

# BUSINESS REVIEW



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### Investment in

# POWER ASSETS

The Power Assets Group is a global investor in power generation, transmission and distribution, gas transmission and distribution, as well as oil storage and transmission in nine markets spread across four continents – namely the UK, Australia, Hong Kong, Mainland China, the Netherlands, New Zealand, Thailand, Canada and the United States.

During 2020, the low-risk, diversified business model of the Power Assets Group (“Power Assets” or the “Group”), with regulated businesses or outputs governed by long-term purchase contracts delivered strong income streams. The funds received from operations in 2020 have increased from 2019’s HK\$5,368 million to HK\$5,533 million.

Power Assets’ business model insulated it to a great degree from the macroeconomic impact of the global COVID-19 pandemic. For the year ended 31st December, 2020, operating profits were in line with expectations.

The Group’s profits attributable to shareholders amounted to HK\$6,132 million (2019: HK\$7,131 million). The decrease was primarily due to the one-off non-cash charges on the remeasurement of deferred tax liabilities in the UK (HK\$780 million).

The Group’s financial position remained strong, with a net cash of approximately HK\$1.8 billion as at 31st December, 2020, increased from 2019’s HK\$1.6 billion. During the year, Standard & Poor’s has reaffirmed the Group’s credit rating of “A/Stable”.

Lockdowns in many parts of the world affected Power Assets’ revenues from the commercial segments, which were offset by increased revenues from the residential sectors. The Group’s proactive investments in resilience paid off with all companies maintaining high reliability and customer service standards.

In 2020, Power Assets’ flagship company HK Electric stepped up its proportion of gas-fired electricity generation to 50% with the commissioning of L10, a new gas-fired generating unit. Despite the restrictions caused by COVID-19, the company pushed forward with its five-year development plan which will see gas-fired generation grow further to 70% of total output by the end of 2023. Construction of two other new gas-fired units, L11 and L12, progressed satisfactorily.

The UK operating companies in electricity and gas distribution maintained their leading positions for reliability and customer service, securing incentive payments from the regulator Ofgem.

The operating companies in Australia reported good underlying performance, though it was partly offset by the adverse effects of the COVID-19 pandemic. Securing satisfactory outcomes in regulatory resets and transforming distribution networks to support increased green energy were the twin priorities during the year.

In Mainland China, the Jinwan electricity and heat co-generation power plant achieved all its operating parameters. The two wind farms in Dali and Laoting delivered stable and smooth operations, jointly offsetting 199,000 tonnes of carbon emission during the year.

In Canada, the construction of the three long-term contracted crude oil storage tanks in Hardisty was completed by Husky Midstream, adding 1.5 million barrels of incremental storage capacity. In February 2021, with the Group’s support, Canadian Power entered into an agreement to acquire 100% interest of two wind farms in British Columbia in Canada, namely Pennask Wind Farm and Shinish Creek Wind Farm.

AVR-Afvalverwerking B.V. in the Netherlands maintained its success in generating energy-from-waste. In Portugal, Power Assets disposed of its interest in Iberwind during the year.

In New Zealand, Wellington Electricity Lines achieved customer service targets with strong network reliability; while in Thailand, Ratchaburi Power Plant met all its operating targets.



### Infrastructure Investments in

# UNITED KINGDOM

In the United Kingdom, CKI has investments in electricity and gas distribution, water and wastewater services, electricity generation as well as railway rolling stock. These investments include UK Power Networks, the electricity distribution network operator which serves London, South East England and the east of England; Northern Gas Networks, a gas distribution business that serves the north of England; Wales & West Gas Networks, a gas distribution business that serves Wales and South West England; Seabank Power, an electricity generation plant located near Bristol; Northumbrian Water, a water supply, sewerage and wastewater company that serves the North East and provides water supply to certain areas in South East England; and UK Rails, one of the three major rolling stock companies in Great Britain.

## UK POWER NETWORKS

UK Power Networks owns three of the 14 regulated electricity distribution networks in Great Britain and distributes electricity to over a quarter of the country's population. The company's networks include approximately 190,000 kilometres of cables, and cover an area of about 29,000 square kilometres. It serves 8.3 million customers across London, the southeast and east of England. Its reliability rating is the highest in the country. The company also has a non-regulated business – UK Power Networks Services – which designs, builds, owns and operates private networks for both public and private sector clients.

UK Power Networks was named “Network of the Year” at the Network Awards 2020 for its industry-leading performance in safety, reliability and innovation. In addition, the company came first in the Smart Grid Index of utilities ranked by Singapore-based SP Group. The Index placed UK Power Networks at the top in its study of 85 utilities across 37 countries. The Index measures the progress that utilities have made against seven key metrics: customer satisfaction and environment; green energy; security; monitoring and control; data analytics; supply reliability and distributed energy resources integration.

In the Broad Measure of Customer Service Incentive Scheme devised by the Office of Gas and Electricity Markets (“Ofgem”), UK Power Networks recorded the highest overall average score in 2020. This score placed UK Power Networks as the top performing Distribution Network Operator in terms of customer service. Ofgem also ranked UK Power Networks as the energy industry leader in its exceptional engagement with stakeholders, including innovative schemes to help the most vulnerable in society.

In addition, UK Power Networks became the first electricity network operator to achieve the coveted Carbon Trust Standard for Carbon in recognition of its achievement in carbon reduction.

