



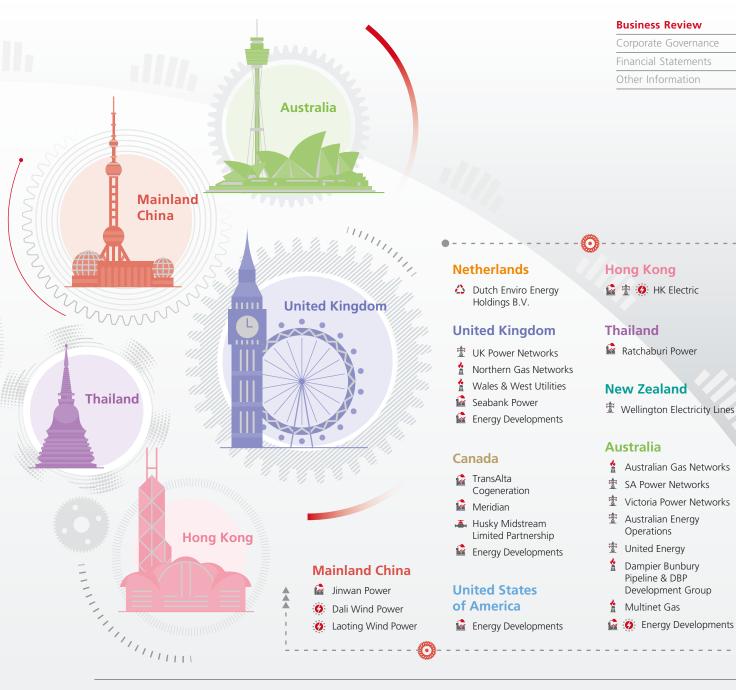
Welcome to the 2020 operating report of the Power Assets Group.

We are a global investor in a carefully selected portfolio of energy companies principally in the areas of electricity generation, transmission and distribution, gas transmission and distribution, as well as oil storage and transmission. We serve more than 19 million customers across nine markets, have an aggregate power generation capacity of approximately 10,000 MW predominantly from coal, gas, renewables, waste and oil, and operate approximately 514,700 km of electricity, gas and oil networks.

Our philosophy is to invest in a diversified portfolio of well-established companies with proven business models and revenues assured by offtake contracts in stable, well-regulated energy markets. Since our businesses are essential utilities with mostly regulated outputs, our income is insulated to a large extent from geographical, commodity and economic risks, enabling us to deliver long-term value to investors.

This business model stood us in good stead in 2020, allowing us to provide safe, predictable and clean energy to our customers despite the impact of the COVID-19 pandemic. We actively responded to the challenges of the year using robust business continuity strategies, the latest technologies, and innovation, combined with a can-do mindset. We had three key areas of focus.

Firstly, our operating companies rose to the challenge of ensuring energy service resilience and supporting customers at a time when it was more critical than ever, maintaining leadership positions in reliability and customer satisfaction across the board. We went above and beyond to support residential and business



customers in difficult circumstances. While doing all this, we continued to maintain the highest standards for engineering work, to ensure the safety of our people and partners. We adhered to all relevant Government information and health and safety guidelines, actively managed projects to maintain workforce readiness and minimised impacts on project schedules.

Secondly, as an electricity provider and gas distributor to consumers on four continents, our environmental commitment extended beyond compliance. Apart from the major projects underway across all our companies to cut emissions from generation and household heating, we supported initiatives to help the community reduce carbon emissions. In the Netherlands, we pioneered carbon dioxide re-use in greenhouse cultivation, and provided charging infrastructure for electric vehicles in Hong Kong, the UK, Australia and New Zealand. We offered a robust

array of options to help customers save energy and reduce their carbon footprint, including consultancy for energy efficiency and solar installations.

Thirdly, regulatory resets were another important priority during the year, affecting our operating companies in the UK, Australia and New Zealand. With regulated incomes often based on capital investment and current costs of capital, our companies engaged with regulators to secure favourable outcomes, which will determine their returns over the rest of the regulatory period.



The UK has been a key market for the Group since 2005 and remains our largest geography of operation, where we have four companies across the electricity generation and distribution, and gas distribution sectors. Combined, they have a domestic, commercial and industrial customer base of over 13 million, generation capacity of 1,144 MW, electricity network length of 189,400 km and gas pipeline length of 71,100 km.

Despite the challenges presented by the COVID-19 pandemic, a dual focus on operating efficiencies and supporting customers allowed our electricity and gas distribution companies to deliver stable performance in 2020 in line with regulatory targets. The uncertainty leading up to Britain's exit from the European Union (EU) in January 2021 had no visible impact on operating results, as output is mostly regulated with tariffs pegged to the retail price index, or offtake contracts.

From 1 April 2021, all UK gas distribution network operators will commence a new price control period, while electricity network operators will undergo a reset in 2023.



WWU continues to expand its biomethane network and capacity infrastructure to contribute to UK's decarbonisation efforts.

Prevailing low-interest rate environment has combined with other factors to create challenges on resets.

