

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



SAPN's Stobie poles become art installations in a statewide community initiative.

This report provides an update of the environmental, social and governance (ESG) achievements and progress of Power Assets Holdings Limited ("Power Assets" or together with its subsidiaries, associates and joint ventures, the "Group") during the year ended 31 December 2017. It is prepared based on the ESG Reporting Guide under Appendix 27 of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited.

It 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 the United Kingdom, Hong Kong, Australia, New Zealand, mainland China, the Netherlands, Canada, Thailand, and Portugal. The report summarises the key initiatives of our businesses and showcases how we deliver value to our stakeholders. The examples and initiatives selected have been presented in four chapters: environment, employment and labour practices, operating practices, and community investment.

Our Approach to ESG

Our strong belief in responsible and sustainable growth is embedded in the way we run our operations. Providing reliable infrastructure services and impeccable customer experience top our ESG priorities. We aspire to strike a balance between managing key ESG risks and unlocking opportunities to create long-term value for our stakeholders and our business.

The Board oversees the overall direction of our ESG strategies and practices in this regard and we manage our ESG performance with transparency and accountability. We manage ESG challenges and opportunities at the Group as well as at the business levels in a way that best suits the nature, scale, and geography of the specific company concerned.

Stakeholder Engagement and Materiality Assessment

As a business with diverse operations, we interact daily with a wide range of stakeholders, including employees, customers, suppliers, investors, regulators, non-governmental organisations and the community. We engage our stakeholders in on-going dialogues through various channels such as meetings, workshops, seminars, interviews and surveys. Listening to our stakeholders helps us identify their most pressing concerns, as well as their expectations on how we should address them. We have prioritised the material ESG issues based on inputs from our stakeholders in this report.

Environment



We place great importance on our responsibility to the environment. Each of the Group's operating businesses strives to lower its environmental footprint continuously, through emissions reduction initiatives and the efficient use of resources.

Emissions

We have a range of rigorous measures in place to minimise emissions as well as waste discharge.

Air and Greenhouse Gas (GHG) Emissions

Power generation is considered one of the key contributors to air and GHG emissions. Emissions control measures undertaken by HK Electric include the use of Selective Catalyst Reduction systems for two new gas-fired generating units under construction. By the time the second unit is commissioned in 2022, the emissions of sulphur dioxide, nitrogen oxide and respirable suspended particulates will be reduced by 75%-90% as compared to the levels in 2005.

Northern Gas Networks (NGN) has a target to reduce its business carbon footprint by 0.5% year-on-year. Programmes such as depot refurbishment and vehicle replacement are being implemented. Over the five year period of 2013 to 2017, carbon emissions associated with NGN's gas and electricity usage have been reduced by 8% and 6% respectively, while business mileage of fleet vehicles has been reduced by 18%, exceeding the set targets.

As part of an eight-year business plan ending 31 March 2021, Wales & West Utilities (WWU) continues to replace old metallic gas pipes and is making improvements in the management of gas pressure in the gas distribution network to reduce gas leakage and the associated emissions. Approximately 440 km of old metallic gas pipes are being replaced per annum. Fleet vehicles are also within the scope of the replacement programme; as of today, 95% of vehicles are Euro V or VI compliant.

UK Power Networks (UKPN) uses low-emission vehicles in its fleet to create a positive environmental impact. It has been replacing fleet vehicles since 2014. Currently, the average carbon factor of vehicles owned by UKPN is 36.7%, which is below average.

In addition to lowering emissions at source, our businesses also promote the use of renewable energy. Victoria Power Networks, an electricity distributor, has installed solar panels and rooftop solar generation units at most of its depots to reduce the use of fossil fuel and associated GHG emissions.



Solar panels installed on the roofs of Powercor's depots have cut carbon footprint and emissions.

Developing clean energy businesses is another way to contribute to environmental protection. The Group's renewable energy operations include the Iberwind wind



NGN's emissions reduction initiatives include fleet replacement.

energy business in Portugal, wind farms at Dali (Yunnan province) and Laoting (Hebei province) in mainland China, and wind and solar power facilities in Hong Kong.

Waste

We are extremely careful about managing waste generated from our operations, including the by-products of energy generation. Our collective efforts to reduce waste involve our employees, contractors, suppliers, regulators and other third parties. We advocate waste reduction from source and encourage the reuse and recycling of waste for other projects.