UK Power Networks has started rolling out one of the most advanced grid planning and operation digitalisation efforts in the electricity industry. It plans to use the Active Network Management (“ANM”) system as its default tool for network operations, grid planning and customer engagement. The ANM system will allow the company to monitor, contract and dispatch distributed energy resources into its network, from renewables and batteries to electric vehicles and other advanced power electronic devices. Moreover, it will allow the distributor to balance load more efficiently and enable future electricity supply and management flexibility services.

During the year, UK Power Networks started introducing state-of-the-art amorphous steel core transformers at substations. 15,000 transformers are to be replaced over time. They will in total save more than 8,500 MWh per year, resulting in carbon dioxide emission savings of almost 2,200 tonnes annually. In addition, low carbon concrete is being used by UK Power Networks at three London electricity construction sites for building new electricity substations; this initiative saves more than 220 tonnes of carbon emissions.



In the Broad Measure of Customer Service Incentive Scheme devised by Ofgem, UK Power Networks recorded the highest overall average score in 2020.

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## NORTHUMBRIAN WATER

Northumbrian Water is one of ten regulated water and sewerage companies in England and Wales. It operates approximately 26,000 kilometres of water mains and 30,000 kilometres of sewers, providing water and wastewater services to 2.7 million people in North East England; as well as supplies drinking water to 1.8 million people in South East England.

In addition to its regulated businesses, Northumbrian Water's operations include Kielder Reservoir, the largest man-made reservoir in northwestern Europe, as well as a portfolio of long-term water and wastewater contracts in Scotland, Ireland and Gibraltar.

Northumbrian Water was crowned "The Water Company of the Year" at the Water and Wastewater Treatment Magazine Digital Water Industry Awards in 2020. The company was recognised for its all-round excellence in customer service, agenda-setting innovation, operational resilience and workforce best practice. Furthermore, the company was named a Responsible Business Champion in the 2020 Responsible Business Awards organised by Business in the Community (BITC), recognising its environmental leadership efforts. In addition, Northumbrian Water was included in the World's Most Ethical Companies

List 2020 – the ninth time for Northumbrian Water to receive this global recognition from the Ethisphere Institute.

Although some work activities were suspended during the lockdown period, new facility construction and upgrade works were able to continue. The construction of a new facility in Wooler to treat up to 3.6 million litres of water every day is making good progress. It is expected that completion will take place in the summer of 2021. The new facility will replace the existing water treatment works at Fowberry. The works will be fitted out with cutting-edge technology to allow more energy efficient processes to treat water and ensure it is clean and safe. Moreover, Northumbrian Water completed the refurbishment of one of its groundwater stations resulting in water quality improvement and water supplies protection for 140,000 homes across Sunderland and South Tyneside. The modernisation of the water site involved the installation of new filters, pipework and more efficient pumping arrangements.

After a successful trial, Northumbrian Water plans to install innovative ultraviolet light disinfection systems in all of the filters at the Mosswood Water Treatment Works. The powerful ultraviolet light systems will be added to the water treatment process to further improve the quality of the drinking water before it



Northumbrian Water was crowned "The Water Company of the Year" at the Water and Wastewater Treatment Magazine Digital Water Industry Awards in 2020.

travels to water taps. Northumbrian Water is the first in the industry to use this bespoke technology in water disinfection.

In view of the COVID-19 pandemic, Northumbrian Water's Innovation Festival 2020 was held online for the first time in September with almost 3,000 individuals from 37 countries taking part. The virtual event generated many novel ideas to help tackle major societal and environmental challenges. After the Festival, eight different projects received financial backing from Northumbrian Water to help further improve the company's operation; areas involved include customer service, staff wellbeing, leakage prevention and environmental impact.

Northumbrian Water entered a new regulatory period on 1st April, 2020. As the company considered the terms of the new determination as set by the water services regulation authority Ofwat not reasonable, the company has elected to challenge the determination through the Competition and Markets Authority (CMA) appeal process.

## NORTHERN GAS NETWORKS

Northern Gas Networks is a gas distribution company that serves the north of England. The network stretches from Northern Cumbria to the North East and includes much of Yorkshire, covering large cities as well as rural areas through 37,000 kilometres of gas distribution pipelines. It transports approximately 13% of the nation's gas to a population of 6.7 million.

Northern Gas Networks, in partnership with Wales & West Gas Networks and other reputable organisations, launched H21, a suite of pioneering projects aimed at proving the existing UK gas networks can be converted to transport 100% hydrogen. Since mid-2020, a hydrogen micro-grid has been under construction in Spadeadam in Cumbria. The facility will be built from a range of decommissioned assets to review, test and make recommendations for amending operational and maintenance procedures for transporting hydrogen. Northern Gas Networks will replicate these tests on an existing but disconnected section of network near



**A hydrogen micro-grid is built by Northern Gas Networks from a range of decommissioned assets in Spadeadam in Cumbria to review, test and make recommendations for amending operational and maintenance procedures for transporting hydrogen.**

Middlesbrough, to provide vital evidence about the compatibility of the existing gas network to transport hydrogen. H21 won the 2020 Pipeline Industries Guild Award for Best Onshore Pipeline Project.

In addition, Northern Gas Networks won a gold award from RoSPA (The Royal Society for the Prevention of Accidents) for the fourth consecutive year. The award commended the company's outstanding health and safety practices.

Northern Gas Networks received a £770,000 innovation grant from Ofgem to link the Bradford Alternative Fuel Centre to the local gas transmission system which is operated by the company. This will contribute to the development of a Compressed Natural Gas (CNG) filling station, the aim of which is to enable the reduction of greenhouse gas emissions.

During the year, Northern Gas Networks and its partners jointly won the bid to build two public-access hydrogen refuelling stations in Teesside. The initiative aims to make Teesside a centre for hydrogen technology, with the capacity to test new hydrogen technologies on cars, buses, trains and trucks.

