly to emergencies and crises. The annual review of the Crisis Management and Business Continuity Planning Programme updates material and process documents. Training scenarios and business-relevant emergency response scenarios are delivered to executives, senior leaders and support workers to further build capability and resilience.

HK Electric identifies potential health and safety risks for employees, contractors and customers as well as for the public, and mitigates these risks by developing and implementing appropriate procedures. Regular drills are also conducted to enhance our response capabilities to these situations.

Hazard identification and risk assessment

We are committed to rigorously managing the risks associated with hazardous processes, such as those with the potential to result in catastrophic fires, explosions, and sudden release of toxic materials.

HK Electric conducts various types of safety inspections on the operational activities of contractors and frontline employees to measure and monitor their health and safety performance against pre-determined plans and standards. Respective divisions have inspection schedules in place stipulating the type and frequency of the inspections, which are conducted by appointed persons with appropriate training and experience. The results of the health and safety inspections will be brought to the attention of senior management or relevant health and safety committee, where appropriate. The inspection records are properly kept by the respective divisions and are available for audit purposes.

Health and safety monitoring systems and formal audit programmes have been established. Audits on the safety management system at corporate level, Transmission and Distribution (T&D) division-level and Generation (GEN) division-level are conducted no less than once every 12 months by Registered Safety Auditors to provide a measure of compliance in line with Government Legislation and in-house Safety Rules requirements; to establish and maintain effective systems to manage risks to health & safety; and identify major hazards at an early stage.

EDL continued to improve the Shared Analysis Management (SAM) system across the business to provide an effective hazard and incident management recording and reporting process. In addition, EDL launched the global Safety Leadership Awards to promote and reward positive safety leadership behaviour. EDL also launched the Take 5 initiative, which serves as a hazard/risk review prior to a task being conducted. Weekly safety leadership meetings are held by operations teams, with participation from corporate and operational support services staff. The increased focus on safety leadership, improved reporting and effective delivery of the Take 5 process has changed behaviours across the EDL global workforce, resulting in improved safety performance.

A High-Risk Controls manual and awareness programme were released in August by VPN as the key component for 2020’s HSE Hazard Awareness and Compliance programme. Nine High Risk Controls have been identified based on past incidents records, while minimum standards and controls for each have been produced with reference to the legislation. The programme has been communicated throughout the business to reduce high consequence incidents and protect health and safety.

Health & safety committee

To ensure we maintain a safe working environment, we leverage safety committees to review and address our work-related injury risks.

The health and safety of our staff and members of the public is Power Assets’ top priority. With the exception of 2020, when travel restrictions were imposed, Power Assets hosts annual in-house Health and Safety conferences. Executives from our overseas business units gather in Hong Kong annually to review our health and safety performance and share best practices, with a view to achieving our unyielding target of zero harm.

For UKPN, Health, Safety & Environment Committees (HSECs) are structured into three tiers providing a strategic, tactical and action-based approach for the engagement and involvement of staff. All HSECs meet quarterly to facilitate information flow, and the action level HSECs meet prior to the tactical HSECs which meet two weeks prior to the Company Health, Safety & Environment Committee meeting.

A Health and Safety Committee of Wellington Electricity meets every quarter to review issues requiring Board governance or guidance. A formalised Safety Leadership Structure is in place to help ensure that health and safety leadership is provided throughout the business.

WWU has an HSE consultative committee comprising representatives from trade unions, with the CEO serving as the chairman of the committee.

Contractor safety programme

We continue to collaborate with our contractors to develop and implement innovative solutions for improving health and safety performance to ensure we are prepared for the increase in work programmes associated with our growth projects.

Safety is integrated into tender processes and we require all contractors at our sites to follow all applicable workplace safety and health requirements. Also, there are various promotional campaigns for HK Electric’s contractors including Life First Campaign; Health & Safety Week; Safety, Health & Environment Day; and Health & Safety Talks. Relevant safety information is available on HK Electric’s website for third-party contractors carrying out works near its power supply lines.

Promotion of occupational health

Our employees’ health and safety is of top priority. This is especially true in the face of the COVID-19 pandemic.

Group operating companies such as HK Electric and Canadian Power underwent major capital works while other companies including UKPN, VPN, AGIG, EDL and WWU implemented large capital projects. All construction activities and capital sites were managed in accordance with local government guidelines on safety and social distancing. Personal protective equipment and sanitising facilities, shift working, and other arrangements were made to keep workers safe.



WWU engineers maintain excellent customer service standards despite social distancing requirements.

To help staff members during the COVID-19 pandemic, SAPN conducted health promotion and mental health programmes via an online health hub and wellness portal. New initiatives developed during 2020 include the Health Hub @ Home, which focuses on the health challenges arising from working from home. Features such as mental health, first aid, mindfulness and resilience training courses, and a Traumatic Event Response service for workers exposed to distressing incidents have been made available to protect employees’ physical and mental health.

In order to foster a positive culture of health and safety, UKPN conducts regular health and safety training programmes for employees. Using external and internal experts as facilitators, 610 leaders participated in a three-day residential training programme designed to provide awareness, skills, tools and motivation to positively shift their approach to Safety Leadership. 470 employees attended a two-day residential safety training programme. All employees who conduct or influence high risk work were trained by the end of 2020.

UKPN is ahead of its target to engage with 250,000 people each year on public safety. With the COVID-19 pandemic, UKPN made full use of digital channels to further promote the PowerUp educational website for children.

In order to reduce serious injuries, United Energy developed and implemented a High-Risk Control Programme for internal employees. The programme includes face-to-face learning and an iLearn package for all employees to improve their knowledge of the controls for the highest risk activities conducted by our employees and contractors.