For example, NGN and WWU, both gas distribution networks, typically generate excavation spoil when conducting their operational activities. Both companies have set a target on limiting the amount of spoil being transported to landfill. Each year, NGN generates approximately 180,000 tonnes of excavation spoil while its annual target for spoil sent to landfill is no more than 13,000 tonnes. In the period 2015 to 2017, excavation spoil disposal to landfill by NGN and its supply chain reduced by 64% to 6,232 tonnes. However, WWU's target is more aggressive, as it aims to minimise waste to landfill through the use of alternative waste treatment methods.

HK Electric on the other hand, collects the gypsum and ash generated during power generation and reuses it for industrial purposes.

The Group handles wastewater with care, and actively seeks ways to reduce water consumption and minimise the impact on the surrounding land and environment.

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AVR-Afvalverwerking B.V. (AVR) in the Netherlands reduces the level of antimony, a toxic heavy metal, in its process water, by applying enhanced antimony recovery measures.

Seabank Power Limited increases the concentration factor of its cooling water to reduce the purging of water and the use of makeup water. This has lowered the need for chemical treatment to the cooling water which in turn helps reduce wastewater generation.

Meridian Power station has adopted the closed-loop system at its Husky Upgrader project where no wastewater is discharged into the environment.

Use of Resources

Energy

The Group endeavours to reduce its resource consumption by striving for optimal resource use across its operations.

A wide range of energy efficiency programmes have been launched by businesses to this end. In WWU, approximately 80% of depots, offices and stores have been installed with LED lighting and active sensors. Electricity consumption for both operations and office use was reduced by 42% since March 2013. All operational pressure reduction stations at WWU have been refurbished, reducing energy usage by 60%.

Some of our offices are designed and constructed in line with sustainability standards. For example, HK Electric's new IT Service Operations Centre has obtained the LEED Platinum rating of the U.S. Green Building Council in April 2017.



HK Electric launches two new data centres equipped with robust, secure and energy efficient systems.



Iberwind's São Macário and Bornes wind farms implement wildlife monitoring to minimise impact on the local fauna.

Water

Water is one of the key resources used in the power generation process. Our water saving measures focus on reuse and recycling. At the Lamma Power Station, HK Electric collects and reuses rainwater and plant processing water which would have otherwise been discharged directly into the environment. This initiative saved about 112,000 m³ of water in 2017.

Environment and Natural Resources

The Group is mindful about the impact of its actions on bio-diversity and local ecosystems. A range of environmental initiatives are carried out at its sites to protect the same.

For example, Iberwind works with an experienced environmental team that specialises in areas like landscape engineering, archaeology and biology. Different programmes and initiatives are implemented to avoid, minimise and compensate for the impact on local ecosystems resulting from wind farm construction and operations. Wetland management at Lagoa Funda wind farm and bird-of-prey impact mitigation are two of the most interesting measures adopted. Others include wildlife monitoring at wind farms like São Macário and Bornes.

Regulatory 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.

Employment and Labour Practices



Our philosophy is that a happy and motivated workforce is the driving factor for sustained success. We give top priority to employee management. Not only are we dedicated to cultivating a healthy and safe working culture, we are also invested in securing and nurturing talent through training and development programmes that help our employees achieve their potential.

Employment

Much of the Group's success is attributable to its highly qualified and dedicated team. Our businesses have been working actively to attract the best people and motivate them with a rewarding career, equipping them with the necessary skills and knowledge.

AVR, our energy-from-waste business owned by Dutch Enviro Energy Holdings B.V., encourages its people to develop their career with the company by supporting internal recruitment. New opportunities are first advertised to existing staff.

Our businesses recognise employees' contributions fairly and objectively by implementing equitable remuneration policies. To incentivise staff, our remuneration mechanisms are reviewed and re-adjusted regularly to remain competitive vis-a-vis the market.

The Iberwind wind energy business in Portugal engaged an independent third party to compare Iberwind's remuneration packages against prevailing market rates and the result confirmed that Iberwind is competitive.

WWU introduced a flexible benefits scheme in November 2015 that allows employees to choose alternative benefits alongside the standard benefits package.

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 work arrangements. AVR allows employees to work part-time in shifts. A series of "Be Fit" workshops and lifestyle programmes on topics like exercise, eating and stress management was hosted under the Sustainable Employability Programme to encourage healthier living.

We believe in the vast benefits and positivity that diversity brings to our corporate culture. A Diversity Committee comprising representatives from different business units has been established in United Energy to raise awareness on diversity among the workforce.

We strictly 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.

Employees have numerous channels to express their concerns and communicate with the management. We regularly conduct surveys and hold seminars, workshops and forums to collect views from our people with the aim of improving our operational practices. These events also help accumulate innovative ideas that can stimulate business growth.