There is a strong focus on sustainability and achieving carbon-neutrality in all aspects of life in the UK, driven by stated government commitments. Our operating companies are in full alignment with these goals and pursued them with ongoing exploration of innovation underpinned by technology to cut greenhouse gas emissions.

#### UK Power Networks



UK Power Networks Power Assets Interest: 40%

> Joined Since: October 2010

Network Length: 189,400 km

No. of Customers: 8,400,000

UK Power Networks (UKPN) owns, operates and manages three of the 14 regulated distribution network operators (DNOs) in the UK. UKPN's licensed distribution networks are in London, the East and the South East of England.

In 2020, UKPN distributed 72,063 GWh (2019: 77,155 GWh) to approximately 8.4 million customers. The company maintained its position as both the safest and most reliable network operator throughout the first five years of the current regulatory period, and achieved the best customer service and stakeholder engagement scores in the UK in 2020. Thanks to the focus on operating efficiencies, customers enjoyed below average use-ofsystem charges which form a part of their electricity bills in the UK. UKPN progressed with its planned programme of investment in 2020 to maintain operational standards.

Other Information



UKPN makes progress on major infrastructure upgrades in London, as part of the ED1SON Alliance, while safeguarding employees.

During the year, the company continued to transform the network to support the community's aspirations to become carbon-neutral, such as enhancing network and charging infrastructure to support the increased use of electric vehicles (EVs), and enhancing its day-to-day operational sustainability with the goal of reducing its carbon footprint by 26% from the start of the current regulatory period. UKPN is also the first DNO to achieve the Carbon Trust Standard for carbon emission, the world's leading independent certification in this area,

awarded to organisations that achieve year-on-year reductions in greenhouse gas emissions.

There has been a steady increase in the number of renewable systems that are capable of drawing power from or discharging energy back into the electricity grid. To support this trend, UKPN invested in systems and technology to allow it to transform from a distribution network operator to a distribution system operator. This approach will enable UKPN to balance power supply and demand in response to what is happening on the network, improving network flexibility and helping customers save money.

In 2020, UKPN awarded its biggest ever flexibility tender, awarding contracts for 123 MW of flexible power. The tender was the largest in the UK, with 55 high-voltage zones and 60 low-voltage zones serving 10% of UKPN's customers – almost two million homes and businesses.

The year also saw UKPN implement several notable projects within the ED1SON Alliance to augment network capacity by 1,200 MW. The first stage of an extensive network upgrade project in North London, involving decommissioning of older electricity cabling and installing state-of-the-art equipment for the future, was completed safely, on time and on budget.

#### **Keeping the Lights On during Lockdown**

The COVID-19 pandemic significantly affected normal life and the performance of businesses across all sectors in 2020. The organisational resilience work that UKPN had carried out in previous years provided a strong foundation on which to organise an appropriate response.

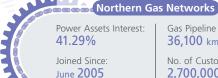
The company was able to rapidly deploy appropriate measures such as providing personal protective equipment to all field staff and monitoring employees directly or indirectly affected by the virus. At an operational level, UKPN also supplied toolkits to ensure managers were equipped with information and resources to support their teams, distributed daily video communications from senior management and enabled 98% of office staff to work from home.



The overall response and business continuity plans ensured UKPN was able to prioritise the effort of 'keeping the lights on' for all customers while maintaining the safety of the network. The company was also able to complete new connections for infrastructure required to help the country battle the pandemic, such as the custom-built temporary Nightingale Hospital in London.

### Northern Gas Networks





Gas Pipeline Length: 36,100 km No. of Customers: 2,700,000

Northern Gas Networks (NGN) is one of the eight gas distribution networks in the UK and transports approximately 13% of the UK's gas. It also conducts maintenance of gas mains and provides essential gas connections, as well as emergency services related to gas supply.

NGN's total gas throughput for 2020 was 66,975 GWh (2019: 69,343 GWh) and remained strong in customer satisfaction based on regulator surveys. NGN met, and in many cases exceeded, all mandatory operational targets of health and safety.

In 2020, NGN invested £134 million in capital expenditure projects for network improvement, replacing over 410 km of old iron mains to ensure ongoing network performance.

IT infrastructure was also enhanced to deliver future efficiencies, with progress being made on NGN's S4Hana enterprise resource planning system with built-in intelligent technologies, including artificial intelligence, machine learning and advanced analytics.

NGN's customer service ratings remain high thanks to ongoing customer and community engagement.

One of NGN's long-term decarbonisation projects in 2020 was the work carried out in partnership with the government to develop the hydrogen economy so household heating in the UK can use green hydrogen instead of fossil fuels. Under the project, dubbed the H21 programme, NGN continued to collect data necessary to encourage future development of a hydrogen gas grid, providing inputs to support government policy on this matter.

In November 2020, the UK Prime Minister announced a new Ten Point Plan to enable the UK to reach net zero emissions by 2050. Hydrogen forms one of the key pillars of the plan and the government aims to generate 5 GW of low carbon hydrogen for industries, transport, power and homes by 2030. Working towards this goal, at the end of 2020 NGN commenced projects at Low Thornley which is for testing the use of hydrogen for appliances in homes and the blending of 20% hydrogen within network gas.