To support a caring and supportive culture at the workplace, especially during the COVID-19 pandemic, more than 75 HK Electric colleagues who previously received training on employee counselling skills continued to provide just-in-time emotional support to staff in need. As continuous inspiration for the Good Neighbours’ Club, enlightening stories and useful tools and resources were shared on the HK Electric intranet portal and in-house mobile app, “My HKE”. An Info Hub for COVID-19 was set up on the company’s intranet portal and “My HKE” mobile app to convey useful information relating to precautionary measures against COVID-19 to employees in the form of in-house educational videos, posters, news, and announcements. A total of 11 in-house educational videos on precautionary measures were produced and two quizzes were launched in 2020 to reinforce employees’ understanding and application of the precautionary measures.



NGN’s field service teams carry out works in full personal protective equipment to keep them safe without compromising reliability.

Cybersecurity

Challenges and Opportunities

Cybersecurity risk is an increasingly common business threat and can pose immense challenges to companies. Over the years, cyber-attacks have continued to proliferate, escalating in frequency, severity and impact. Organisations face high monetary and reputational risks if there is no appropriate cybersecurity plan. As the utilities sector digitalises, it also becomes more vulnerable to cybersecurity threats, increasing their exposure to cyber-attacks.

Our Commitment

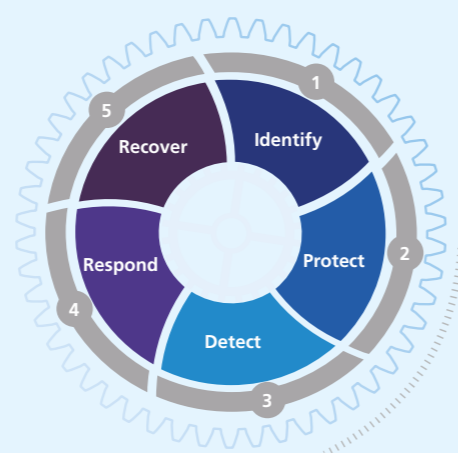
The Group seeks to protect its critical assets and data from cyber-attacks, and ensure that there are adequate and effective cybersecurity defences to protect corporate information assets and critical infrastructure.

The Group has also set the following KPIs to assure the robustness of the Group's cybersecurity measures:

- Periodically performs security assessments of critical IT infrastructure and processes to identify security weaknesses and vulnerability;
- Periodically conducts penetration tests for IT landscape to discover potential vulnerabilities;
- Completes web security enhancement project to strengthen the security protection of Internet browsing activities;
- Performs security assessment and enhancement of end-point device and server, ICS/OT, private cloud and application software; and
- Continues to raise cybersecurity awareness among employees by running cybersecurity awareness training programmes and carrying out phishing drills from time to time.

How We Work

We have established a framework to facilitate a systematic approach in identifying, assessing and managing the cybersecurity risk within the Group.



[1] Develop an organisational understanding to manage cybersecurity risk to systems, people, assets, data, and capabilities;

[2] Develop and implement appropriate safeguards to ensure the delivery of critical services;

[3] Develop and implement appropriate activities to identify the occurrence of a cybersecurity event;

[4] Develop and implement appropriate activities to respond to a detected cybersecurity incident; and

[5] Develop and implement appropriate activities to maintain infrastructure resilience and to restore any capabilities or services that were impaired due to a cybersecurity incident.

The Group organised an IT/OT Cyber Security Colloquium to bring colleagues together, where ideas and best practices can be shared. We established frameworks to guide improvement, set key strategic pillars and direction, and agreed on insights to provide an uplift in cybersecurity.

Each of our investments has taken a risk-based and integrated approach to combat cybersecurity risk. They have established their own cybersecurity management framework or processes to proactively identify, prevent, detect, respond to and recover from cybersecurity attacks.

Cybersecurity measures

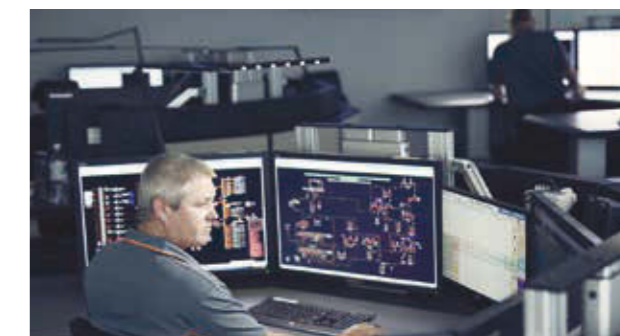
We are committed to the protection of our people, assets, reputation and brand through securely-enabled operations.

HK Electric is implementing various cybersecurity protection measures, including a next-generation firewall and intrusion prevention system, Advanced Persistent Threat protection solutions, a mail gateway, secure web proxy and anti-malware systems. These are all in place to safeguard the Company's information assets against unauthorised access and malicious attacks.

UKPN conducts vulnerability scanning on core systems including the smart meter system. The vulnerability scans include simulated hacker attacks and vulnerability management is subject to a weekly review meeting. Information Security for the Smart Meter system is aligned to ISO27001 as part of the Smart Energy Code (a multi-party agreement which defines the rights and obligations for smart metering) and is managed by a security sub-committee which appoints an external auditor for an annual audit.

UKPN's Cyber Security Operations team monitored the Security Operations Centre and Security Information

Event Management system 24/7 throughout 2020 for alerts that indicate areas for further investigation. This team also has the governance duty to identity and access management, vulnerability management, contractual services (alongside the legal team) and awareness management.



Employee training

UKPN operates a company-wide 'Security Matters' branded campaign to communicate awareness material across multiple channels, such as intranet, email, Yammer, digital noticeboards and user briefings, covering the cyber, physical and personnel aspects. An online training cybersecurity course is mandatory for all employees and this was updated in March 2020 to improve course format, enhance contents, increase the scope, incorporate feedback and include lessons learned within the company and via the media. For field staff, awareness material based on the online course is now available on their mobile touchpad devices. For NGN, cybersecurity e-learning is in place and issued to colleagues on a regular basis.