To support the growing population of Penrith, a new five-and-a-half-mile gas pipeline will be built, and its construction began in September.

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Wales & West Gas Networks is working to explore the possibility of using hydrogen to reduce carbon emissions of its fleet.

## WALES & WEST GAS NETWORKS

Wales & West Gas Networks is the holding company of Wales & West Utilities, one of eight gas distribution networks in the UK. The company has 2.5 million supply points, and a pipeline network of 35,000 kilometres serving an area of 42,000 square kilometres and a population of 7.5 million in Wales and South West England.

For the second consecutive year, Wales & West Gas Networks was named winner in the Oil & Gas Industry Sector in the RoSPA (The Royal Society for the Prevention of Accidents) Health and Safety Awards in the UK in recognition of its outstanding health and safety practices. A collaborative project between Wales & West Gas Networks and a number of network partners which explores how drone technology can be applied in network infrastructure inspection also won the Partnership Initiative of the Year award in the Utility Week Network Awards 2020.

In addition, the company was named a Responsible Business Champion in the 2020 Business in the Community (BITC) Responsible Business Awards. The Awards recognise the contribution of companies that put social and environmental concerns at the heart of their strategy.

Pembrokeshire County Council announced that it would team up with Wales & West Gas Networks and others to deliver the Milford Haven: Energy Kingdom project. Funded by UK Research and Innovation, this 22-month project aims to accelerate the transition to an integrated hydrogen and renewable energy system to power buildings, transport and industry.

Wales & West Gas Networks and Northern Gas Networks are working to explore the possibility of using hydrogen to reduce their fleets' carbon emissions, including the refueling infrastructure needed to meet their vehicle duty cycle and power demands. The results of the study will enable the two gas distribution networks to better understand the benefits of using hydrogen powered vehicles across their respective networks and allow them to plan for depot-based hydrogen vehicle trials in the future.

In solidarity with the community in the fight against the COVID-19 pandemic, Wales & West Gas Networks volunteered to connect the new Nightingale Hospital's main gas supply in Exeter to its local gas network. The hospital was transformed from a former retail store into a facility for COVID-19 patient care in just six weeks and Wales & West Gas Networks completed the project in two days.

## SEABANK POWER

Seabank Power is an owner and operator of a combined cycle gas turbine power plant located near Bristol in the South West of England. The power plant has a total generating capacity of approximately 1,150 MW from its two generation units. COVID-19 has not had a major impact on Seabank Power. Though there was a general reduction in electricity demand, revenues were not affected due to the presence of tolling arrangements.

## UK RAILS

UK Rails is one of the three major rolling stock owning companies in the United Kingdom. The company leases regional, commuter and high speed passenger trains on long-term contracts to train operating companies and freight locomotives to freight operating companies. UK Rails' rolling stock portfolio includes 22 different fleets of passenger trains comprising over 3,400 passenger vehicles and 83 freight locomotives. It also has two depots.

In 2020, UK Rails' train fleets won a number of accolades in the Golden Spanner Awards, an annual industry award programme. The company's Class 455, IC225, Class 222, Class 171 and Class 195 fleets were each recognised with Gold Spanners for

being the most reliable train fleet in their category. The Class 315 fleet was presented with a Silver Spanner for being the most improved train fleet in its category, while the Class 334 fleet received a Bronze Spanner for the fastest incident recovery in its category.

In 2020, UK Rails completed deliveries of its Class 331 and 397 fleets and all are in service across the North of England. In addition, the company has renewed leases on ten of its 22 fleets.

UK Rails and Alstom Transport, a major international train manufacturer, have jointly made investments in developing hydrogen trains for the UK to work towards the UK Government's commitment to decarbonise the railway. During 2020, UK Rails and Alstom Transport announced a further £1 million investment in the Class 600 Breeze hydrogen train development programme.

UK Rails also signed an exclusive agreement with train manufacturer Hitachi Rail to develop tri-mode long-distance trains. Studies will be conducted to consider adding battery power to their Class 802 fleet. Great Western Railway Intercity Express Trains that run on the partially electrified 300-mile route between Penzance and London currently operate on diesel power for the majority of the route. Fitting batteries will create an electric-diesel-battery hybrid train (tri-mode) which would reduce fuel usage and carbon emissions by more than 20%.



UK Rails signed an exclusive agreement with train manufacturer Hitachi Rail to develop tri-mode long-distance trains by adding battery power to the Class 802 fleet.



## Infrastructure Investments in **AUSTRALIA**

In Australia, CKI has investments in electricity and gas transmission and distribution, as well as renewable and remote energy solutions. It owns SA Power Networks, the primary electricity distributor in the state of South Australia; Victoria Power Networks, of which its member companies – Powercor and CitiPower – distribute electricity to approximately 65% of the population in the state of Victoria; United Energy, an electricity distribution business in Victoria serving approximately 688,000 customers across east and southeast Melbourne and the Mornington Peninsula; Australian Gas Networks and Multinet Gas, natural gas distribution businesses in the country; Dampier Bunbury Pipeline, Western Australia’s principal gas transmission pipeline; as well as Energy Developments, a renewable and remote energy solution producer with operations globally. The Group’s portfolio also includes Australian Energy Operations, a renewable energy power transmission business in Victoria.



SA Power Networks was ranked first as the most efficient distribution network in Australia in the Annual Benchmarking Report released by the Australian Energy Regulator.