#### Wales & West Utilities



Wales & West Utilities Power Assets Interest: Gas Pipeline Length: 35.000 km 36% Joined Since: No. of Customers: October 2012 2,500,000

Wales & West Utilities (WWU) is a regulated gas distribution network operator in the UK, covering the areas of Wales and South West England.

WWU's total gas throughput for 2020 was 58,200 GWh (2019: 61,800 GWh). Not only has the company met its regulatory targets for all key operating parameters, it has also maintained an excellent customer satisfaction score of 9.19 out of 10 for the regulatory period to 31 March 2020.

Biomethane and green gas solutions continue to be central in WWU's mission to support the government's aspiration to meet climate change targets and to deliver a low-carbon gas network.

WWU has systematically been decarbonising the gas network by reducing reliance on natural gas and connecting more biomethane to the network. Currently, WWU has a biomethane capacity of 1.75 TWh - enough to heat around 150,000 domestic properties over a year.



WWU's infrastructural investments include the development of biomethane fuel hubs to support greener public transport.

Five more sites will soon be connected to the network, offering an additional 0.37 TWh annual capacity – enough to heat a further 31,000 homes.

The company has always been supporting greener transport networks by developing refuelling hubs for compressed natural gas and liquefied natural gas vehicles. WWU has also received a number of inquiries for network connections from gas refuelling sites of private, as well as public fleets in strategic locations.

## Seabank Power



Seabank Power (SPL) is the Group's UK generation business, operating two combined-cycle gas turbine units. SPL's output is governed by a Power Purchase Agreement based on plant availability, which provides an assured revenue stream insulated from demand variability.

SPL achieved availability of over 98% in 2020. Total power generated, based on a running regime agreed with the customer, was 2,536 GWh. Generating hours in 2020 were lower than budget but with higher starts.

Operationally, SPL has exceeded expectations, with overall station availability, forced outage, efficiency, starting performance, all better than target and with no plant trips. A major maintenance project planned for 2020 has been moved to 2021 as a result of the COVID-19 pandemic.

#### **Future-Proof, Low-Carbon Investments**

WWU progressed several research projects in 2020 to support green energy models and the UK government's clean energy efforts through evaluation models, hybrid technology and integrated sustainable systems.

Key projects include the further development of the Pathfinder 2050 model, which allows users to view the impact of the integration of gas and electricity networks at a local level. The insights from this project will enable local governments and industry players to determine the most appropriate energy strategies for



their communities. Meanwhile, the HyCompact project enabled WWU to demonstrate the cost and performance efficiencies of installing a single-unit hybrid heating system.

At a local level, WWU continued investing in the Milford Haven Energy Kingdom project. The project aims to accelerate the transition to an integrated hydrogen and renewable energy system by demonstrating hydrogen-ready benefits and technologies such as fuel cell Rasa cars.



#### The Hongkong **Electric Company**









HK Electric is the Group's flagship company which generates and supplies electricity to 583,000 customers on Hong Kong Island and Lamma Island. It is one of the world's most reliable electricity suppliers.

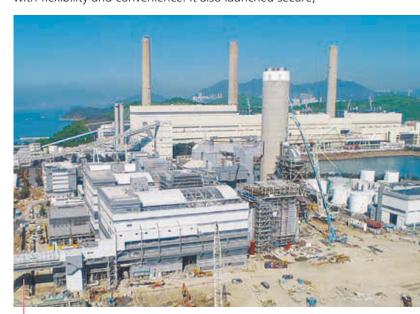
In 2020, HK Electric recorded electricity sales of 10,134 GWh (2019: 10,519 GWh). Despite the impact of COVID-19, HK Electric achieved an impeccable record of over 99.9999% supply reliability, with customers experiencing power interruption of less than 30 seconds during the whole year. All its 18 pledged service standards were met or surpassed in 2020 and 1,994 customer commendations were received during the year.

As part of the 2019-2023 Development Plan, capital works to increase gas-fired generation progressed during the year. The most significant milestone under the plan was the commissioning of a new gas-fired combined-cycle generating unit in February 2020, which increased the proportion of gas-fired electricity from about 30% to approximately 50%. Other elements of the plan include an offshore liquefied natural gas terminal which will be completed in 2022, alongside two more gas-fired generating units, which are scheduled for commissioning in 2022 and 2023 respectively. When concluded, this programme of capital works will bring the proportion of gas-fired generation up to approximately

70%, in line with the Hong Kong Government's climate and environmental targets.

To support residential and commercial customers affected by COVID-19, the company launched a series of measures including bill payment deferral, tariff increase waivers, and various subsidies which aimed to help small catering establishments stay afloat. Under the 'Smart Power Services' umbrella, HK Electric also offered a range of schemes to enable residential and commercial customers to improve energy efficiency.

