Operating & Financial Review

We are a developer, owner and operator of quality infrastructure assets with a focus on growing stable income from the management, operations and maintenance of our projects and the provision of connectivity solutions.

Earnings Highlights ($m)

	2018	2017*	2016*
Revenue	**2,629**	2,207	1,744
EBITDA	**150**	169	136
Operating Profit	**105**	125	94
Profit before Tax	**184**	170	123
Net Profit	**169**	134	99
Average Headcount (Number)	**2,698**	2,618	2,669
Manpower Cost	**183**	180	173

* 2017 financial figures have been adjusted following the adoption of Singapore Financial Reporting Standards (International). 2016 financial figures were prepared in accordance with Singapore Financial Reporting Standards and certain amounts have been reclassified for comparability purposes.

Major Developments in 2018

Secured $180 million worth of contracts in energy and environmental infrastructure across Singapore, Australia, China and Europe.

Signed two agreements to develop and operate data centres in Jakarta, Indonesia and Johor, Malaysia.

Signed partnership agreements to explore data centre opportunities in China.

Raised stake in UrbanFox to 85% to pursue growth in e-commerce channel management and last-mile fulfilment.

Focus for 2019/2020

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

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

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

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

Earnings Review

We are a developer, owner and operator of quality infrastructure assets with a focus on growing stable income from the management, operations and maintenance of our projects and the provision of connectivity solutions. The Infrastructure Division comprises the Group's businesses in energy, environment and infrastructure services, as well as logistics and data centres.

The Infrastructure Division's revenue for FY 2018 was $2.6 billion or 19% higher than FY 2017, mainly due to strong performance from Energy Infrastructure.

The Division's FY 2018 net profit of $169 million was $35 million or 26% higher than FY 2017, due to higher profit from Environmental Infrastructure, Infrastructure Services and Data Centres. During the year, Infrastructure Services continued to contribute steadily to the Group's recurring income base.

In FY 2018, the Infrastructure Division contributed 18% of the Group's net profit.

Energy Infrastructure

Operating Review

Despite the challenging market conditions, Keppel's Energy Infrastructure business continued to perform well in 2018.

Since the launch of the Open Electricity Market (OEM) in Singapore in 2018, competition in the electricity market has intensified. Alongside marketing activities, Keppel Electric partnered other companies including M1, CityGas, and the nation's local banks to expand its customer reach. Preliminary results have shown that Keppel Electric is among the retailers with the largest market shares in the OEM. Keppel Electric has also grown its commercial and industrial customer base and advanced its position to become Singapore's largest private electricity retailer with a market share of 14.5% in December 2018, compared to 14% in December 2017.

Keppel Gas continued to ramp up its gas supply to serve an expanding customer base. Under long-term contracts, the revenue growth from an increased offtake of gas by its customers will contribute to the Group's recurring income stream.

In 2018, Keppel Infrastructure's wholly-owned subsidiary, Pipenet, was awarded a contract by JTC Corporation (JTC) to design, build and operate pipe racks in Jurong Island, Singapore, worth about $40 million. The racks, slated for completion by 2020, will add to the Group's recurring income base upon commencement of the 15-year operations and maintenance phase of the contract. JTC has the option to extend the operations and maintenance contract for another 15 years.

During the year, Keppel DHCS clinched a contract for the initial design phase of a new district cooling services (DCS) plant in the upcoming Jurong Innovation District in Singapore. Contingent upon approval by JTC, there may be a subsequent phase of the contract to build, own and operate a DCS plant, with a capacity of up to 14,000 refrigeration tonnes (RT), on a 30-year contract term. With the aggregate installed capacity across major business and industrial parks projected to increase to 74,000 RT, Keppel DHCS remains the largest DCS provider in Singapore.

Under a research grant awarded by the Energy Market Authority in Singapore, Keppel DHCS and the National University of Singapore are jointly developing novel heat transfer materials for DCS. If successful, the new technology would not only improve energy efficiency by as much as five times but could also result in space savings of the same magnitude. The project is expected to be completed by 2021.

Market Review & Outlook

Singapore's average electricity demand remained subdued in 2018, increasing 1% from 2017. Meanwhile, the electricity retail market experienced significant expansion with the nationwide launch of the OEM, to be progressively rolled out, from 1 November 2018. Since then, an estimated 450,000 households have been given contestable status as at end-2018, and about one-third of contestable consumers have switched to their retailer of choice. With 13 electricity retailers participating in the OEM, the market remains highly competitive.