## SA POWER NETWORKS

SA Power Networks is an electricity distributor that serves approximately 887,000 customers in South Australia. Covering a service area of about 178,000 square kilometres, the electricity network route length is approximately 89,000 kilometres.

In the Annual Benchmarking Report released by the Australian Energy Regulator (“AER”) in November 2020, SA Power Networks was ranked first as the most efficient distribution network in Australia. This report assesses the productivity and efficiency of distribution network service providers in the National Electricity Market (NEM).

During the year, SA Power Networks worked with Tesla, Commonwealth Scientific & Industrial Research Organisation and Australian Renewable Energy Agency on a world-first trial to provide real-time data feed of available local network capacity to an advanced Virtual Power Plant (“VPP”), enabling it to maximise its export power to the market while remaining within the technical limits of the network. A VPP aggregates a number of customer batteries to operate in much the same way as a power station. This initiative won the Energy Networks Australia 2020 Industry Innovation Award and the Best Use of Technology Award at the 2020 Digital Utility Awards.

Currently, more than 270,000 South Australian homes and small businesses have solar panels, and they collectively are capable of generating about 1,500 MW of electricity. This represents over 35% of all residential and commercial solar penetration in South Australia. In a bid to accept more solar energy into the grid, SA Power Networks has started upgrading about 140 major substations to facilitate greater solar exports.

SA Power Networks has also widened the use of drones for outage response work, particularly in the regional areas of South Australia. Remote controlled drones played a key role in restringing electricity power lines that were damaged by the devastating 2020 bushfires at Kohinoor Hill in Kangaroo Island.

The new five-year regulatory control period for SA Power Networks commenced in July 2020. The AER’s final determination provides predictability of the company’s income stream until mid-2025.

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Powercor ranked first and CitiPower ranked second for operating expenditure productivity in the Australian Energy Regulator's Annual Benchmarking Report.

## VICTORIA POWER NETWORKS

Victoria Power Networks comprises electricity distribution networks including CitiPower and Powercor, and energy infrastructure developer Beon Energy Solutions ("Beon"). CitiPower owns and operates a network that serves 332,000 customers in the central business district and inner suburbs of Melbourne; while Powercor covers a service area that includes regional and rural areas in central and western Victoria, as well as Melbourne's outer western suburbs, supplying electricity to around 844,000 customers. Beon is a leader in designing, constructing and carrying out maintenance for large-scale renewable energy and infrastructure projects in Australia.

In the Australian Energy Regulator ("AER")'s Annual Benchmarking Report released in November 2020, Powercor ranked first and CitiPower ranked second among electricity distribution service providers in the country for operating expenditure productivity.

Despite the strict COVID-19 restrictions imposed in Melbourne's metropolitan area during certain periods of time in 2020, crews from CitiPower commenced one of their largest inspections of infrastructure underneath the CBD's roadways and footpaths. The

purpose of this Pit Inspection Programme is to examine the structural integrity and condition of approximately 500 pits for timely and necessary upgrades or repairs. Employing 3D scans and thermographic scanning technology, CitiPower's crews not only undertook a comprehensive assessment of the pits, but also conducted detailed inspections of the visible cables and cable joints.

During the year, Powercor continued to carry out an extensive bushfire mitigation programme, which includes the installation of Rapid Earth Fault Current Limiter ("REFCL") across the southwest of Victoria. There were 14 REFCL devices in service ahead of the 2020-2021 summer protecting 12,100 kilometres of powerlines, serving 209,550 customers. The devices help mitigate bushfire risks by cutting current from a faulty line, hence reducing the chance of a spark, if a powerline comes into contact with the ground or a tree limb.

In addition, two new helicopters with advanced light detection and ranging technology commenced operations in December to inspect power lines across the Powercor and CitiPower network regions. The operations are supported by a specialist team of data analysts. The technology creates a 3D image of the networks and enables the company to scan and detect the growth of vegetation near power lines in both high-risk and low-risk bushfire areas.

Powercor opened two new depots in the state of Victoria, one in Kyneton and another in Shepparton, replacing outdated ones from the 60's and 70's. The new facilities provide more storage area for equipment and fleet, and have the capacity to support future workforce expansion. During construction of the depots, Powercor supported the respective local communities, employing local trades and suppliers.

Beon was engaged in several major solar farm projects in 2020 despite challenges created by COVID-19. These projects include (i) the construction of the 120 MW Bomen Solar Farm located near Wagga Wagga and 62 MW Jemalong Solar Farm in New South Wales, which were completed; and (ii) the construction of the 90 MW Sebastopol Solar Farm in New South Wales which is in progress.

The new five-year regulatory period is to commence from 1st July, 2021. Victoria Power Networks submitted the revised revenue proposals for CitiPower and Powercor in December 2020 in response to the AER's draft decision in September. The AER's final determinations will be released at the end of April 2021.

## UNITED ENERGY

United Energy distributes electricity to approximately 703,000 customers across east and southeast Melbourne and the Mornington Peninsula and is an industry leader in network technology and innovation. The electricity distribution network covers an area of approximately 1,500 square kilometres and it achieved 99.99% supply reliability in 2020.

In partnership with the Victorian Department of Environment, Land, Water and Planning, United Energy completed a two-year trial of a new covered powerline system to protect bare powerlines from extreme weather and for improvement of bushfire safety. The programme took place in Cape Schanck, a high bushfire risk area. The result of the trial has shown the system to be effective in improving network safety, and a new programme to replace over 5 kilometres of high-voltage powerlines with covered conductors has now commenced. The technology is to be applied throughout the network.