SAPN offers vocational educational programmes in cybersecurity. Training programmes are delivered by registered training organisations and nationally accredited qualifications are credited. New employees are assigned mandatory e-learning modules on cybersecurity information when they join the company. The mandatory e-learning is also supported by an ongoing phishing campaign to test staff awareness. WWU colleagues are assigned mandatory e-learning modules on cybersecurity when they join the company.

Supply Chain Management

Challenges and Opportunities

As a global investor in energy and utility-related businesses with over 14,000 suppliers, the Group is aware of the broader influence its purchasing power has, which it uses to ensure suppliers make their operations more sustainable.

We encourage all businesses in our supply chain to share our commitment in terms of environmental stewardship, products or services, child labour, fundamental human rights, working conditions, remuneration, occupational health and safety, and business ethics.

Effective collaboration with all stakeholders in the supply chain is critical to our growth and success, particularly given the pandemic. The supply chain disruption resulting from COVID-19 poses tremendous pressure on our operational efficiency across all functions of the supply chain management. In addition, with the trend to form more business collaborations and partnerships globally, our working methods and operations need to change in response to the dynamic industry environment.

Our Commitment

The [Supplier Code of Conduct](#) (the “Code”) underpins our commitment and serves as a guideline for all our business partners and suppliers, encouraging compliance with items in the Code so as to bring broader improvements in sustainability practices and performance for its business partners and suppliers and the communities served by the Group.

The Code applies to all our business partners and products and service providers (i.e. suppliers). Under the Code, the Group works with suppliers and business partners who can demonstrate their commitments to uphold the principles detailed in the Code. The content of this Code has been developed taking into consideration a number of international charters and

conventions such as the United Nation’s Declaration on Human Rights and the International Labour Organisation Core Conventions.

Several other policies also support our commitment to promote supply chain sustainability, including:

- [Human Rights Policy](#) – Highlights the respect for human rights as a fundamental value of the Group, and explains our expectation of business partners and suppliers in upholding the principles in our Human Rights Policy and adopting similar policies within their own businesses.
- [Modern Slavery and Human Trafficking Statement](#) – Reiterates the Group’s zero tolerance of modern slavery and its commitment to preventing modern slavery and human trafficking. It is expected that business partners and suppliers share the same values, complying with the relevant laws, regulations and reporting requirements. Transparency in business partners’ and suppliers’ approaches to tackling modern slavery is also expected in all our business relationships.
- [Environmental Policy](#) – States the Group’s awareness of the direct and indirect impact arising from its ability to influence environmental performance within its value chain and in its investments, and how it endeavours to influence suppliers by raising awareness on environmental issues, eco-friendly practices and professional considerations.

How We Work

Sustainable procurement

The Group is well aware of the environmental and social impacts that may ensue along the supply chain and is committed to minimising such risks in collaboration with suppliers. ESG-related factors form an important part of the assessment process and have due weighting in our consideration of potential suppliers and contractors.

The evaluation of a supplier’s environmental capabilities and systems is an important consideration in the selection process for Wellington Electricity. The company evaluates and verifies the supplier’s environmental management system or plan and establishes performance/measure criteria, determines the supplier’s understanding of environmental responsibilities; and reviews how the supplier will manage environmental issues associated with the contract works and services. In addition, environmental requirements including the right to conduct audits and/or inspections are defined in all Competitive Bidding documents.

UKPN assesses the conduct levels of suppliers using the Achilles Utilities Vendor Database (UVDB) and Verify Audits before appointing them to work for the business. As an industry-recognised risk management framework, Achilles UVDB is considered to provide a fair, open and transparent means of supplier selection for potential tender opportunities. New suppliers are granted access to the questionnaire and audit protocols in the public domain of Achilles UVDB and Verify Audits. This pre-qualification database allows UKPN to comply with the Utilities Contract Regulations.

At AVR, the importance of safety requirements and compliance is always emphasised in contracts with suppliers and included in its “contractor manual” and is part of supplier review procedures.

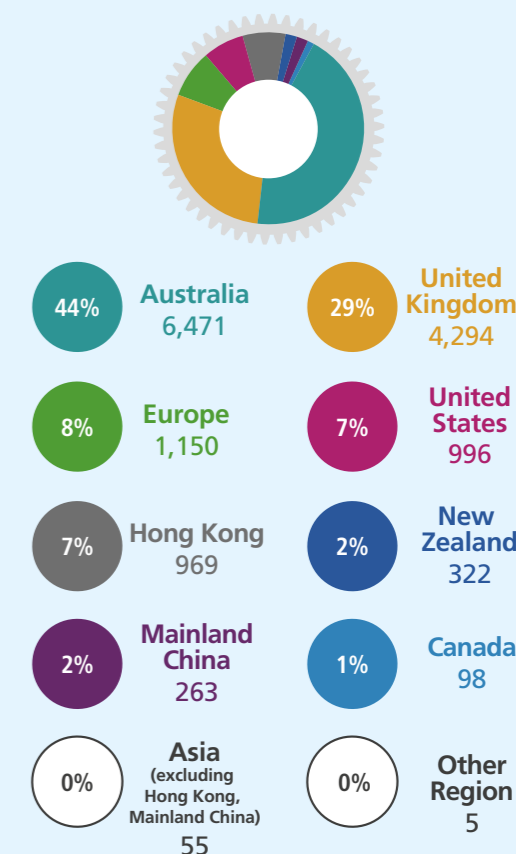
All of AGN, DBP and Multinet Gas’s contracts and purchase order terms and conditions with suppliers include clauses on NGERS (National Greenhouse and Energy Reporting), labour practices and health and safety performance.

On-going management

Regular monitoring, audits and evaluations are carried out to assess supplier performance and to obtain updated information from suppliers and contractors to ensure fulfilment of HK Electric’s latest requirements.

