

OPERATING & FINANCIAL REVIEW

INFRASTRUCTURE

WE DEVELOP, OWN AND OPERATE QUALITY INFRASTRUCTURE ASSETS AND PROVIDE CONNECTIVITY SOLUTIONS.



EARNINGS HIGHLIGHTS (\$ million)

	2019	2018	2017
Revenue	2,927	2,629	2,207
EBITDA	172	150	169
Operating Profit	114	106	125
Profit before Tax	188	184	170
Net Profit	169	169	134
Average Headcount (Number)	2,521	2,698	2,618
Manpower Cost	201	183	180

MAJOR DEVELOPMENTS IN 2019

Construction of Keppel Marina East Desalination Plant is on track for completion in 2020.

Expanded energy and environmental capabilities with investments in MET Holding and Zerowaste Asia.

Completed first LNG cargo import from North America.

Maintained Keppel Electric's position as one of the largest OEM retailers in Singapore.

Continued to grow the Group's data centre business, and injected Keppel DC Singapore 4 into Keppel DC REIT.

Grew logistics network and omnichannel solutions offerings to customers beyond Singapore.

FOCUS FOR 2020/2021

Continue to seek out value-enhancing projects locally and overseas, leveraging the Division's project development, engineering, operation and maintenance expertise.

Harness the strength of an integrated gas, power and district cooling platform to pursue growth opportunities.

Continue to build up a portfolio of quality data centre assets and provide higher value services to customers.

Extend and develop new B2C retail and marketing capabilities in electricity, e-commerce and urban logistics, adding value to product offerings and improving customer experience.

Strengthen collaboration with Keppel Capital to tap third-party funds for growth.

EARNINGS REVIEW

The Infrastructure Division comprises the Group's businesses in energy, environment and infrastructure services, as well as data centres and logistics.

The Infrastructure Division's revenue for FY 2019 was \$2.9 billion, an increase of 11% or \$298 million from FY 2018's net profit. This was mainly due to increased sales in the power and gas business, as well as higher progressive revenue recognition from ongoing infrastructure projects.

The Division's net profit of \$169 million for FY 2019 was comparable to the previous year's. Keppel Infrastructure continued to grow as a steady contributor to the Group's earnings, with net profit improving to \$133 million for FY 2019, from \$117 million for FY 2018, due to improved performance from Energy Infrastructure and Environmental Infrastructure.

Attesting to the Group's ability to create value through its eco-system, Alpha Data Centre Fund (Alpha DC Fund) and Keppel Data Centres (KDCH) divested Keppel DC Singapore 4 (KDC SGP 4) to Keppel DC REIT in FY 2019, with KDC SGP 4 contributing about \$50 million in revaluation and divestment gains.

In FY 2019, the Infrastructure Division contributed 24% to the Group's net profit.

ENERGY INFRASTRUCTURE Operating Review

Our Energy Infrastructure business achieved commendable financial performance in 2019.

Keppel Electric continued to grow its customer base across commercial, industrial and residential users in 2019. Keppel Electric is also one of the largest Open Electricity Market (OEM) retailers, with about 26% market share of residential consumers as of December 2019. During the year, Keppel Electric and M1 collaborated to bundle its services, thereby enhancing customer experience and allowing the Group to gain a bigger share of customers' wallets.

Keppel Gas remains focused on providing customers with competitive, value-added gas supply options. In 2019, the company successfully completed its first Liquefied Natural Gas (LNG) cargo import from North America under Singapore's Spot Import Policy. The LNG cargo was re-gasified as feedstock for downstream customers and end users, including the Keppel Merlimau Cogen plant.

In 2019, Pipenet was awarded two contracts worth \$100 million by JTC Corporation to design and build pipe racks,

crude oil pipelines and ancillary facilities on Jurong Island, Singapore. To be completed in 2020, the facilities will enable the transportation of crude oil between the Jurong Rock Caverns and its users, aiding commercial activity.

Meanwhile, Keppel DHCS remained active during the year, increasing the customer base for its one-north facility.

Keppel Electric is one of the largest OEM retailers, with about 26% market share of residential consumers as of December 2019.