United Energy is also undergoing a trial involving pole mounted batteries to help manage peak demand. This is the first of such a programme in Australia. Called the Bayside Battery Project, the trial involves installing two 75 kWh battery storage systems onto network poles. The project is taking place within the low-voltage distribution network in the Melbourne suburbs of Highett and Black Rock, where local distribution substations are constrained. Each battery is charged during off-peak periods and electricity is discharged during peak periods, supplying power to between 50 and 75 homes in each location. This trial marks an important step towards the setting up of flexible networks to manage electricity exports from rooftop solar and other private generators in the future.

The next five-year regulatory control period for United Energy will commence on 1st July, 2021. The company has submitted its revised proposal in December 2020 responding to the draft decision made by Australian Energy Regulator ("AER") in September. The AER's final determination is expected at the end of April 2021.



United Energy is undergoing the Bayside Battery Project, a trial involving pole mounted batteries to help manage peak demand.

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Australian Gas Networks' Hydrogen Park South Australia in Adelaide is at the final stage of commissioning. The facility will produce renewable hydrogen using a 1.25 MW electrolyser.

### AUSTRALIAN GAS INFRASTRUCTURE GROUP

The Australian Gas Infrastructure Group consists of Australian Gas Networks, Multinet Gas and Dampier Bunbury Pipeline.

#### Australian Gas Networks

Australian Gas Networks owns approximately 25,000 kilometres of natural gas distribution networks and 1,100 kilometres of transmission pipelines, serving approximately 1.3 million customers in South Australia, Victoria, Queensland, New South Wales and the Northern Territory.

During the year, operations in Australian Gas Networks were carried out smoothly despite challenges presented by COVID-19. Of particular note is its initiatives in hydrogen. Australian Gas Networks' Hydrogen Park South Australia ("HyP SA") in Adelaide is at the final stage of commissioning. Partially funded by the South Australian Government, HyP SA will produce renewable hydrogen using a 1.25 MW electrolyser. When it becomes fully operational, hydrogen from HyP SA blended with 95% natural gas will be supplied to more than 700 residences in a suburb of Adelaide. In addition, an agreement has been signed with a company for the installation of equipment to enable hydrogen from HyP SA to be supplied to industrial customers in Whyalla and Adelaide.

The HyP SA project earned Engineers Australia's Australian Engineering Excellence Award for South Australia, as well as the Australian Pipelines and Gas Association's Environment Award.

Australian Gas Networks has also secured funding from the Queensland Government's Hydrogen Industry Development Fund to establish Queensland's first renewable hydrogen production facility. The capacity of the facility has been set up to deliver blended hydrogen (up to 10%) into the gas network in the city of Gladstone in Queensland. The company is also engaging in feasibility studies on blending hydrogen in the natural gas networks in South Australia and Victoria.

Australian Gas Networks submitted its 2021-2026 South Australia Access Arrangement proposal in July 2020 in preparation for the next regulatory period

which will start from 1st July, 2021. The final determination for the new Access Arrangement is expected to be announced by Australian Energy Regulator in April 2021. The stakeholder engagement programme for this proposal received Energy Networks Australia's Consumer Engagement Award.

### Multinet Gas

Multinet Gas operates a regulated natural gas network which covers approximately 1,860 square kilometres in the eastern and southeastern suburbs of Melbourne, the Yarra Ranges and South Gippsland. It serves approximately 700,000 customers. Multinet Gas made excellent progress in the replacement of 133 kilometres of old cast iron mains which was completed ahead of schedule. During the year, it also achieved its highest ever customer satisfaction scores.



Multinet Gas completed the replacement of 133 kilometres of old cast iron mains ahead of schedule.

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### Dampier Bunbury Pipeline

Dampier Bunbury Pipeline is the principal gas transmission pipeline in Western Australia. It stretches approximately 1,600 kilometres, linking the gas fields in the Carnarvon Basin off the Pilbara coast to mining, industrial, and commercial customers, as well as via other distribution networks, to residential customers. The total length of the pipeline including looping and lateral pipelines is 3,080 kilometres. The Pipeline saw throughput volumes in 2020 well ahead of budget due to strong conditions for gas-fired power generation in Western Australia.



Dampier Bunbury Pipeline saw throughput volumes in 2020 well ahead of budget due to strong conditions for gas-fired power generation in Western Australia.

As an initiative to develop Western Australia's emerging hydrogen market, a feasibility study jointly funded by the Western Australia Government's Renewable Hydrogen Fund and Dampier Bunbury Pipeline was launched to assess whether the main natural gas pipeline in Western Australia can carry a small volume of hydrogen. The 18-month commercial and technical feasibility study will cover the Perth metropolitan areas and the state's Peel, Pilbara and Mid-West regional precincts.

In December 2020, a contract was signed with Mitsui and Beach Energy for Dampier Bunbury Pipeline's Waitsia expansion project, securing a major new customer, and a major new gas supply source in Western Australia for export and domestic use.

A business plan was submitted by Dampier Bunbury Pipeline in January 2020 for the regulatory control period 2021 to 2025. A final determination for the new Access Arrangement is expected from Western Australia's Economic Regulation Authority early in 2021, securing the company's income stream for the next five years.

### AUSTRALIAN ENERGY OPERATIONS

Australian Energy Operations ("AEO") constructs, owns and operates electricity transmission assets and terminal stations, specialising in the connection of renewable energy generators to the national power grid. AEO has long-term contracts with four wind farm connections totaling more than 750 MW.

In mid-2020, AEO signed a contract with the market operator, Australian Energy Market Operator (AEMO) for works relating to the Western Victoria Transmission Network Upgrade Project. The scope includes upgrades to the Elaine and Ararat Terminal Stations, with the works progressing through 2021 to 2023.