It is estimated that as at end-2018, about 1.3 million households had yet to switch to a private electricity retailer. Keppel Electric will increase its efforts to target this untapped market and expand its market leadership in the electricity retail market as the OEM is progressively rolled out in 1H 2019.

Since 2015, natural gas has consistently accounted for 95% of the fuel mix used in power generation in Singapore. The ongoing efforts by the government to develop Singapore as a gas trading hub are expected to yield additional supplies of gas. Keppel Gas is exploring new opportunities to deliver competitive, value-added solutions to existing and potential customers.

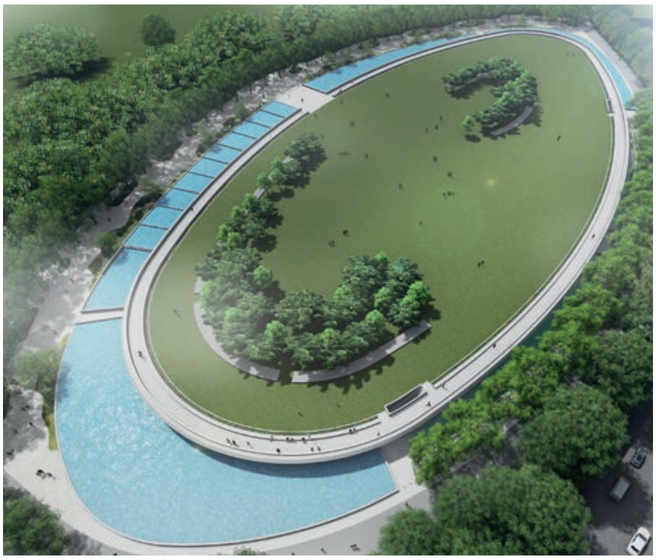
Meanwhile, Singapore's DCS sector continues to experience a steady increase in demand, with a compounded annual growth rate (CAGR) of 7% since 2010. This is driven by the Singapore government's intensification of land use and promotion of sustainable cooling. Further afield, Keppel DHCS is actively looking for growth opportunities in Asia to expand its geographical reach.

Environmental Infrastructure

Operating Review

In 2018, Keppel Seghers secured two performance bonuses and signed a five-year Technical Support Agreement with Viridor EfW (Runcorn) in the United Kingdom. The bonuses, which totalled about $7 million, were awarded in recognition of the plant's higher electrical efficiency and lower chemical consumption since commencing operations in 2015.

During the year, Keppel Seghers expanded its track record as a choice provider of waste-to-energy (WTE) technology and services, and its geographical reach.



Upon completion in 2020, the Keppel Marina East Desalination Plant will contribute to the Group's recurring income stream.

Operating & Financial Review
Infrastructure


1

1
Keppel Infrastructure Services will operate and maintain the Hong Kong IWMF when it is completed in 2024.

2
Senior management from Keppel T&T and the Salim Group marked the groundbreaking of IKDC 1 on 17 January 2019.

In China, Keppel Seghers secured a contract to provide WTE technology and services for a project in Xian, Shaanxi Province. With this, Keppel is currently executing nine technology package projects with a total incineration capacity of over 15,000 tonnes per day in China. Meanwhile, the Sino-Singapore Tianjin Eco-City Water Reclamation Centre commenced commercial operations in January 2018.

In October 2018, Keppel Seghers secured a contract to supply technology and services worth over €70 million for Australia's first WTE plant in Kwinana. When completed in 2021, the facility, which utilises Keppel Seghers' proprietary technology, can reduce the volume of waste for landfills by over 90% and export about 36 megawatts of green electricity to the grid.

In Singapore, the Keppel Marina East Desalination Plant (KMEDP) is on track for completion in 2020. Meanwhile, engineering design work is progressing well for Phase 1 of the Hong Kong Integrated Waste Management Facility (IWMF), with key procurement and prefabrication works expected to commence in 2019 alongside ground preparation for reclamation works.

Market Review & Outlook

In 2018, the world generated over two billion tonnes of municipal solid waste (MSW) and the annual waste generated is expected to increase by 70% to about 3.4 billion tonnes by 2050. With continued population growth and rapid urbanisation, the sustainable collection and treatment of MSW have become key focus areas for governments globally.