All suppliers for AGN, DBP and Multinet Gas are audited for health, safety and environment (HSE) performance on an annual basis. In particular, all DBP contractors subscribed to ISNetworld (External Contract Information Manager) are audited on their HSE performance on a quarterly basis to ensure all suppliers under contract meet the requirements for HSE performance.

Number of suppliers by geographical region



Community Engagement

Challenges and Opportunities

Electricity and utility companies can have enormous impact on surrounding communities through their acquisition and development of large land tracts for power plants and pipelines as well as their use of water resources. Through effective community engagement, we can manage our socio-environmental impact responsibly and positively influence the communities we serve.

Our Commitment

We are committed to respecting the rights of communities and contributing towards their economic and social progress by interfacing with a range of stakeholders on a regular basis. From development through operations, we engage local communities to share information and ensure our projects have a positive impact on the community.

How We Work

Better access to affordable energy

Providing affordable electricity for customers is critical to supporting local economies. As the country's largest electricity distributor, UKPN already serves at least 1.7 million people living in vulnerable circumstances by providing additional support and advice on energy matters via the Priority Services Register. To further support the local economy, UKPN's Power Partners fuel poverty programme has provided GBP300,000 worth of annual grants, via a new community investment fund in 2018, to a total of 30 community organisations across the East, the Southeast of

England and London to make electricity affordable and combat fuel poverty. In 2020, UKPN remodelled the Power Partners programme to support those most affected by the pandemic.

In 2020 WWU connected 1,066 properties under its Fuel Poor Network Extension Scheme and has funded a total of 11,700 connections towards an eight-year output target of 12,590. WWU continued to provide additional assistance to the most vulnerable customers within its geographical coverage through the company's Social Obligations Steering Group. Initiatives that have flowed from this work include increasing the number of partnerships with organisations to promote the support measures WWU offers its customers; the Healthy Homes Healthy People project with Warm Wales saved 737 homes over GBP947,000 in 2020 through increasing household income by claiming the correct benefits, addressing energy and water debt, tariffs and energy efficiency measures and advice and installed 57 locking cooker valves in 2020, allowing people to cook safely under the supervision of carers and families.

HK Electric offers concessionary tariffs to eligible senior citizens, single-parent families, the disabled and the unemployed. Successful applicants are entitled to receive a 60% discount for the first 200 units of electricity consumed every month. Under the company's Smart Power Care Fund, various

programmes have been put in place to educate customers about energy efficiency, helping them reduce electricity use and offering an assistance programme to underprivileged customers in line with the United Nation's Sustainable Development Goals 7 and 13. By 2023, HK Electric will:

- subsidise 4,000 underprivileged households for adopting energy-efficient electrical appliances;
- complete 1,000 free energy audits for non-residential customers and subsidise 500 buildings for implementing energy efficiency enhancement projects; and
- organise 1,000 educational and promotional activities on combating climate change and adopting a low-carbon lifestyle.

Recognising the importance of affordable and reliable electricity for all customers, VPN provided financial assistance to households and small businesses in Victoria impacted by the COVID-19 environment. Users in all distribution networks including CitiPower and Powercor benefited from a relief package under which eligible customers can defer electricity network charges until January 2021.

Customer relationship management

As a global investor in companies in energy generation, transmission and distribution and working with the spectrum of fuels including coal, gas, renewables, waste and oil across four continents, the Group currently serves a total of over 19 million customers with power and gas supply.

The Group aims to achieve excellence in customer satisfaction by continually improving our services and achieving or even exceeding service targets. A [Customer Services Policy](#) is in place to guide our operating companies to deliver quality and professional services, putting customer needs at the core of their businesses. We respect customers' views and suggestions and respond promptly, using the latest technologies to reach out to them. We seek continuous improvement and engage stakeholders in our pursuit of excellence to satisfy customers' needs and align our business processes with best practices.

The Group has various mechanisms that it uses to measure customer satisfaction levels and to monitor feedback in order to understand customer perceptions and any ongoing critical issues, and to implement the appropriate corrective actions.

In the UK, for example, alongside regulated customer satisfaction surveys (scoring 9.15/10 across all customers) and benchmarking through the Institute for Customer Service, NGN also monitors and improves performance in both the speed and quality of response to complaints. All customer complaints are handled in a courteous, prompt and straightforward manner, as described in its Complaints Handling Procedure.



UKPN uses other methods to measure and improve customer satisfaction such as Rant and Rave surveys, Google reviews and Trustpilot feedback. Their service recovery process via Rant and Rave surveys has given the resolution team greater insight, making it clear and easy for them to see which areas and processes to focus on for improvement. UKPN took part in the 2020 UK Customer Satisfaction Index (UKCSI), which benchmarks customer satisfaction, and was once again placed in the top 10 companies in terms of complaint handling. Ofgem, the UK Regulator, measures customer satisfaction scores across the industry, with UKPN scoring best in class 92% satisfaction, continuing the improving trend since 2010.

WWU was re-accredited to the BS 18477 Inclusive Service Provision in December 2020 and was recognised by the Institute of Customer Service for customer satisfaction, maintaining its service mark accreditation. The score of 93/100 placed WWU as a leading company amongst the UK’s national household brands.

HK Electric continued to gather customer feedback systematically through regular satisfaction surveys and “We Meet on Friday” sessions. Its average Customer Satisfaction Index (5-point scale) increased from 4.63 in 2019 to 4.72 in 2020, reflecting a very high level of customer satisfaction. HK Electric received the “2020 Excellent Service Retailer of the Year” award, the highest recognition amongst all participating companies, and its Call Centre was the winner of the “Best-in-class” award under the “Commerce and Utilities” category, also winning the “Gold Award” for ten consecutive years in the Mystery Caller Assessment Award organised by the Hong Kong Customer Contact Association in 2020.