Smiles from the 2017 cohort of apprentices and graduates at WWU.

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UKPN has increased its employee engagement level through its “Everybody Matters” framework developed by its Human Resources department. Monthly polling and an annual survey were carried out to assess the success of the programme.



UKPN's apprenticeship scheme provides on-the-job training like smart meter installation.

Development and Training

We invest heavily in training to keep our people abreast of the latest developments in the industry and to, help enhance their knowledge and performance. Our training programmes are developed by the respective business units so as to be most relevant to their specific needs. Energy Developments Pty Ltd has created a training portal which can be accessed by all employees at their convenience, enabling consistent and efficient delivery of a range of training and development modules.

Subsidies are provided for eligible external training courses to encourage all employees to further refine their skills and abilities, to help us achieve our goal of delivering excellent customer service. HK Electric has been sponsoring employees to pursue Bachelor Degrees since 2011 and in 2017 the scholarship was extended to the Master of Business Administration Degree as well.

Health and Safety

The Group believes that the safety of its employees is paramount. Many of our businesses have their safety management systems certified in accordance with local and international standards. Furthermore, effective

occupational hazard controls have been implemented to safeguard our employees.

Wellington Electricity Lines engaged a nurse on a monthly basis, to review employees' health and perform work site assessments, with a mechanism to support occupational health and safety.

One of our priorities in promoting health and safety in the workplace is to encourage our employees to take ownership of improving safety awareness and practices.

HK Electric has initiated the Safety Summit for sharing good practices and promoting a culture of safety. Our nine major business partners were also invited to share their views on health and safety promotion, and related challenges. UKPN and AVR's efforts included raising awareness about safety hazards and safety lessons learned. This extended to external parties also, through Safety Days organised for schools and contractors.

Labour Standards

Stringent measures are taken to ensure adherence to international and local labour standards. Internal controls have been implemented to detect any use of child or forced labour in our operations along with procedures to respond to any unethical practices that may arise.

Regulatory 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 employment and labour practices; and occupational health and safety. Nor did we identify any incidents relating to the use of child or forced labour.



Safety days like this one at AVR are used to enhance health and safety awareness across the company.

Operating Practices



The Group understands it is imperative to manage our relationships with our suppliers and customers in a responsible and sustainable manner. We are dedicated to delivering consistent and quality services to our customers and collaborating with our suppliers to create win-win outcomes. We actively seek customer feedback and adopt their suggestions wherever applicable, in order to upgrade our services and improve customer satisfaction.

Supply Chain Management

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

Regular monitoring, audits and evaluations are carried out to assess the performance of our suppliers. In addition, we work closely with our suppliers to ensure that our requirements and shared goals are understood. Through these regular conversations, we are able to maintain a mutually beneficial relationship.

Product Responsibility

We take pride in providing reliable services. Throughout our businesses, we utilise complex monitoring systems that can detect potential disturbances in near-real time, allowing us to prepare in advance and take precautionary measures. Our systems also allow us to pinpoint disruptions in our processes, where we can take swift, precise actions to resolve the problem and restore services to our customers. These controls help us maintain high service quality and reliability. For instance, HK Electric has maintained a world-class supply reliability of over 99.999% since 1997.

Customer Satisfaction

Regular communication with customers is essential to delivering a high level of customer satisfaction. We frequently interact with our customers through various means including telephone, SMS alerts and other modern technology platforms.

Additionally, our businesses conduct regular surveys to assess customer satisfaction with respect to different aspects of our services. Prompt follow up is ensured to address relevant issues.

Over 80% of queries received by WWU are resolved within one working day. Any queries not resolved within one working day are reviewed by the executive team.



WWU prioritises customer communications and aims to resolve all queries within one day.

Customer Data Privacy

We believe that protecting customer data is critical to building a trusting relationship between our companies and our customers. Data privacy policies implemented at the business level guide how we collect and use personal information. Access to customer data is restricted to authorised personnel strictly on a need-to-know, need-to-use basis. Systems and controls are in place and updated as required to assist in the prevention and detection of customer data loss. We emphasise the importance of protecting customer data privacy to all our employees through internal communication and training.

Anti-corruption

The Group has high expectations of its staff's integrity and honesty. Our management has zero-tolerance for corruption and fraud. Anti-bribery and anti-corruption standards have been incorporated in our policies and operating practices and these are communicated to our employees as well as external stakeholders. Power Assets has established a whistle-blowing mechanism to allow stakeholders to report suspected activities in a confidential manner. Reported cases are subject to independent investigations and proper follow up is ensured. Cases are reported by the Internal Audit Department to the Audit Committee and senior management.