In 2019, Keppel Infrastructure entered into an agreement to acquire a 20% stake in MET Holding (MET), an integrated European energy company headquartered in Switzerland. The investment marks Keppel Infrastructure's first foray into the European energy market to gain exposure to the growing energy platforms that MET is active in. The two companies will enter into a strategic partnership to jointly explore investment opportunities focusing on European energy infrastructure assets.

Market Review & Outlook

In 2019, LNG prices softened due to ample supply and lacklustre demand resulting from warmer-than-expected weather. This provided opportunities for Keppel's integrated gas and power business to optimise its fuel cost. The ample supply of LNG is likely to continue in 2020.



During the year, Keppel DHCS expanded the customer base in its one-north facility.

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Meanwhile, the district cooling systems (DCS) sector continues to experience a steady increase in demand, with a compounded annual growth rate (CAGR) of 6.6% since 2010. This is driven by the Singapore government's intensification of land use and promotion of sustainable cooling. Keppel DHCS will continue to pursue growth opportunities in Asia to expand its geographical reach.

ENVIRONMENTAL INFRASTRUCTURE Operating Review

Our Environmental Infrastructure business performed well in 2019, underpinned by contributions from infrastructure projects in Hong Kong and Australia. During the year, Keppel Seghers continued to execute its infrastructure projects well, focusing on safety and quality.

In Singapore, construction of the dual-mode Keppel Marina East Desalination Plant (KMEDP) is progressing well. The facility is currently undergoing testing and commissioning and is on track for completion in 2020. Upon completion, KMEDP will contribute to the resilience of Singapore's water supply. KMEDP's design also blends seamlessly into the environment, allowing the public to enjoy the green space above the plant along with the surrounding greenery of the Marina Bay area.

Meanwhile, the engineering design work for the Hong Kong Integrated Waste Management Facility (IWMF) is making good progress and key procurement packages have been secured. Prefabrication works for the Hong Kong IWMF have commenced and reclamation works are ongoing.

In China, Keppel Seghers maintained its position and track record as a leading imported waste-to-energy (WTE) technology solutions provider. In 2019, Keppel Seghers successfully delivered WTE technology

solutions for three plants and is currently executing six projects with a total incineration capacity of over 14,000 tonnes per day (tpd). Meanwhile, the Baoan III WTE plant in Shenzhen is on track for completion in 2020. Upon completion, the location will house over 8,800 tpd of incineration capacity, making it the world's largest incineration facility from a single technology provider.

In Australia, engineering design work and procurement of key packages are advancing for the Kwinana WTE plant. The plant is expected to be completed in 2021.

In December 2019, Keppel Seghers entered into an agreement to acquire an 18.2% stake in Zerowaste Asia (Zerowaste). The Singapore-based company offers one-stop environmental solutions for industrial solid waste and wastewater treatment. The strategic investment of Zerowaste complements and enhances Keppel Seghers' suite of environmental solutions, creating new opportunities for the Group as a provider of solutions for sustainable urbanisation.

In 2020, Keppel Seghers secured two contracts in Ahmedabad and Rajkot in India with a total capacity of 1,700 tpd. This signifies increasing interest in WTE as a viable waste treatment option for many states of India.

Market Review & Outlook

According to the United Nations' World Population Prospects 2019 report, the global population is expected to reach 8.5 billion in 2030 from 7.7 billion in 2019. Waste generation is also expected to grow correspondingly. Concurrently, growing social awareness on environmental issues has led to increased pressure on governments and corporations to adopt more holistic and sustainable economic development.

Amidst rapidly depleting landfill capacities and rising public awareness of environmental and pollution issues, governments around the world have become more proactive in sourcing for sustainable waste management solutions. Thus, the adoption of WTE technology as the preferred long-term waste management solution has been gaining traction.

In China, as part of the nation's focus on sustainable waste management, the Government plans to add over 100 WTE facilities across the country over the next few years.

In major cities across Southeast Asia (SEA), the need to implement modern waste management solutions before the end of the lifespan of existing landfills has become imperative. In Singapore, the inaugural launch of its Zero Waste Masterplan saw significant milestones including the passing of the new Resource Sustainability Bill and National Environment Agency's tender launch for a state-of-the-art IWMF which can treat up to 5,800 tpd of incinerable waste and recover up to 250 tpd of recyclable waste.