A Customer Experience team has been established by VPN as part of its Customer Group and a new Customer Strategy 2020-2025. A wide range of initiatives are detailed within the strategy which aims to ensure customer needs and interests are central to VPN’s business while also making it easier for customers to do business with CitiPower and Powercor and improve data availability.

For our operating companies around the world, customers have various channels available through which to make a complaint or request information. We constantly monitors the feedback received, in order to understand the customer’s perception and any ongoing critical issues and to implement the appropriate corrective actions. During the year, we have received 6,928 product and service related complaints.

Community consultation

We take community concerns about our activities seriously. To better respond to the demands of the communities we serve, we regularly engage with stakeholders to listen to their needs and gain an insight into areas of concern. Our integrated approach ensures that we can identify and address specific issues and always take into consideration the diversity of economic, social and cultural situations in which we operate.

UKPN has an extensive and embedded engagement programme with a range of communications methods. This helps the business to adapt to the evolving needs of all its customers and stakeholders. During 2019/20 UKPN achieved its widest ever reach on stakeholder engagement, reaching 4.75 million stakeholders across more than 500 engagements. UKPN achieved a score of 8.3 in the 2019/2020 assessment, the highest of any of the electricity distribution network operators (DNOs) in the UK.



WWU takes community concerns on board to successfully preserve the historic medieval Bideford Long Bridge while carrying out mains replacement.

WWU also needed to replace two aging large diameter gas supply mains strapped to the underside of the Bideford Long Bridge, one of the longest medieval bridges in England spanning 200 metres. A feasibility study determined that the option of like-for-like replacement of the mains would result in a high probability of damage being caused to the medieval bridge. Alternative designs were commissioned, and a full community consultation completed to establish the most practicable option. No damage was caused to the bridge when removing the old cast iron pipes and there were no negative environmental impacts. Positive customer feedback was received during and after this project.

United Energy is implementing the Bayside Battery Project to install two pole-mounted batteries for the local community to share, where each battery is expected to support up to 150 homes and businesses with stored energy. A highly personalised approach was taken to liaise with community members regarding this installation and the project team was very supportive of stakeholder needs to ensure visual amenity concerns are considered in the placement of the batteries. A formal test of the noise and electromagnetic fields from the batteries was undertaken and the results were communicated to residents. This initiative contributed to the Bayside Council carbon emissions target and has been the forerunner to a broader scale of the project.

In New Zealand, the substation at 174 Victoria Street, Wellington is a 100-year-old building rated at 50% IL4 (Important Level 4 is the seismic restraints required for critical venues). To prevent this heritage from being damaged during earthquakes, which occur quite often in New Zealand, Wellington Electricity has strengthened this building to 67% IL4 by adding steel bracing in roof structure.

HK Electric joined hands with a local green group, the Conservancy Association, to develop a new eco-heritage route “The Eastern Sparkle” under the “Green Hong Kong Green” programme. A series of mini videos were released allowing viewers to reminisce on the sights and sounds of the Eastern District on Hong Kong Island which used to be an entertainment hub decades ago. Interesting bird species, flora, and fauna are also introduced on the route. With this new route, HK Electric has completed its mission of developing eco-heritage trails within its supply territory with a choice of 11 trails for the public to appreciate the city’s diverse ecological and heritage resources.



Egrets and other interesting bird species are highlighted in “The Eastern Sparkle”, a new GHKG eco-heritage route.

Working alongside the ongoing and extensive programme of engagement with both stakeholders and customers, WWU also has a Customer Engagement Group (CEG) that provides a different perspective on the company’s plans for future investment, customer services and social obligations, environmental performance, etc. Comprised of nine members representing different customers and stakeholders, with specialisms in different areas, the CEG is independent of both WWU and its regulator. Its views help the regulator to understand how WWU’s business plans reflect and meet the needs of different stakeholders.

VPN’s Brunswick project, which involved the offload of an aging Zone Substation and increase to the capacity of another, required significant works within 2.4 km of suburban streets. The stakeholder engagement plan took into consideration research within the community which identified concerns with previous electricity infrastructure developments and electromagnetic fields, including serious delays in schedule and an increased budget. The research showed that levels of awareness and trust were both low and VPN undertook extensive engagement with the community to mitigate the risk of opposition impacting the project’s delivery.



• Taking into account community suggestions, VPN reworks plans and schedules to relocate underground cables in the Brunswick Network Upgrade project.

HK Electric has appointed external advisors to sit on its Smart Power Building Fund and Smart Power Education Fund. The advisors come from the engineering and education sectors as well as community and green groups to offer expert views and advice on energy efficiency promotion and education work.

Community investment

The Group also supports the economic and social growth of the local communities in which it operates, in accordance with the specific commitments specified in the [Sustainability Policy](#). The Hong Kong Council of Social Service awarded the 15 Years Plus Caring Company Logo to the Group, in recognition of our commitment in caring for the community, employees and the environment over the past years.

Each of our businesses supported their local communities in the 2020, particularly towards fighting the pandemic.

AGIG

- Expanded its Community Partnership Programme and increased funding nationally to AUD500,000 per annum to support community and not-for-profit organisations in the regions where we operate. Long term flagship partnerships included Foodbank (food relief), Angel Flight (transport to medical appointments for regional communities), Clontarf Foundation (supporting young indigenous men) and Land care (environmental protection).

EDL

- Donated AUD250,000 to support bushfire relief efforts, AUD10,000 for a local council dealing with the impacts of COVID-19, AUD17,844 towards the Cullerin Range Wind Farm Community Fund, and the remaining AUD107,683 towards charities supported by EDL employees.

HK Electric

- Together with Power Assets, HK Electric donated a total of over HKD1.2 million to the Community Chest on a 1:1 to help those affected by the pandemic.
- Initiative to support communities affected by COVID-19.

NGN

- Donated GBP50,000 to local communities and grass roots organisations to address short-term needs of vulnerable residents in northern England.