In China, the government continues to limit the addition of landfills, and maintains its push towards the target of treating one-third of China's solid waste using proven incineration technologies by 2030. As a result, the demand for incineration projects in China is likely to increase over the next few years.

In India, favourable feed-in tariffs for green power generated from solid waste continue to fuel strong interest in WTE projects. With MSW constituting about 75% of India's waste and continuing pressure for more efficient treatment processes, opportunities for waste management solutions in India's more developed regions are expected to increase.

Countries within Southeast Asia (SEA) present good market potential, given the increasing level of environmental awareness, less developed waste management structures, as well as rapid urbanisation in several countries. Moreover, landfills in major cities are no longer viable as land has become scarce and expensive. Locally, Singapore's declaration of 2019 as the Year Towards Zero Waste will provide new opportunities for the development of waste management solutions.

In Europe, the focus has turned to improving and upgrading waste management facilities to fulfil the European Union's waste legislation on landfill diversion. This has created pockets of opportunities across member countries.

With a global track record in waste and water projects, Keppel Seghers is well positioned to support municipalities and industries with its proven solutions and strong operational competencies.

Infrastructure Services
Operating Review

Keppel Infrastructure Services (KIS) continues to maintain high operating standards by maximising availability, reliability, and efficiency for its portfolio of assets spanning the power, WTE, water and district cooling sectors. With its track record of executional excellence, KIS sets the benchmark in the industry for operations and maintenance.

KIS is also focused on improving the operational efficiency of its plants. Amongst improvement projects in 2018 was the modification of the flue gas treatment system at the Keppel Seghers Tuas WTE plant, which enhanced the plant's chemical scrubbing operations.

Harnessing synergies, KIS has synchronised its procurement activities with other units within the Group. This has allowed KIS to boost data control and audit compliance, demonstrating its commitment towards good corporate governance.

Market Review & Outlook

New regulatory regimes and urbanisation blueprints are increasingly fuelled by burgeoning concerns around climate change. While these trends provide exciting opportunities, KIS must continue to evolve and adapt for more resource-efficient and environmentally-friendly operations and maintenance solutions.

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

Data Centres

Operating Review

Keppel Data Centres Holding (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 22 data centres across 14 cities in Asia Pacific and Europe.

KDCH along with Alpha Data Centre Fund (Alpha DC Fund) has entered into several strategic partnerships to develop and operate data centres in the Asia Pacific.

In a joint venture with the Salim Group, KDCH and Alpha DC Fund will develop and operate a data centre in Bogor, about 35 kilometres from Jakarta, Indonesia. The IndoKeppel Data Centre 1 (IKDC 1), with a 3-hectare land plot, will be the first phase of a larger data centre campus development that will cater to a growing demand for quality data centre space in Indonesia. IKDC 1 will be a Tier 3 data centre with a gross floor area (GFA) of approximately 105,300 square feet (sf). The construction of the data centre's core and shell, as well as first phase fit-out, is expected to be completed by 1H 2020.

KDCH and Alpha DC Fund also entered into an agreement with a leading technology company (the customer) to develop and operate a greenfield data centre in an industrial park in Johor, Malaysia, earmarked to be a data and research hub for the state. The data centre will feature minimum Tier 3 equivalent specifications for concurrent maintainability, spread over 100,495 sf of GFA. Upon expected completion in 2020, the data centre will be fully committed by the customer.

To further expand its footprint, KDCH is fostering partnerships with technology companies in China, to develop, operate and maintain more efficient and robust data centres in China and around the world.

In Singapore, Keppel DC Singapore 4 has secured close to 60% committed occupancy upon the completion of its phase 2 fit-out in 2018. Upon Keppel DC REIT's acquisition of Keppel DC Singapore 5 (formerly known as Kingsland Data Centre), KDCH was appointed as the master lessee and facility manager for the asset.

To meet the changing demands and requirements of clients for greater connectivity, KDCH partnered DE-CIX, one of the world's leading Internet Exchange providers in Frankfurt, Germany, to offer premium interconnection services at Keppel DC Frankfurt 1.

Keppel T&T is pursuing innovative new solutions in collaboration with other business units in the Group. These include floating data centre parks and high-rise green data centres, which may also incorporate cold energy harvesting facilities.

In recognition of its commitment to operational excellence and track record, KDCH was named the Singapore Wholesale Colocation Service Provider of the Year by Frost and Sullivan in November 2018.

Market Review & Outlook

The proliferation of Internet of Things, big data, Artificial Intelligence, and cloud-based services continues to drive demand for data centre space.