Regulatory Compliance

We were not aware of any incidents of non-compliance with laws and regulations that have a significant impact on the Group concerning health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress during the year; nor were we aware of any breach of laws and regulations that have a significant impact on the Group relating to bribery, extortion, fraud and money laundering.



HK Electric's volunteers reach out to senior citizens through home visits and talks under the CAREnJOY programme.

Community Investment



Our philosophy is that running a successful business is about achieving economic viability and fulfilling social responsibility. Our businesses have made significant contributions to the socio-economic health of their communities by providing aid and education to the disadvantaged and taking on major roles in promoting environmental conservation and healthy living.

Supporting the Disadvantaged

As a business that provides essential support to many communities, we believe that businesses should play their part in tackling societal challenges. In line with the United Nations Sustainable Development Goals, our community efforts assist those in need.

To support the rapidly ageing population in Hong Kong, HK Electric continues to run the "CAREnJOY" programme to show care and concern to elderly singles. Under this programme, company volunteers team up with elderly ambassadors to visit old people living on their own and help them buy bulky necessities. In 2017, the programme was expanded to include community gatherings and electricity safety talks and it reached out to about 2,000 elderly.

Education and Lifelong Learning

The Group believes that education is the foundation of a knowledge-based, inclusive society. Our businesses collaborate with various organisations to promote lifelong learning.

Ratchaburi Power Company (RPCL) has supported a number of students through its scholarship programme. In 2017, a total of 1,100 scholarships were granted.

HK Electric continued to operate the U3A Network in Hong Kong, providing learning opportunities for active retirees. Over the last 11 years, the Network has conducted more than 780 courses for 14,000 participants.

Greener Living

We leverage our business strengths for community projects. One of our goals is to mobilise and collaborate with the local communities to explore ways of providing cleaner energy and enabling greener living.

Since 2003, the HK Electric Smart Power Campaign has been promoting energy saving and a low-carbon lifestyle, involving tens of thousands of people every year. In February 2017, the three outstanding "Happy Green Community Ambassadors" of 2016 worked as shadow Environmental Engineers with HK Electric and its Managing Director shared his success story. More than 50 secondary school students joined as Ambassadors in 2017 to receive training and acted as guides at roving exhibitions. The "Green Energy Dreams Come True" programme funded 12 projects by secondary school students to transform their green ideas into reality.

Dampier Bunbury Pipeline and DBP Development Group have entered a two-year partnership with Landcare Australia, a non-profit organisation leading both the

promotion and provision of financial support to the national resource management programme in Australia. Projects that help improve bio-diversity and productivity on land adjacent to our facilities will be funded.

Health and Well-being

A community's health is key to its prosperity. Sporting events have extraordinary socio-economic and health values that can bring communities together. RPCL has continued its Mobile Clinic programme, providing free eye clinic services to the local community in Ratchaburi, Thailand. Over 1,300 villagers have benefited in 2017. HK Electric also arranged for free flu vaccinations to be given to its staff.



UKPN staff get involved in initiatives such as this charity bike ride to support the local community.

Environmental KPIs

	2017
NO _x emissions (tonne)	6,816
SO _x emissions (tonne)	1,292
Particulate matter emissions (tonne)	181
Total GHG emissions (tonne CO ₂ e)	12,195,081
Greenhouse gas emissions (Scope 1) (tonne CO ₂ e)	10,642,009
Greenhouse gas emissions (Scope 2) (tonne CO ₂ e)	1,553,072
Total hazardous waste produced (tonne)	66,649
Total non-hazardous waste produced (tonne)	648,508
Total energy consumption ('000 kWh)	39,500,509
Total energy consumption intensity (kWh/revenue in HK\$)	1.49
Total direct energy consumption ('000 kWh)	36,505,422
Total direct energy consumption intensity (kWh/revenue in HK\$)	1.38
Gasoline/Petrol ('000 kWh)	66,100
Diesel ('000 kWh)	265,295
Gas (exclude town gas and natural gas) ('000 kWh)	68
Natural gas ('000 kWh)	12,673,558
Other fuel ('000 kWh)	23,500,401
Total indirect energy consumption ('000 kWh)	2,995,087
Total indirect energy consumption intensity (kWh/revenue in HK\$)	0.11
Electricity ('000 kWh)	2,995,087
Water consumption ('000 m ³)	7,430
Water consumption intensity (m ³ /revenue in '000 HK\$)	0.28
Total paper used for finished products (tonne)	8.48

Note: We have included the Group's share of the environmental KPIs for the year ended 31 December 2017 in this report.