WWU

- Committed GBP50,000 to help charities and local organisations recover from the coronavirus pandemic.
- Helped charitable, environmental and medical organisations to support vulnerable customers.
- Allocated GBP55,000 to charities and other groups under its Safe and Warm fund as a response to the challenges of COVID-19.



Encouraging employee volunteering

The Group encourages its employees to play a positive and active role in the communities where they live and work and encourages staff members to join voluntary programmes and participate in voluntary community work.

To encourage employees to participate in community projects, EDL offers two paid days every year for volunteer work, and provides matching funds for approved charities and donation programmes. Australian Gas Infrastructure Group also provides one day’s leave per year for all employees to participate in the Community Partnership Programme.

UKPN’s employees have two paid days to volunteer in their communities which they can spend on a new scheme to ‘Donate by Dialling’, ringing people who are isolated during lockdown.

HK Electric has a large contingent of company volunteers who are very active in supporting senior citizens and caring for the environment. Volunteers are entitled to a maximum of two day’s leave per year for joining the company’s volunteer service.

Regulatory Compliance

During the reporting period, we were not aware of any incidents of non-compliance with laws and regulations that have a significant impact on the Group relating to employment and labour practices, occupational health and safety, health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress, nor did we identify any incidents relating to the use of child or forced labour.

About this Report

Reporting period

The Group is pleased to present its first annual standalone Sustainability Report, covering its sustainability strategies, management approach, progress, and highlights from 1 January 2020 to 31 December 2020, unless otherwise specified.

Reporting boundary

The information disclosed in this Sustainability Report covers the key businesses of the Group, including the generation of thermal and renewable power, the transmission of electricity, oil and gas, as well as the distribution of electricity and gas in Hong Kong, the United Kingdom, Australia, New Zealand, Mainland China, Thailand, the Netherlands, Canada and the United States.

In 2020, Portugal Renewable Energy was sold by the Group and is no longer included in the scope of the sustainability report.

Reporting framework

This Report is prepared in accordance with the December 2019 updated Hong Kong Exchanges and Clearing Limited’s (HKEX) Environmental, Social and Governance Reporting Guide (ESG Guide). The HKEX ESG Guide Content Index set out on pages 63 to 68 contains information about the extent to which the Group has applied the ESG Guide and cross-references to the relevant section in this Report.

This Report should be read in conjunction with the Group’s 2020 Annual Report, which contains a comprehensive review of its financial performance and corporate governance, and also key policies which are published on the Group’s website. To learn more about its operating companies’ efforts and achievements in sustainability, please refer to their separate sustainability reports or websites.

Reporting principles

The content of this report follows the ESG Guide reporting principles.

- **Materiality** – We focus on matters that impact business growth and are of importance to our stakeholders. For more information, please refer to the “Materiality Assessment Process” on page 18.
- **Quantitative** – Information of the standards, methodologies, assumptions and/or calculation references, and source of key conversion factors used on these KPIs are stated wherever appropriate.
- **Balance** – This report discloses information in an objective manner, aiming to provide stakeholders with an unbiased picture of the Group’s overall sustainability performance.
- **Consistency** – Consistent methodologies are adopted when calculating the quantitative KPIs, unless otherwise specified. Reasons would be provided for any restating of information published in the Report.

Language

In case of inconsistency or discrepancy between the Chinese and English versions of the Report, the English version shall prevail.

Feedback

The Group welcomes feedback on this Report, its approach to sustainability and performance. Please share your views and email us at sr@powerassets.com.

Environmental Performance Indicators

Environmental KPIs ¹	Unit	2019	2020
GHG emissions			
Total GHG emissions ²	tonne CO ₂ e	10,885,046	8,004,671
Scope 1 emission		9,681,775	6,771,988
Scope 2 emission ³		1,203,271	1,232,683
Total carbon intensity	tonne CO ₂ e / HK\$'000 revenue	0.42	0.33
Scope 1 carbon intensity		0.37	0.28
Scope 2 carbon intensity		0.05	0.05
Use of energy			
Total energy consumption	'000 kWh	35,290,198	27,072,650
Direct energy consumption		32,810,761	24,532,607
Gasoline / Petrol		4,720	5,365
Diesel		239,094	247,167
Natural gas		11,489,233	10,970,402
Liquified petroleum gases (LPG) ⁴		248	5,043
Other fuels ⁵		21,077,466	13,304,630
Indirect energy consumption		2,479,437	2,540,043 ³
Electricity		2,479,437	2,540,043
Total energy intensity	kWh / HK\$ revenue	1.36	1.13
Direct energy intensity		1.26	1.02
Indirect energy intensity		0.10	0.11

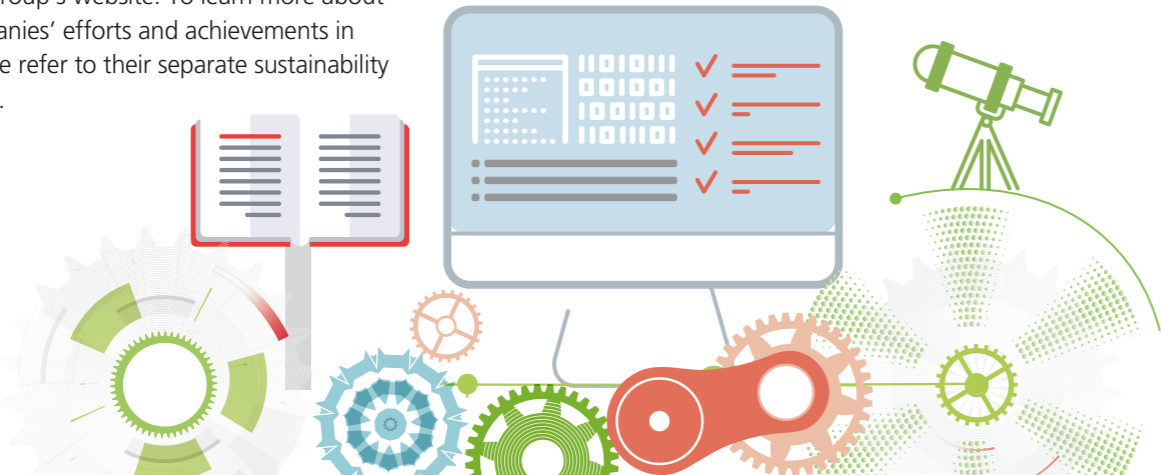
¹ Environmental KPIs in this data table are calculated using the equity method. We only include data in this report for 2020 that were confirmed by the end of March 2021. If significant data changes occur after preparation of this report, they will be updated in the following year’s publication.