HK Electric continued to offer diversified payment channels. The company entered into a tie-up with a major retailer, Watsons, to enable bill settlement in cash at approximately 200 outlets, providing customers with flexibility and convenience. It also launched secure,



HK Electric's Lamma Power Station progresses well with its development programme. Two more gas-fired units are being built following the commissioning of L10 in 2020.

easy-to-use online payments via AlipayHK and the Faster Payment System through the Account-On-Line Service to support customers seeking to minimise physical contact and support mobile-first lifestyles.

For customers seeking to cut their own environmental impact and set up solar installations, HK Electric offered technical support and favourable tariffs under the Feed-in Tariff Scheme. In 2020, 72 new renewable energy installations amounting to about 1.3 MW in total capacity were connected to the grid, including schools, commercial and residential buildings. Its Renewable Energy Certificates enabled customers to support local green energy generation. Certificates covering all the green electricity (amounting to about 3.5 GWh) generated from the renewable energy installations of the company and its customers in 2020 were fully subscribed to.

Another strategic focus for HK Electric is the full-scale deployment of smart meters across its entire customer



HK Electric's decarbonisation efforts include the rollout of smart meters to help customers optimise their energy usage.

base by the end of 2025 to provide customers with more consumption details and facilitate the smart use of energy. In 2020, technical infrastructure was successfully rolled out and the company achieved its deployment target of 40,000 meters for the year.

#### **Supporting Further Electrification of Transport**

HK Electric launched "Smart Power EV Charging Solution", a one-stop free service to assist customers seeking to install EV charging facilities in their parking areas. The launch is in support of the Government's HK\$2 billion EV-charging at Home Subsidy Scheme (EHSS) to encourage more EV adoption in the city. Under the new service, HK Electric will provide site inspections, technical data and guidance to help facilities management teams of residential buildings understand how they could install EV charging facilities in their parking areas. By the end of 2020, more than 200 inspections had been conducted and technical assistance was provided to applicants for the EHSS.



To support wider adoption of electric public transport, HK Electric provided technical support to erect charging facilities at key bus stations for Citybus and First Bus and assisted the Government in studying the feasibility of erecting charging facilities for electric ferries and electric public light buses.

HK Electric is increasing the use of greener transportation in its own operations. EVs now represent over 50% of the company fleet compared to 47% in 2019.



Australia is one of the Group's largest markets of operation with a diverse portfolio spanning renewables, energy-from-waste, as well as electricity, gas transmission and distribution.

The market has seen further uptake of renewables generation, primarily solar, in recent years. Our electricity distribution businesses are adapting their networks through investment in innovation, systems, and network enhancements to create the agility required to support energy storage, back-up power supply and two-way energy flows. By doing this, our businesses are evolving from conventional distribution network operators to agile distribution system operators.



MG implements extensive network maintenance works to ensure reliability.

In light of upcoming regulatory resets and the challenges they present, another focal point of activity in Australia was to engage closely with regulators and all stakeholders to achieve optimised outcomes.

#### SA Power Networks



Power Assets Interest: Networks 27.93% 89,400

Joined Since:
January 2000

Network Length: 89,400 km No. of Customers: 896,000

SA Power Networks (SAPN) is the sole electricity distributor in the state of South Australia, serving residential and business customers. It also builds electricity networks for strategic private organisations.

In 2020, SAPN distributed 9,727 GWh (2019: 10,075 GWh) of electricity. The company exceeded its customer service and reliability targets, achieving a System Average Interruption Duration Index of 122 minutes lost, against a target of 168 minutes for the 2019/20 regulatory year. The Service Target Performance Incentive Scheme achieved a positive outcome with a favourable result for 2019/20, the fifth year of this five-year regulatory period. This strong performance enabled SAPN to secure the maximum possible incentive payment from the regulator. The impact of COVID-19 was well managed, with minimal disruption to major projects and maintenance areas of the business.

2020 marked a regulatory reset and the culmination of extensive stakeholder engagement for the company. In June 2020, the Australian Energy Regulator (AER) published its final decision for SAPN for the period 2020-25, and the company achieved positive outcomes in respect of total capital expenditure.

The company launched a new application (app), Power at My Place, which proved successful with customers: more than 670,000 subscribed, accessing information about planned and unplanned interruptions. The app enhances SAPN's ability to proactively communicate with customers about important news and updates.

A record number of new connection applications for distributed energy resources, including solar panels and batteries, was received during 2020. Approximately a third of all SAPN customers now have solar installations at their premises, equivalent to a total installed capacity on the grid of 1,500 MW.



SAPN technicians carry out work on overhead power lines to maintain safety standards.

#### **Enerven Delivering Cleaner Energy to South Australia**

South Australia today has more than 280,000 renewable systems installed across the state, representing 1.5 GW of capacity. SAPN's subsidiary Enerven is actively involved in supporting the development of this clean energy sector.



One notable project is currently being implemented with SA Water, a water supplier to more than 1.7 million people in South Australia. The goal of this high-profile project, dubbed the 'Zero Cost Energy Future' project, is to enable SA Water to completely offset their total electricity cost with renewable energy fed into the grid. Enerven is on track to deliver and install approximately 242 GWh of roof and ground solar generation, and 33 MWh of battery storage at a number of SA Water sites across metropolitan and regional South Australia. The project is forecast to be completed in September 2021.