Comprising five wind turbines, a solar farm, a battery system and an off-grid gas and diesel power plant, EDL's Agnew Hybrid Renewable Project is Australia's largest hybrid renewable microgrid.

## ENERGY DEVELOPMENTS

Energy Developments Pty Limited ("EDL") specialises in (i) producing safe, clean electricity from low greenhouse gas emissions sources like wind and solar, or waste gases such as landfill gas or waste coal mine gas; as well as (ii) providing innovative and reliable energy solutions in remote regions. EDL owns and operates a portfolio of over 1,000 MW of power generation facilities in Australia, North America and the United Kingdom.

In May 2020, EDL completed the 56 MW Agnew Hybrid Renewable Project in Western Australia. The project offsets the equivalent of an estimated 46,300 tonnes of carbon annually. Comprising five wind turbines, a solar farm, a battery system and an off-grid gas and diesel power plant, the project is Australia's largest hybrid renewable microgrid. The Agnew Hybrid Renewable Project won top honours in international awards – it was named Engineering Solution of the Year at the 2020 Global Energy Awards, and Innovative Power Technology of the Year – Australia at the 2020 Asian Power Awards. The project was also a Western Australia Division winner at the 2020 Australian Engineering Excellence Awards.

Construction of a waste coal mine gas power station for Centennial Coal's Mandalong Mine, located in the Lake Macquarie area of New South Wales, commenced in July 2020. The power station will have an installed capacity of 8 MW, and will convert waste gas extracted during mining operations into electricity to power the mine. EDL will own and operate the power station for 20 years.

In the United States, EDL and its joint venture partners completed the Indy High BTU Renewable Natural Gas ("RNG") Plant at the Indianapolis South Side Landfill in April 2020. It is the largest RNG plant in Indiana, with the capacity to convert landfill methane gas into approximately eight million gallons of pipeline-quality RNG each year. The initiative would contribute in reducing greenhouse gas emissions in Central Indiana.

EDL is in the process of building another two RNG plants in the United States, one in San Antonio, Texas and another in Lansing, Michigan. The RNG from the Texas plant will be used to fuel a fleet of more than 500 buses in 2021. When used as a vehicle fuel, RNG provides 85% reduction of CO<sub>2</sub> emissions compared to diesel fuel.



### Infrastructure Investments in **NEW ZEALAND**

In New Zealand, CKI has investments in electricity distribution and waste management. The Group's Wellington Electricity is the electricity distributor which serves New Zealand's capital city and its surrounding areas, while EnviroNZ provides waste collection, management and disposal services nationwide.



Wellington Electricity's three-year Earthquake Readiness Programme, which aims to reduce outage times following major earthquakes, is near completion.

## WELLINGTON ELECTRICITY

Wellington Electricity owns and operates the electricity distribution network in the cities of Wellington, Upper Hutt, Lower Hutt and Porirua in New Zealand. Its network extends about 4,700 kilometres, supplying electricity to approximately 171,000 connections across domestic, commercial and industrial sectors.

The three-year Earthquake Readiness Programme approved by the Commerce Commission of New Zealand which commenced in 2018 continued to be carried out in 2020 despite the periodic COVID-19 lockdowns. Over 70% of the entire Programme was completed by the end of 2020 with the remainder to be completed by March 2021. The Programme aims to strengthen the network's readiness and reduce outage times following major earthquakes.

The New Zealand Government has set a CO<sub>2</sub> emissions reduction target as part of its Carbon Zero

legislation and electrification of transport fleets plays an important role in meeting the reduction target. As electric vehicles uptake increases, electricity networks will be required to manage the increase in demand. Wellington Electricity and its technology partner obtained a grant from Energy Efficiency & Conservation Authority's Low Emission Vehicle Contestable Fund in New Zealand to develop "EV Connect", an environmental and smart technology platform project for electric vehicle charging.

The smart technology project "EV Connect" aims to provide solutions for managing peak electricity demand on Wellington Electricity's network. The project is composed of three stages, involving grid connection technology, a corporate fleet pilot programme, and a roadmap for industry consultation and wider adoption. During the year, the first stage of the project was completed and the remaining stages of running a corporate fleet trial and delivering an industry roadmap will be completed in 2021.

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EnviroNZ commenced the 12-year Hamilton City Council contract. A new material recycling facility was built, over 60 new staff employed and 24 new collection vehicles have been deployed for the project.

## ENVIRO (NZ)

EnviroNZ is one of New Zealand's leading national waste and recycling resource management companies. It provides waste and recycling collection, resource recovery, reuse and disposal services to more than half a million commercial and residential customers. The Company also owns and manages Hampton PARRC (Power and Resource Recovery Centre), the largest resource recovery site in New Zealand. Covering an area of 360 hectares, Hampton PARRC accounts for approximately 40% of the annual landfill volumes in Greater Auckland. The operation utilises state-of-the-art technology to capture and convert methane gas to electricity, processes landfill leachate to clean water, and its organic facility turns garden and food waste into compost.

In September, EnviroNZ commenced the 12-year Hamilton City Council contract. A new material recycling facility was built, over 60 new staff employed and 24 new collection vehicles including 6 electric vehicles have been deployed. The Hamilton contract is transformational for the city with EnviroNZ now collecting their food waste separately from their general waste glass and other, plastic and paper recycling. The food waste is collected in an electric vehicle for processing at the company's Hampton Downs organic facility. The high-quality compost produced goes to the agricultural sector with some being used by the Hamilton Council themselves. The

electric vehicles are carbon neutral, the composting process does not release methane, and compost is put back into the land – an example of a circular economy in practice.