² Greenhouse gas emissions (GHG) comprise carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride. The data are calculated using local / industry-specific methodology where applicable under regulation. Otherwise, Scope 1 emissions are calculated using the latest available emission factors in line with the Greenhouse Gas Protocol, IEA’s Energy Statistics Manual, US EPA’s Emission Factors for Greenhouse Gas Inventories and Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings in Hong Kong (2010 Edition). Scope 2 emissions include the emissions associated with electricity purchased and are calculated based on the IEA’s latest available emission factors.

³ Scope 2 emissions includes the emissions from purchased electricity of our businesses for its own use. It also includes the emissions from energy losses from distribution grid and the electricity system transmission grid (“network losses”) for our electricity distribution companies, including UKPN, SAPN, VPN, Wellington Electricity and United Energy. Network losses are calculated as the difference between the electricity entering the network, and electricity which is used by customers, for which the data are received from the industry taken from meter readings. Due to COVID-19, there was a greater level of estimation by the industry (due to lack of actual meter readings) in the calculation of network losses in 2020, and this led to a slight increase in the assumed network losses, purchased electricity and Scope 2 emissions. It is expected that the figures will be fine-tuned when the meter reading are updated.

⁴ The term is revised to better clarify the fuel used. “Gas (exclude town gas and natural gas)” was the term used previously.

⁵ Other fuels include Lignite, residual fuel oil, industrial waste and biomass (e.g. landfill gas, sludge gas, etc.).





Environmental KPIs	Unit	2019	2020
Air emissions			
NOx emissions	tonne	5,916	4,789
SOx emissions		1,217	656
RSP emissions		140	136
Use of water			
Water consumption	'000 m³	5,530	3,775
Water consumption intensity	m³ / HK\$'000 revenue	0.21	0.16
Waste production			
Total hazardous waste produced	tonne	8,460 ⁶	11,536 ⁷
Total non-hazardous waste produced		545,445	286,665 ⁸
Packaging material			
Total packaging material used for finished products	tonne	8.12	3.39
Paper		8.12	3.39

⁶ The 2019 data figures have been restated in line with re-categorisation of the hazardous waste across different operating companies. Moving forward, we expect that these numbers will continue to evolve as data sources improve.

⁷ Hazardous waste generation from AVR, the Netherlands' leading energy-from-waste company is the source of more than 93% of the overall hazardous waste generation. The Group's hazardous waste generation was increased by 36% year-on-year largely due to increase in the Group's ownership of Dutch Enviro Energy Holdings B.V. (which owns AVR).

⁸ The total amount of non-hazardous waste decreased by 47% compared with 2019. This is mainly due to the significant drop in the consumption of coal and limestone in 2020 as a result of the increase in gas generation to 50% of HK Electric's fuel mix, that led to a substantial reduction in the respective by-products, namely ash and gypsum produced from coal-fired generating units and associated Flue Gas Desulphurisation plants.

HKEX ESG Guide Content Index

Mandatory Disclosure Requirements		Page	Remarks
Governance Structure	A statement from the board containing the following elements:	14-19	
	(i) a disclosure of the board's oversight of ESG issues;		
	(ii) the board's ESG management approach and strategy, including the process used to evaluate, prioritise and manage material ESG-related issues (including risks to the issuer's businesses); and		
Reporting Principles – Materiality	(iii) how the board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the issuer's businesses.	18-19	
	(i) the process to identify and the criteria for the selection of material ESG factors;		
Reporting Principles – Quantitative	(ii) if a stakeholder engagement is conducted, a description of significant stakeholders identified, and the process and results of the issuer's stakeholder engagement.	61-62	
	Information on the standards, methodologies, assumptions and/or calculation tools used, and source of conversion factors used, for the reporting of emissions/energy consumption (where applicable)		
Reporting Principles – Consistency	The issuer should disclose in the ESG report any changes to the methods or KPIs used, or any other relevant factors affecting a meaningful comparison.	61-62	
Reporting Boundary	A narrative explaining the reporting boundaries of the ESG report and describing the process used to identify which entities or operations are included in the ESG report.	60	


Subject Areas, Aspects, General Disclosures and KPIs		Page	Remarks
A. Environmental			
Aspect A1: Emissions			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste	22-37	<ul style="list-style-type: none">• Environmental Policy• Supplier Code of Conduct
KPI A1.1	The types of emissions and respective emission data	28, 61-62	
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity	28, 61-62	
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity	62	
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity	62	
KPI A1.5	Description of emission target(s) set and steps taken to achieve them	29	
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them	35-37	
Aspect A2: Use of Resource			
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	22-37	<ul style="list-style-type: none">• Sustainability Policy• Environmental Policy• Supplier Code of Conduct
KPI A2.1	Direct and/or indirect energy consumption by type in total and intensity	29, 61	
KPI A2.2	Water consumption in total and intensity	35, 62	
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them	29	
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them	34	
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	62	