#### Victoria Power Networks (\*)

#### Victoria Power Networks

Power Assets Interest: 27.93%

CitiPower Joined Since: July 2002 Network Length: 7,700 km

Powercor Joined Since: September 2000 Network Length: 89,900 km No. of Customers: **332,000** No. of Customers: **844,000** 

Victoria Power Networks (VPN) comprises the **CitiPower and Powercor electricity distribution** businesses, which distribute energy in the state of Victoria and also serve the metropolitan area of Melbourne. VPN supports around 50% of Victoria's overall GDP, spanning commercial and industrial entities, small businesses and major sporting facilities like the Melbourne Cricket Ground.



VPN engineers work on an extensive 7-year network upgrade project in Melbourne's Central Business District.

VPN's electricity throughput for 2020 was 15,836 GWh (2019: 16,688 GWh) and the company experienced customer growth with 26,520 new connections. Operational efficiency and all performance metrics met regulatory and budget targets. Powercor and CitiPower were ranked first and second respectively for operating expenditure productivity in 2018 and 2019 among all electricity distributors by the AER.

The regulatory reset for VPN will conclude and come into force from 1 July 2021. The company continued to engage with regulators and stakeholders to achieve optimised outcomes.

Several key projects were completed to enhance operational efficiency. New Powercor depots at Kyneton and Shepparton came on stream in July 2020, improving support for regional communities. The redevelopment of the Waratah Place zone substation within Melbourne was also completed ensuring the city can withstand outages with minimal impact to customers.

During 2020, CitiPower commenced a large-scale pit inspection programme in the Central Business District (CBD) of Melbourne. Specialist teams of underground lineworkers will inspect approximately 500 pits over the next seven years using 3D LiDAR and thermographic scans. Any issues identified will then be scheduled for maintenance works. Lower pedestrian and road traffic in the CBD as a result of COVID-19 restrictions has enabled the project to progress faster than anticipated.

Beon Energy Solutions, a VPN undertaking, completed the nine-month construction of the 120-MW Bomen Solar Farm and associated collection station, located near Wagga Wagga, New South Wales. The site is now generating at full capacity and fulfilling all operational and reliability parameters. Beon secured a contract with Melbourne Airport to develop a 12.4-MW solar farm and 1.8-MW solar rooftop project which is expected to supply around 15% of the airport's annual electricity consumption. This facility will power all four passenger terminals at the airport and is forecast to commence operations in early 2021.

#### **Australian Gas Networks**



Australian Gas Networks

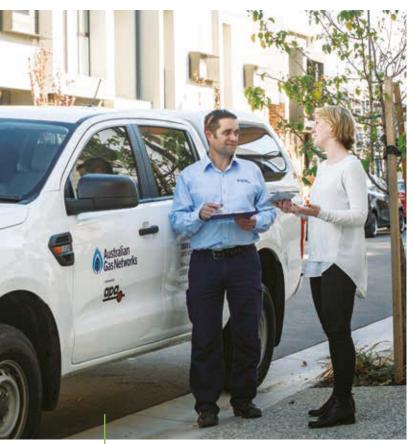
Power Assets Interest: 27.51%

Joined Since: August 2014 Gas Pipeline Length: 26,400 km

No. of Customers: 1,345,000

Australian Gas Networks (AGN) is one of Australia's largest distributors of natural gas, serving customers in Victoria, South Australia, Queensland, as well as in smaller centres in New South Wales and the Northern Territory.

In 2020, AGN delivered 100 million GJ (2019: 101 million GJ) of gas, primarily due to lower volumes in the commercial sector associated with the COVID-19



AGN's high customer satisfaction levels are maintained with extensive engagement.

pandemic; partly offset by additional volumes in the residential sector. Like other Group companies, customer satisfaction and key operational parameters of AGN all exceeded targets.

AGN progressed its ongoing calendar of scheduled capital works with a focus on ensuring long-term performance and to support municipal works. In South Australia, the Churchill Road network upgrade project, involving the replacement of 9.4 km of medium pressure cast iron trunk mains and abandonment of 1.6 km of existing trunk mains neared completion. In Queensland, the construction of the final stage of the Kingsford Smith Drive high-pressure steel relocation project was completed within budget and on time.

The Hydrogen Park SA project, which involves the construction of a 1.25-MW electrolysis plant at the Tonsley Innovation District, made progress through the year although delays were experienced due to COVID-19 impacting the arrival of commissioning engineers from Germany. The project spearheads the industry in developing green hydrogen through electrolysis for decarbonisation of household heating.

#### CK William (2)









K William

Power Assets Interest: 20%

Joined Since: May 2017

Gas Pipeline Length: 14,300 km

Network Length: 13,400 km
No. of Customers: 1,421,000
Total Installed Capacity: 1,086 MW

CK William owns and operates four energy companies – (i) Dampier Bunbury Pipeline and AGI Development Group (collectively known as "DBP"), the owner and operator of the Dampier to Bunbury Natural Gas Pipeline and other pipeline projects in Australia, (ii) Energy Developments Pty Ltd (EDL), a global generation company specialising in sustainable distributed energy, (iii) Multinet Gas (MG), one of Victoria's three gas distribution networks, and (iv) United Energy (UE), an electricity distribution business in Victoria.