The increasing global focus on zero waste and a circular economy model will lead to greater focus on investments into sustainable and integrated waste management solutions. Leveraging its advanced technology and strong execution track record, Keppel Seghers is well positioned to support governments and industries with its sustainable environmental solutions.

INFRASTRUCTURE SERVICES

Operating Review

Keppel Infrastructure Services (KIS) continued to contribute steadily to the Group's recurring income base. KIS remained focused on maintaining high operation standards by maximising availability, reliability and efficiency of its assets. Guided by the belief



1 The Hong Kong IWMF will add to the Group's recurring income when it commences its 15-year operation and maintenance contract in 2024.

2 During the year, KDC SGP 4 was injected into Keppel DC REIT.

that every incident is preventable, KIS operates and maintains assets in its portfolio with a focus on safety.

In 2019, the Domestic Solid Waste Management Centre in Doha, Qatar, upgraded its Separation and Recycling plant, improving its capacity and reliability, as well as its recovery efficiency of ferrous and non-ferrous metals and plastics.

Meanwhile, in Singapore, Keppel Seghers Tuas WTE plant achieved its highest availability and shortest overhaul period since commencing operations in 2009.

Upon commencement of KMEDP's commercial operations in 1H 2020, KIS will operate and maintain the plant for 25 years. KMEDP, with its unique dual-flow feed, will broaden KIS' operation and maintenance capability and portfolio of water solutions.

KIS will continue to set the benchmark for high-quality infrastructure services, while seeking to positively impact and improve outcomes. Through knowledge sharing across assets, KIS is able to design and deploy unique solutions to create long-term value for customers. Through the operation and maintenance of assets in its portfolio, KIS will continue to generate recurring income for the Group.

Market Review & Outlook

Digitalisation, Industry 4.0 and climate change have become integral parts of government and industry blueprints, creating exciting opportunities for KIS to enhance its operation and maintenance practices and solutions. KIS is actively looking at automating selected processes across the plants that it operates and maintains.

Supporting the Group's commitment to build a sustainable future, KIS will continue to actively seek new projects spanning DCS, water, WTE and power to deliver high-quality, value-added operation and maintenance services.

DATA CENTRES

Operating Review

In 2019, KDCH continued to pursue expansion opportunities in target markets while enhancing its capabilities and service offerings to meet the growing demand for big data and connectivity. Today, the Group has a portfolio of 25 high-quality data centres, including four under development, across 14 cities in the Asia Pacific and Europe.

KDCH and Alpha DC Fund continued to grow their portfolio and make headway in the development of their assets during the year.

In 2019, Alpha DC Fund and KDCH divested KDC SGP 4 to Keppel DC REIT. The asset



generated total gains of about \$83 million for the Group from 2016 through to divestment. In addition, after the injection of KDC SGP 4 into Keppel DC REIT, the Keppel Group will continue to earn recurring income from the operation and maintenance of the asset, as well as asset management fees. The divestment of KDC SGP 4 is an example of how the Keppel Group creates value and generates different income streams throughout the life cycle of its assets.

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In Australia, Alpha DC Fund acquired a plot of freehold land in Gore Hill Technology Park to develop Keppel DC Sydney 1, the Fund's first greenfield data centre in Australia. The construction of the data centre's shell and core, as well as initial fit-out, are expected to be completed by 1H 2021.

In SEA, KDCH commenced construction of its greenfield data centre in an industrial park in Johor, Malaysia. Upon completion in 2020, the data centre will be fully committed by the customer. Meanwhile, KDCH also commenced construction of

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IndoKeppel Data Centre 1, a greenfield data centre located in Bogor, Indonesia. The construction of the data centre's core and shell, as well as first phase fit-out, are expected to be completed by 2H 2020.

KDCH and Alpha DC Fund entered into several strategic partnerships in 2019 to strengthen their capabilities and the Group's position as the data centre industry's partner of choice.