During the year, EnviroNZ also started kerbside food waste collection in Ruapehu. Alongside its existing waste collection and recycling services, Ruapehu Council is an early adopter among small rural councils to introduce food waste collection and compost conversion, with an eye towards achieving its Zero Waste 2040 vision.

EnviroNZ succeeded in securing several new long-term municipal council contracts, including a 12-year contract with the Tauranga and Western Bay of Plenty Councils to collect household refuse, recycling and organics, as well a separate 20-year contract with these councils to operate their waste infrastructure and waste disposal at EnviroNZ's Hampton Downs Landfill. EnviroNZ was also awarded a similar 15-year contract by the South Waikato Council and a 20-year contract by the combined Mackenzie, Timaru and Waimate District Councils for collections and infrastructure services, including the design and construction of new composting and recycling facilities.

In December, the company received a Highly Commended award in the Safe Vehicles category of the prestigious Australasian Fleet Champions Awards.



## Infrastructure Investments in **CONTINENTAL EUROPE**

In Continental Europe, CKI has investments in energy-from-waste and in household infrastructure businesses. Dutch Enviro Energy owns AVR, the Netherlands' largest energy-from-waste company. In the household infrastructure portfolio, ista is a leading sub-metering player in Europe, with its key markets in Germany, France, the Netherlands and Denmark.

# BUSINESS REVIEW

## DUTCH ENVIRO ENERGY

Dutch Enviro Energy owns AVR, which operates five waste treatment plants in Duiven, near the German border, as well as Rozenburg in the Port of Rotterdam area. Together, they have an energy-from-waste capacity of 2,300 kilotonnes per year. Long-term contracts are in place for both gate fees for processing waste as well as offtake for energy produced. In addition to serving the domestic market, all AVR's waste treatment plants are accredited with "R1" status, enabling the treatment of waste which are imported from European Union countries. Waste products which AVR treats include biomass, industrial waste water, municipal solid waste, commercial waste, and hazardous waste, all of which are treated and converted into energy, including electricity, steam and heat. AVR is also one of the largest sustainable district heating producers in the Netherlands.

Dutch Enviro Energy's new contract with The Hague municipality started on 1st March, 2020. In early 2020, the company also signed a similar contract with all the municipalities in the Province of Utrecht to transfer, transport and process residual waste.

Dutch Enviro Energy will conduct a pilot programme in collaboration with a British company to combine captured CO<sub>2</sub> with fly ash to produce a raw material for the construction industry. Upon successful trials, the programme will proceed to commercial operations.

## ISTA

ista is a leading international provider of sub-metering and related services with over 100 years of experience. Headquartered in Essen, Germany, ista's operations range from hardware development, manufacturing, installation and maintenance to meter reading, data collection and processing, individual billing, as well as energy data management. In addition, ista offers other services for buildings such as provision of smoke alarms, humidity sensors, drinking water analysis, leakage detection as well as energy audit certificates. With a presence in over 20 countries, ista services more than 13 million households with over 60 million installed measuring devices. The company's major markets are Germany, France, the Netherlands and Denmark.



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ista was named an outstanding employer by the Top Employers Institute for seven years running. On an annual basis, the Amsterdam-based Top Employers Institute presents awards to companies or organisations that meet exceptionally high standards as employers. The independent certification institute assesses different areas of HR work in 10 categories, such as recruitment processes, as well as staff and management development, etc. ista's introduction of an innovative software solution that streamlines HR administration procedures impressed the Institute in particular.

During the year, ista acquired two sub-metering companies in Germany: Hildebrand & Schoenfeldt GmbH & Co. KG based in northern Germany, and Krohn + Scheddel GmbH & Co. KG which is located in Bad Homburg. The acquisitions are poised to strengthen ista's market position in the respective regions.

ista also made an investment in facilioo in 2020. facilioo is a Berlin-based start-up that has been operating a digital platform for the real estate industry since 2016. It is a software solutions provider supporting property management companies, tenants and owners to achieve digitalisation. ista will partner with facilioo to jointly develop an open digital service platform for the real estate industry.

sonsonic 3, an advanced heat meter module, was launched by ista during the year. The brand-new sonsonic 3 was developed with ista's radio technology and combines several solutions in one device. The product was certified by PTB, the national metrology institute of Germany. The new product has been rolled out in the Netherlands, Italy, Poland and Germany.



## Infrastructure Investments in **CANADA**

In Canada, CKI has investments in Canadian Power, which holds a portfolio comprising stakes in five electricity generation plants in Ontario, Alberta and Saskatchewan; Park’N Fly, the largest off-airport car park provider in the country; Canadian Midstream Assets, which holds oil and gas midstream assets in Alberta and Saskatchewan; and Reliance Home Comfort, a residential services company under the Household Infrastructure portfolio of the Group.

## BUSINESS REVIEW



Canadian Power owns the Meridian cogeneration plant, a natural gas-fired plant in Saskatchewan.

### CANADIAN POWER

Canadian Power owns (i) 100% of the Meridian cogeneration plant, a 220 MW natural gas-fired plant in Saskatchewan; and (ii) 49.99% of TransAlta Cogeneration, L.P. (“TransAlta”), which operates three natural gas-fired cogeneration plants in Alberta and Ontario, as well as a coal-fired/ gas-fired plant in Alberta.