Total gas throughput for DBP in 2020 was 380 million GJ (2019: 383 million GJ). System reliability remained strong at 100%, while asset utilisation was at 76% above the forecast of 73%. DBP submitted its response to the draft decision for the regulatory reset beginning in 2021. This is now being considered with a final decision expected to be received in the first quarter of 2021.



A DBP compressor station. Thanks to state-of-the-art equipment, the network performs at a consistent 100% reliability.

CEO's Report



EDL expanded the Agnew Hybrid Renewable Microgrid with 18-MW wind and 13-MW battery infrastructure in 2020.

EDL, which owns and operates 1,086 MW of distributed power globally through waste coal mine gas, landfill gas, renewables, and remote energy, achieved a generation throughput of 5,207 GWh in 2020 (2019: 4,830 GWh), offsetting 19 million tonnes of greenhouse gas emissions. The increased generation is largely due to full-year contributions from new assets including Broadrock Renewables and Agnew, as well as higher generation of remote energy. The company also invested in two renewable natural gas projects in the United States which will be underpinned by long-term fixed price offtake agreements.

MG's gas deliveries in 2020 totalled 54.6 million GJ (2019: 56.1 million GJ). Reductions in volume from the commercial sector due to the impact of the COVID-19 pandemic were partially offset by increased volumes from the residential sector due to colder weather. To improve efficiency and customer service capabilities, MG continued work on a large-scale relocation project of its network control centre, with a new centre of excellence being established in Perth.

MG joined the Energy Networks Australia COVID-19 programme and collaborated with other Group companies and peers in the industry to provide relief to small businesses and residential customers affected by the pandemic. It also worked closely with AGN on the

groundbreaking Hydrogen Park SA project at the Tonsley Innovation District in South Australia which will help make the supply network greener.

UE distributed a total of 7,512 GWh of electricity in 2020 (2019: 7,668 GWh), increasing its customer base by adding 10,733 new connections. The company exceeded its targets for reliability and received incentive payments from the regulator. A significant achievement was the installation of the first low-voltage grid-mounted batteries in Australia in the Bayside Battery project. This market-leading innovation will reduce unplanned power outages for customers and allow high-cost network upgrade works to be deferred.

Work has commenced to relocate network assets and provide a new zone substation to support the A\$10 billion North East Link development which is planned to improve travel between Melbourne's outer eastern suburbs. This is one of the biggest transport projects in the state and forms part of the Victorian Government's 'Big Build' initiative.



The MG pipeline network distributes natural gas to over 700,000 customers in the eastern and south-eastern suburbs of Melbourne.



UE technicians carry out a powerline inspection overlooking the Mornington Peninsula.

UE was the only Victorian network selected in 2020 to participate in an EV smart charging trial in the market. The trial will enable UE to support the rollout of greener transportation in the state while understanding the impact of EV charging on the grid.

#### Australian Energy Operations (\*\*)





**Australian Energy Operations (AEO) builds, owns** and operates electricity transmission lines and terminal stations that connect the Mt Mercer, Ararat, Moorabool and Lal Lal wind farms to the National **Electricity Market.** 

In 2020, AEO began a project to augment the existing Elaine and Ararat terminal stations which will increase the capacity of the transmission network in western Victoria. Construction is forecast to be completed by the end of 2023.

Total network length stood at 71 km of 132 kV transmission lines. AEO continued to yield stable revenues for the Group based on long-term contracts with the four wind farms.

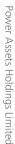
#### **Engineering Solution of the Year**



EDL's Agnew hybrid renewable project is Australia's largest renewable microgrid and a test bed for innovative hybrid energy generation. The 56-MW microsite, located at the Gold Fields Agnew gold mine, incorporates a mixture of wind, solar and thermal generation and battery storage.

EDL commenced the project in 2019 and finished the construction of Stage 2 of the Gold Fields Agnew Renewable Hybrid Project in Western Australia, comprising 18-MW wind and 13-MW battery assets on budget and schedule during the year.

In 2020, the site achieved 99.99% reliability and a carbon offset of approximately 46,400 tonnes of carbon dioxide, equivalent to taking 12,700 cars off the road. The project demonstrated success in facilitating high usage of renewable energy without compromising reliability or quality. At the same time, it reduced the mine's exposure to fossil fuel prices and supply interruptions. The success of the project clearly demonstrates the potential for increased use of renewable energy in the global mining sector.





The Power Assets Group has had a presence in Mainland China since 2007. The Group's assets in the market currently comprise one coal-fired power plant in Jinwan (Guangdong province) and two wind farms in Dali (Yunnan province) and Laoting (Hebei province) respectively.

The electricity market on the Mainland witnessed further reform and changes in environmental regulations, moving away from fossil fuels and supporting green energy with tradeable green certificates. Following declines in the first quarter of the year, the local industrial production there once again began to grow, resulting in demand for power and heating.