With their high internal loads and the need for continuous cooling and operations in tightly-controlled environments, data centres are large consumers of power. As a leading provider of data centre solutions, KDCH is focused on developing greener data centres. In 2019, National University of Singapore's Faculty of Engineering, KDCH and Singapore LNG Corporation announced a collaboration to develop novel, energy-efficient and cost-effective cooling technology for data centres, which could pave the way for more sustainable and compact data centres.

Harnessing synergies across the Group, Keppel Telecommunications & Transportation (Keppel T&T) is also pursuing innovative new data centre solutions in collaboration with other business units, including high-rise green data centres and floating data centre parks.

Market Review & Outlook

The proliferation of the Internet of Things, big data, artificial intelligence and cloud-based services continue to drive demand for data centres.

According to GlobalData, a data analytics and consulting company, Asia Pacific is expected to become the second largest region for data centre and hosting services, reaching 30% by 2023, to be closely followed by Europe. Within the colocation market, Cushman & Wakefield expects Asia Pacific and Singapore to record CAGRs of around 12% and 5% respectively between 2019 and 2024.

Singapore is on track to roll out 5G mobile networks by 2020, and Keppel is well positioned to tap the resultant demand for data centres arising from 5G developments.

KDCH will continue to work closely with Alpha DC Fund to proactively seek new development and acquisition opportunities in the Asia Pacific and Europe. KDCH will also sharpen its value proposition, especially in the areas of enhancing connectivity, as well as explore innovative and sustainable data centre designs and technologies.

LOGISTICS

Operating Review

In 2019, Keppel Logistics continued to build new capabilities and expanded its

omnichannel solution offerings to customers in SEA.

Keppel Logistics maintained an average warehouse occupancy rate in Singapore of over 70% during the year. The company also began upgrading its Singapore facilities to better serve its customers, especially in niche sectors such as healthcare.

In 2019, Keppel Logistics ramped up the integration of UrbanFox which will allow the Logistics division to capture new growth opportunities in the e-commerce market and provide omnichannel logistics solutions to customers.

UrbanFox grew its customer base to over 500 brands as at end-2019 from over 200 brands as at end-2018. UrbanFox expanded its presence in SEA, launching its channel management services in Malaysia and Vietnam in 2H 2019, and was appointed as a cross-border e-commerce initiative partner by the Malaysian Digital Economy Corporation. The company will continue to grow its suite of omnichannel logistics services overseas.

In Vietnam, Indo-Trans Keppel Logistics Vietnam improved its operational efficiency through the consolidation of its warehouse operations. Meanwhile, PT Keppel Puninar Logistics established its first warehouse operation in Surabaya, Indonesia and Keppel Logistics' Malaysia warehouse was digitally enabled to perform B2C order fulfilment.

Further afield in Australia, Keppel Logistics relocated its operations to a larger warehouse in Rochedale, Brisbane. With better connectivity and larger capacity, the new

warehouse is well positioned to support the growth of Australia's businesses.

As part of Keppel T&T's strategic review of its logistics portfolio in China and to streamline its operations and better allocate resources, Keppel T&T divested Keppel Logistics (Foshan) and Keppel Logistics (Hong Kong) for a total consideration of about \$39 million in 2019.

In Anhui province, the Wuhu Sanshan Port experienced an increase in cargo handling in 2019 due to an increase in customers' requirements. Meanwhile, the construction of the Keppel Wanjiang International Coldchain Logistics Park was completed in April 2019, and the park has started providing integrated third-party logistics services to customers.

Market Review & Outlook

Despite headwinds in the macroeconomic environment, the e-commerce market in Asia remains promising. According to a joint study by Google, Temasek and Bain & Company published in 2019, SEA's internet economy reached US\$10 billion in 2019, driven mainly by e-commerce and ride hailing. The study reported that the internet economy would grow to US\$300 billion by 2025, with Indonesia and Vietnam leading the way at growth rates of over 40% per annum. Meanwhile, the internet economies in Singapore, Malaysia, Thailand and the Philippines are expected to grow at between 20% and 30% per annum.

Leveraging the Group's international presence and its integrated end-to-end services, Keppel Logistics is well positioned to tap the growing demand for e-commerce in the region.



During the year, Keppel Logistics built new capabilities and expanded its omnichannel solution offerings to customers in SEA.