According to the Cisco Global Cloud Index, Asia Pacific has been identified as the hot spot of investments for cloud giants, with cloud workloads estimated to grow at a CAGR of 27% from 2016 to 2021. While Tier 1 cities like Singapore remain the preferred location as a cloud region, emerging markets such as Indonesia and Vietnam are gaining traction as focus hubs for data centre investments by cloud giants.

Keppel T&T is pursuing innovative new solutions in collaboration with other business units in the Group. These include floating data centre parks and high-rise green data centres.

2

Operating & Financial Review
Infrastructure

Data centre colocation remains a viable solution for enterprises and cloud services providers, with its flexibility, lower upfront cost and localisation advantages. According to Technavio's latest research, the global data centre colocation market is forecasted to grow at a CAGR of 9% from 2018 to 2022. Structure Research, a research and consultancy firm focused on internet infrastructure, estimates that the Singapore colocation market is expected to register a healthy CAGR of 12%, reaching $2 billion by 2021.

The rising demand and opportunities have also resulted in steeper competition from global incumbents and new players. Additionally, data centre providers also face the challenge of land scarcity.

KDCH will continue to work closely with Alpha DC Fund and Keppel DC REIT to proactively seek new development and acquisition opportunities in Asia Pacific and Europe. It 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 2018, Keppel Logistics focused its efforts on building new capabilities and expanding its omnichannel solution offerings to customers in SEA.

To augment its urban logistics business, Keppel Logistics increased its stake in UrbanFox to 85% from 59.6%. In 2018, UrbanFox expanded its customer base to over 200 channel management customers from five as at end-2017, and more than doubled the number of last-mile business-to-consumer (B2C) deliveries. The company also launched new solution offerings during the year and expanded its UrbanFox Marketplace to include the business-to-business (B2B) segment. As at end-2018, more than 300 brands have been made available on the UrbanFox Marketplace.

In line with its commitment to provide agile and innovative solutions for customers, UrbanFox invested in technology and process optimisation initiatives to strengthen its services. Growing beyond Singapore, it is gearing up to seize opportunities offered by e-commerce in SEA.

In 2018, Keppel Logistics retrofitted its Tampines Logistics Hub in Singapore and increased its warehouse footprint in Malaysia and Vietnam. In Indonesia, Keppel Logistics expanded its transportation fleet and commenced domestic sea freight and air freight delivery services. Meanwhile, the warehouse occupancy and transport volumes in Australia grew during the year with new customer wins.

Keppel Logistics' river ports in Foshan, Guangzhou experienced a drop in throughput, against the backdrop of changing regulatory requirements as well as concerns over trade tensions between the US and China. Construction of the Keppel Wanjiang International Coldchain Logistics Park in Anhui province was completed, and operations are expected to commence in 1H 2019.

Keppel Telecommunications & Transportation is undertaking a strategic review of its China logistics business, as it seeks to optimise and focus resources to become a leading urban logistics solutions provider.

Market Review & Outlook

According to the OECD's latest report, Emerging Asia's Gross Domestic Product is forecasted to grow at an annual average of 6.1% from 2019 to 2023. This is expected to support the growth of urban logistics in SEA through increased domestic consumption and investment.

The e-commerce market in SEA remains promising. A joint study by Google and Temasek published in 2018 reported that SEA's internet economy had hit an inflection point in 2018, when its internet economy's year-on-year growth of 37% exceeded the 32% CAGR recorded between 2015 and 2018. According to the report, SEA's internet economy will continue growing at unprecedented pace, reaching a gross market value of US$240 billion by 2025 from US$32 billion in 2015. Growth of the internet economy is expected to be driven mainly by the e-commerce sector, which is projected to register a CAGR of 34% from 2015 to 2025 to reach a gross market value of US$102 billion by 2025. Within SEA, the highest e-commerce growth is expected to be from Indonesia, Thailand and Vietnam.

Leveraging the Group's global presence and its integrated end-to-end logistics services, Keppel Logistics is well positioned to tap the growing demand for e-commerce in the region. Keppel Logistics will continue to transform its business and build new capabilities to provide omnichannel solutions for the fast-growing e-commerce market in Asia.

During the year, Keppel Logistics fully integrated its B2B and B2C operations at Tampines Logistics Hub in Singapore, and expanded its omnichannel solution offerings to customers in SEA.