#### Jinwan power plant



Under the long-term joint venture agreement with a partner in Mainland China, the Jinwan power plant operates two coal-fired generating units with a combined capacity of 1,200 MW.

In 2020, the Jinwan plant sold a total of 3,767 GWh of electricity (2019: 3,954 GWh) and 3.73 million GJ of steam (2019: 3.23 million GJ), thanks to improved industrial demand in the second half of the year. Ongoing power sector reform continued to exert a dampening effect on demand for coal-fired generation capacity in Mainland China.



Jinwan Power Plant successfully reduces emissions after a major overhaul.

The plant achieved smooth operations and met all environmental targets during the year. A major overhaul of the plant commenced in November 2020 to enhance generation efficiency and emissions performance. During the COVID-19 pandemic, stringent measures were implemented to ensure a safe working environment for all site-based staff including those of sub-contractors.

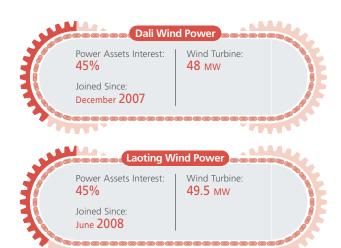
According to the terms of the co-operative joint venture contract signed in 1995, the Group's operating rights for the Zhuhai plant expired in 2019. Transfer of the plant's ownership to the joint venture partner was completed in October 2020.

#### Dali and Laoting wind farms (9)



The Dali and Laoting wind farms have a combined capacity of 97.5 MW.

The two wind farms delivered performance in line with expectations in 2020, generating 207 GWh (2019: 216 GWh) of electricity over the year and offsetting 199,000 tonnes of carbon emissions within their respective provinces.





#### Ratchaburi Power Company





Ratchaburi Power Company (RPCL) has consistently yielded predictable revenues for the Group, guaranteed by a 25-year take-or-pay Power Purchase Agreement with Thailand's Electricity Generating Authority.

In 2020, RPCL generated 2,801 GWh of electricity, which yielded guaranteed revenues from a single customer based on a long-term offtake contract. Blocks 1 and 2 at the plant achieved an equivalent availability factor of about 93% and 87% respectively, representing a total of 15,786 available hours and exceeding the 2020 production plan.



RPCL's power plant exceeds performance and operational targets, securing incentive payments from the government.

New initiatives to enhance operational efficiency in 2020 achieved savings on fuel costs and secured additional incentive revenue from government by exceeding targets for plant performance and operation.



Being stable and mature, Canada is an attractive market for the Group and is home to two Group operating companies in the power generation, oil transmission and storage sectors. Decarbonisation was the key driver for the energy industry as a whole in Canada during 2020, guided by initiatives from the federal department, Environment and Climate Change Canada. Our operating companies there have taken steps to further reduce emissions and deliver more sustainable energy in the long-term.

While operations were hampered by the disruptions caused by COVID-19, Group companies were able to maintain services as usual and achieve all operating parameters.



The oil processing facility at Lloydminster Terminal forms part of HMLP's expanding footprint in Canada.





TransAlta Cogeneration Power Assets Interest: Total Installed Capacity: 1,064 mw Joined Since: December 2007

Power Assets Interest: Gas-fired Combined 50% Cycle Cogeneration: 220 MW Joined Since: December 2007

**Canadian Power Holdings (Canadian Power) operates** the gas-fired Meridian cogeneration power plant in Saskatchewan, and has a holding in TransAlta Cogeneration (TransAlta), which operates four power plants in Ontario and Alberta.

The Meridian plant performed as anticipated during the year, generating 1,665 GWh (2019: 1,648 GWh) of electricity and 1,438 kT (2019: 1,471 kT) of steam, while TransAlta produced 2,126 GWh (2019: 2,912 GWh) of electricity.

The Sheerness generation station under TransAlta completed its first 400-MW coal-to-gas generating unit conversion. The unit performed well after the conversion, exceeding efficiency targets. Conversion of the remaining 400-MW generating unit will be completed in 2021.



Following an outage, the gas turbine at the Meridian plant delivers excellent performance.

A major planned gas turbine outage was successfully completed at the Meridian plant during the second quarter of the year to enhance reliability and plant performance while ensuring the safety of all workers. The turbine returned to service in excellent condition with highly satisfactory operating performance.

## Husky Midstream Limited Partnership

Husky Midstream Limited Partnership

Power Assets Interest: 48.75% | Oil Storage Capacity:

5.9 million barrole

Joined Since: July 2016

Oil Pipeline Length: 2,200 km

Oil Storage Capacity:
5.9 million barrels
Pipeline Gathering System Capacity:
409,000 bbs/day

Husky Midstream Limited Partnership (HMLP) operates a network of oil-gathering systems and pipelines, transporting crude oil from producing fields to processing facilities, as well as operating the Hardisty oil storage terminal. It serves oil companies and crude oil producers from its headquarters in Alberta. In 2020, HMLP served 12 pipeline customers and 62 customers within the Hardisty oil storage terminal. Crude oil storage capacity at the Hardisty terminal was expanded to 1.5 million barrels with the completion of three additional long-term contracted tanks in 2020.