Subject Areas, Aspects, General Disclosures and KPIs		Page	Remarks
Aspect A3: The Environment and Natural Resources			
General Disclosure	Policies on minimising the issuer’s significant impact on the environment and natural resources	32	<ul style="list-style-type: none">• Environmental Policy• Supplier Code of Conduct
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the action taken to manage them	33-37	
Aspect A4: Climate Change			
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer	24-25	<ul style="list-style-type: none">• Environmental Policy
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them	24-29	
B. Social			
Employment and Labour Practices			
Aspect B1: Employment			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare	40-41, 44	<ul style="list-style-type: none">• Code of Conduct
KPI B1.1	Total workforce by gender, employment type, age group and geographical region	42	
KPI B1.2	Employee turnover rate by gender, age group and geographical region	42	
Aspect B2: Health and Safety			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards	45, 59	<ul style="list-style-type: none">• Health and Safety Policy
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	–	0 work-related fatality during the year; 1 for 2019; 0 for 2018
KPI B2.2	Lost days due to work injury	–	1,556 lost days due to work injury
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored	46-49	

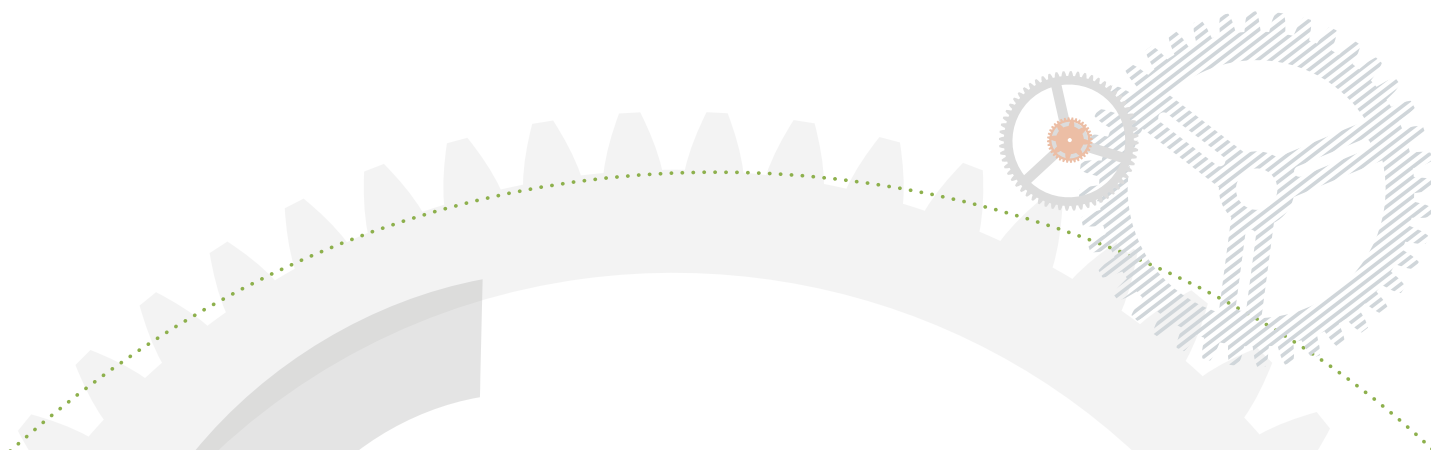


Subject Areas, Aspects, General Disclosures and KPIs		Page	Remarks
Aspect B3: Development and Training			
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	43	
KPI B3.1	The percentage of employees trained by gender and employee category	43	
KPI B3.2	The average training hours completed per employee by gender and employee category	43	
Aspect B4: Labour Standards			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour	–	<ul style="list-style-type: none">• Human Rights Policy• Modern Slavery and Human Trafficking Statement• Supplier Code of Conduct
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour	–	
KPI B4.2	Description of steps taken to eliminate such practices when discovered	–	
Operating Practices			
Aspect B5: Supply Chain Management			
General Disclosure	Policies on managing environmental and social risks of the supply chain	52	<ul style="list-style-type: none">• Human Rights Policy• Modern Slavery and Human Trafficking Statement• Supplier Code of Conduct
KPI B5.1	Number of suppliers by geographical region	53	
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	52-53	
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	52-53	
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored	52-53	

Subject Areas, Aspects, General Disclosures and KPIs		Page	Remarks
Aspect B6: Product Responsibility			
General Disclosure	Policies and compliance with relevant laws and regulations on health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress	47, 50, 59	<ul style="list-style-type: none">• Code of Conduct• Personal Data Privacy Policy
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons		This indicator is not considered material to the Group hence such data are not disclosed.
KPI B6.2	Number of products and service related complaints received and how they are dealt with	56	
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights		Our Code of Conduct outlines our commitment to intellectual property rights protection.
KPI B6.4	Description of quality assurance process and recall procedures	47	
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	50-51	<ul style="list-style-type: none">• Information Security Policy• Personal Data Privacy Policy
Aspect B7: Anti-corruption			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	20	<ul style="list-style-type: none">• Code of Conduct• Anti-Fraud and Anti-Bribery Policy <p>No recorded cases of non-compliance with laws and regulations relating to anti-corruption and bribery during the reporting period.</p>



Subject Areas, Aspects, General Disclosures and KPIs		Page	Remarks
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	–	No such cases recorded during the reporting period.
KPI B7.2	Description of preventive measures and whistleblowing procedures, how they are implemented and monitored	21	<ul style="list-style-type: none"> Procedures for Reporting Possible Improprieties in Matters of Financial Reporting or Internal Control
KPI B7.3	Description of anti-corruption training provided to directors and staff	20	
Community			
Aspect B8: Community Investment			
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests	54	<ul style="list-style-type: none"> Sustainability Policy
KPI B8.1	Focus areas of contribution	54-59	
KPI B8.2	Resources contributed to the focus area	11, 54-59	





Power Assets Holdings Ltd.
電能實業有限公司