In 2020, Canadian Power completed the first stage of coal-firing to gas-firing conversion at the Sheerness power station in Alberta. The second stage is scheduled to commence by the first quarter of 2021. This initiative is expected to extend the plant’s life to 2037.

### PARK’N FLY

Park’N Fly, Canada’s leading off-airport car park company, provides parking solutions to both business and leisure travellers coast-to-coast. Headquartered in Mississauga, Ontario, the company has operations in seven Canadian cities – Vancouver, Edmonton, Winnipeg, Ottawa, Toronto, Montreal and Halifax. The company offers self-park, valet parking as well as a host of other vehicle related services such as detailing and oil changes in selected cities.

Park’N Fly’s business depends on traffic. As international travel ban has been in place due to COVID-19 and the level of domestic travel is minimal, the company’s business was severely impacted in 2020.

In addressing these challenges, Park’N Fly implemented a series of cost reduction measures. Other than applying for government emergency and wage subsidies, the company generated modest income from leasing land to car rental, logistics and transportation companies.



Park’N Fly, Canada’s leading off-airport car park company, provides parking solutions to both business and leisure travellers coast-to-coast.

## CANADIAN MIDSTREAM ASSETS

Canadian Midstream Assets comprises approximately 2,200 kilometres of crude oil pipelines, approximately 6 million barrels of oil storage capacity, as well as natural gas infrastructure assets in Alberta and Saskatchewan, Canada. Characterised by long-term contracts, Canadian Midstream Assets generates secure and predictable returns for CKI. The company continued to execute its growth plans in 2020 with the successful completion of the Spruce Lake Central segment of the Saskatchewan Gathering System phased expansion and 1.5 million barrels of additional crude oil storage capacity in its Hardisty terminal. All were safely completed on time and on budget during the pandemic following extensive safety protocols.

2020 was a difficult year as the COVID-19 pandemic reduced demand and activity in the oil and gas industry. While Canadian Midstream Assets was impacted by lower throughput and activity levels on its system, the company had an exceptional year from cashflow and operation perspectives. The strength of this business was clearly demonstrated as cashflows and earnings continue to grow compared to prior years with the impact of lower activity levels offset by contracted cashflows and cost reduction initiatives.

During the year, Husky Energy announced a merger with Cenovus Energy; nonetheless the move has not affected CKI's contract in regards to Canadian Midstream Assets.



**Canadian Midstream Assets expanded the crude oil storage capacity in its Hardisty terminal.**



**In 2020, Reliance Home Comfort delivered an exceptional performance and maintained its market leadership.**

## RELIANCE HOME COMFORT

Reliance Home Comfort is principally engaged in the home and commercial services sector providing the sale and rental of water heaters, HVAC (heating, ventilation and air conditioning) equipment, water purification, plumbing, electrical, comfort protection plans and other related services primarily in Ontario, Canada. Reliance Home Comfort serves over 1.9 million customers and has one of the largest networks of licensed technicians in Canada.

Reliance Home Comfort's Contact Centre Team was presented with the Rising Above Team Award in the Greater Toronto Contact Centre Association Annual Award. Moreover, the company was re-certified as "Canada's Most Admired Corporate Cultures™" for fostering a workplace culture that enhances performance and sustains a competitive advantage.

In 2020, Reliance Home Comfort delivered an exceptional performance and maintained its market leadership. The company completed three acquisitions during the year, further expanding its business portfolio in Ontario and Saskatchewan. High-growth business segments of the company include water purification systems, HVAC, comfort protection plans and water heaters. These businesses are expected to record growth in the next few years.



### Infrastructure Investments in

# HONG KONG AND MAINLAND CHINA

CKI's Hong Kong and Mainland China portfolio holds a mix of infrastructure materials business and Mainland infrastructure investments.

In Mainland China, investments include toll roads and bridges in Guangdong province, namely the Shen-Shan Highway (Eastern Section), Shantou Bay Bridge and Panyu Beidou Bridge. As for the infrastructure materials business, CKI's industry leading position in Hong Kong encompasses the production of cement, concrete and aggregates.

Green Island Cement's new slag-grinding plant at Tap Shek Kok commenced operation in late 2020. The plant grinds slag to produce ground granulated blast-furnace slag ("GGBS") for use as a partial replacement of cement in concrete. With a lower carbon footprint than portland cement, GGBS is an excellent replacement material for Pulverised Fly Ash. It is anticipated that this slag plant initiative at its full capacity will result in the prevention of around 284,000 tonnes of carbon dioxide equivalent emissions per year.

The cement company's operations in Guangdong is exploring the conversion of different types of industrial waste into energy. This will help reduce coal consumption and alleviate the burden on landfills.

Alliance Construction Materials Limited ("Alliance"), which operates CKI's concrete and aggregates businesses, is a joint venture between CKI and HeidelbergCement AG. Despite the disruption of raw materials supply chain from Mainland China to Hong Kong due to the pandemic, Alliance managed to maintain stable and high-quality concrete supply for



**Alliance managed to maintain stable and high-quality concrete supply for the construction of two quarantine camps at Lei Yue Mun Park and Penny's Bay in the first quarter of 2020 amidst the COVID-19 outbreak.**

the construction project of two quarantine camps at Lei Yue Mun Park and Penny's Bay in the first quarter of 2020 when the COVID-19 outbreak commenced.

Alliance was granted the Platinum Label of Green Product Certification by Construction Industry Council for its high-performance, durable and sustainable green concrete products. The certified low carbon concrete products play an important role in supporting the construction industry in achieving the decarbonisation targets.



**Green Island Cement's new slag-grinding plant at Tap Shek Kok commenced operation in late 2020.**