HMLP expanded into gas infrastructure assets with the commissioning of the Ansell Corser gas processing plant and Wembley gas pipeline in November 2019. The Ansell Corser gas plant has an initial processing capacity of 120 mmcf/d and has operated smoothly throughout 2020.

HMLP has continued to grow the portfolio of midstream pipeline and terminal assets that it operates in east-central Alberta and west-central Saskatchewan. The second phase of expansion of the Saskatchewan Gathering System, which transports heavy oil production from Saskatchewan to processing facilities in Lloydminster and its terminal in Hardisty for blending and distribution, continued during the year. The Spruce Lake Central phase of this programme was completed in the third quarter of 2020.



Expanding capacity through assets such as this oil tank at the Hardisty Terminal ensures stable long-term revenues for HMLP.



#### **Dutch Enviro** Energy Holdings B.V. 🙆



**Dutch Enviro Energy Holdings B.V.** Power Assets Interest: 27% Joined Since: August 2013 Waste-to-Energy Units: 115 MW Biomass-Fired Units: 30 MW

Energy-From-Waste: 1,695 kT/yr Paper Residue Incineration: 152 kT/yr Liquid Waste Treatment: 280 kT/yr Biomass Energy: 143 kT/yr

**Dutch Enviro Energy Holdings B.V., which owns** AVR-Afvalverwerking B.V. (AVR), is an energy-fromwaste producer based in Rotterdam. It currently serves 20-24% of all household and commercial waste incinerated in the Netherlands. Together with waste from other EU countries, AVR treats a total of 1.7 million tonnes of residual waste per year.

AVR's total throughput of waste in 2020 increased to 2,270kT (2019: 2,154 kT) while the total energy output rose to 8,179 TJ (2019: 7,887 TJ). The company improved its results in other operating areas, increasing CO<sub>2</sub> capture to 31 kT (2019: 10 kT) and the amount of plastic recycled to 26 kT (2019: 19 kT).

Building on national efforts to reduce the carbon footprint, AVR's biomass plant was connected to the common steam pipe in Rotterdam. This allowed AVR to supply process steam with greater efficiency and in doing so, creating the possibility to expand steam supply to nearby industrial customers, helping to achieve the government's long-term target of becoming carbon-neutral by 2050.

In order to enhance capacity to address anticipated demand for heating and steam in the Eneco and Vattenfall districts in the Rotterdam region, AVR commenced with the

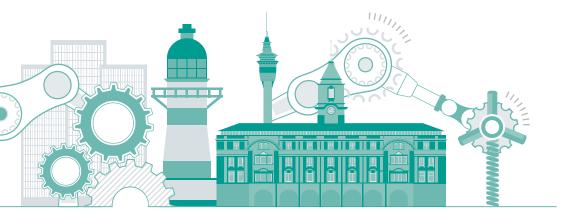


AVR's facility is helping to dispose of hospital waste materials during COVID-19.

construction of a new backpressure steam turbine. Currently AVR is already the largest producer of district heating in the Netherlands (about 20-25% of the national total). The turbine is scheduled for completion in 2021 and will have the capacity to support the power consumption of approximately 60,000 households per year. The use of backpressure technology will enable AVR to extract even more energy from residual waste to lower its carbon footprint.

As an expert in the processing of combustible residual waste, AVR supported the community's response to the COVID-19 pandemic by helping hospitals safely dispose of additional volumes of hospital waste, including gloves, face masks, aprons, medical hats, packaging materials and medical supplies.

#### **NEW ZEALAND**



#### **Wellington Electricity Lines**





Wellington Electricity Lines Limited (WELL) owns and operates the electricity distribution network in the Wellington metropolitan area of New Zealand. Its network serves customers across the domestic, commercial and industrial sectors, including major organisations such as the New Zealand Parliament, Wellington Airport and the hospitals in the region.

WELL distributed 2,237 GWh (2019: 2,277 GWh) of electricity during the year. The company remained committed to investing in the reliability of its network and introduced several enhancements to ensure it outperforms regulatory targets for efficiency, reliability and customer service. The large-scale

earthquake readiness programme initiated in 2018 is nearing completion with seismic reinforcement completed on 87 out of 91 buildings.

To support the increasing number of EVs across its area of operation, WELL consulted with industry stakeholders to develop a roadmap for the integration of EVs and promoted a managed EV and battery charging service it plans to offer as an alternative to network re-inforcement.



WELL remains committed to investing in its infrastructure such as the refurbishment of power lines at Golans Valley, Wainuiomata.

# Accelerating towards as Scatterable Furture

#### 2020 Sustainability Report

The Group is committed to the long-term sustainability of its business. It has established a new Sustainability Committee to oversee our strategy and advise the Board on the development and implementation of our sustainability initiatives.

The Group has further strengthened the environmental, social and governance (ESG) reporting by publishing for the first time a standalone Sustainability Report covering the ESG activities for 2020.