

# Building a leading global asset manager & operator

Mr Loh Chin Hua, CEO, Keppel Ltd.

Investor Day, 20 August 2024



# We have taken bold steps to transform Keppel

## 1 What did we do?

Harnessed our industrial roots to transform into a **global asset manager and operator**

### Before

Balance sheet player

Diverse conglomerate

Lumpy trading and order book earnings



### After: the new Keppel

**Asset manager** funding growth with FUM

One **horizontally integrated** company

**Greater recurring income**  
88% of FY23 net profit was recurring versus 25% in FY15<sup>i</sup>

## 2 Why did we transform?

**Financial objective:** improve quality of earnings with more recurring income, enabling market to better value our business

**Defined purpose:** creating solutions for a sustainable future

**Well-placed** to seize opportunities in the fast-changing environment

## 3 How did we transform?

- **Privatised** key business verticals
- **Consolidated asset managers** under Keppel Capital
- **Divested** O&M and logistics businesses
- **Flattened** organisation and **streamlined** processes
- Changed business model to be **asset-light**
- Acquired **Aermont Capital** to accelerate growth, expanding from Asia Pacific to Europe, enroute to becoming a **global asset manager**

# Delivering winning value proposition to LPs

► **Established asset manager** with over 20 years of track record, seasoned management team and well-known LP network

**\$21.9b**

Funds raised from 2020-1H24

**\$30.5b**

Capital deployed from 2020-1H24

**20%**

Average internal rate of return across deals since 2002

**2.0x**

Average equity multiple across deals since 2002

**\$85b**

Funds under Management<sup>i</sup> as at end-June 2024

► **Proven operator** with deep capabilities in engineering, developing, owning and operating specialised real assets as part of Keppel's DNA



Infrastructure



Real Estate



Connectivity

<sup>i</sup> Gross asset value of investments and uninvested capital commitments on a leveraged basis to project fully-invested FUM

# Making strong progress towards our transformation goals

Pressing forward with asset monetisation

>\$5.6b

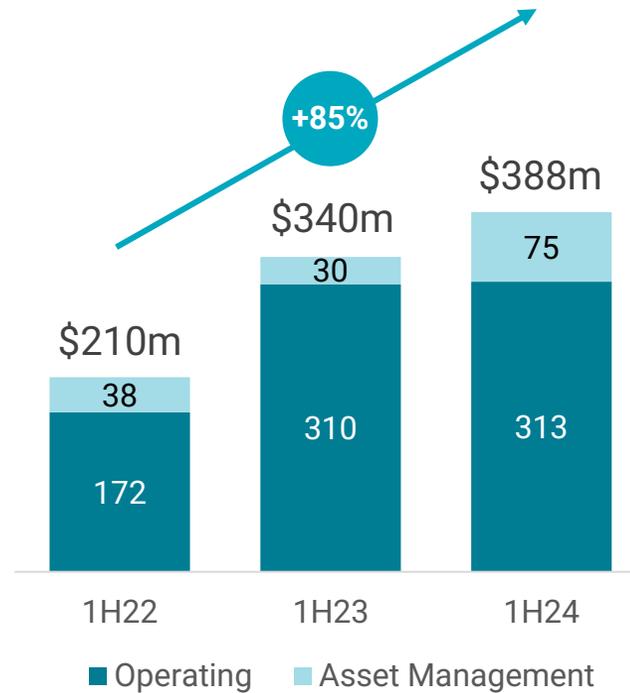
Announced cumulatively since Oct 2020, with target of \$10-\$12b by end-2026

Capturing synergies from transformation

>\$50m

Annual cost savings on a run-rate basis since start of 2023

Recurring income

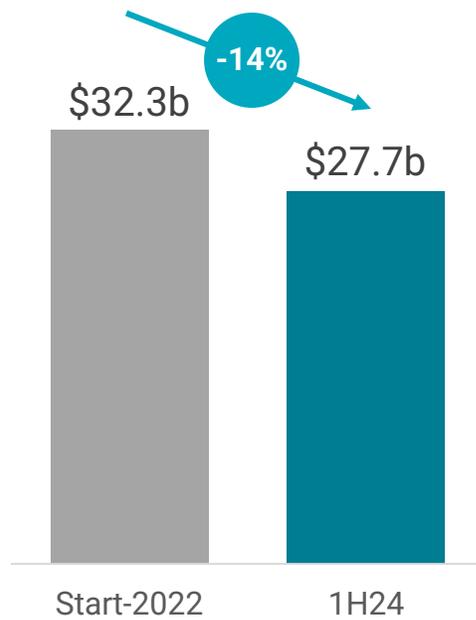


# Our asset-light strategy is bearing fruit

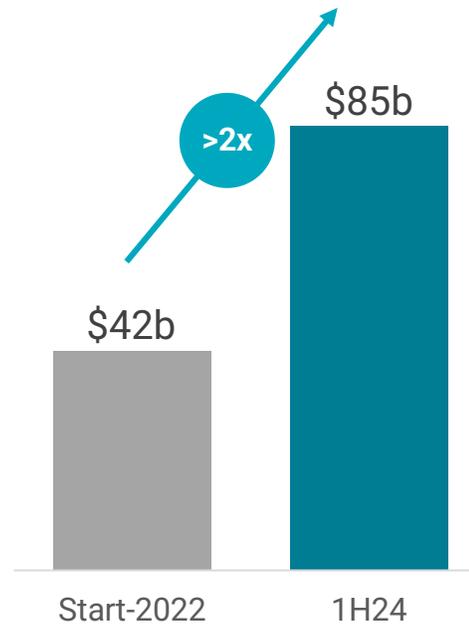
**We are doing more with less, pursuing growth and improving returns to shareholders**

Since the start of 2022, total assets on balance sheet have decreased by 14% to \$27.7b while FUM more than doubled to \$85b, generating attractive fee income at an annualised Fee-to-FUM ratio of 55bps<sup>i</sup>

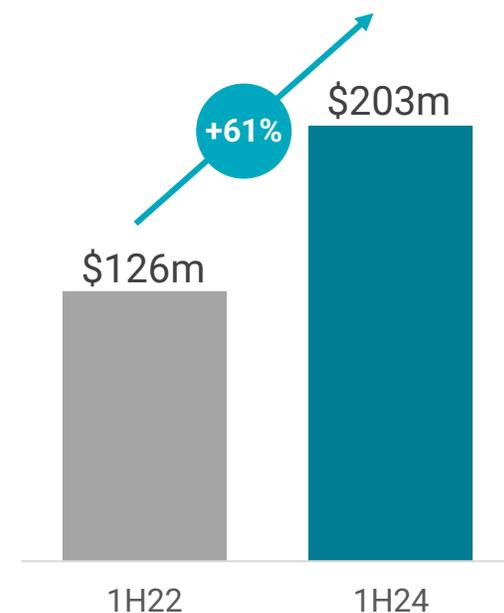
**Assets on Balance Sheet**



**Funds under Management<sup>ii</sup>**



**Asset Management Fees<sup>iii</sup>**



<sup>i</sup> 1H24 Fee-to-FUM ratio is on a run-rate basis

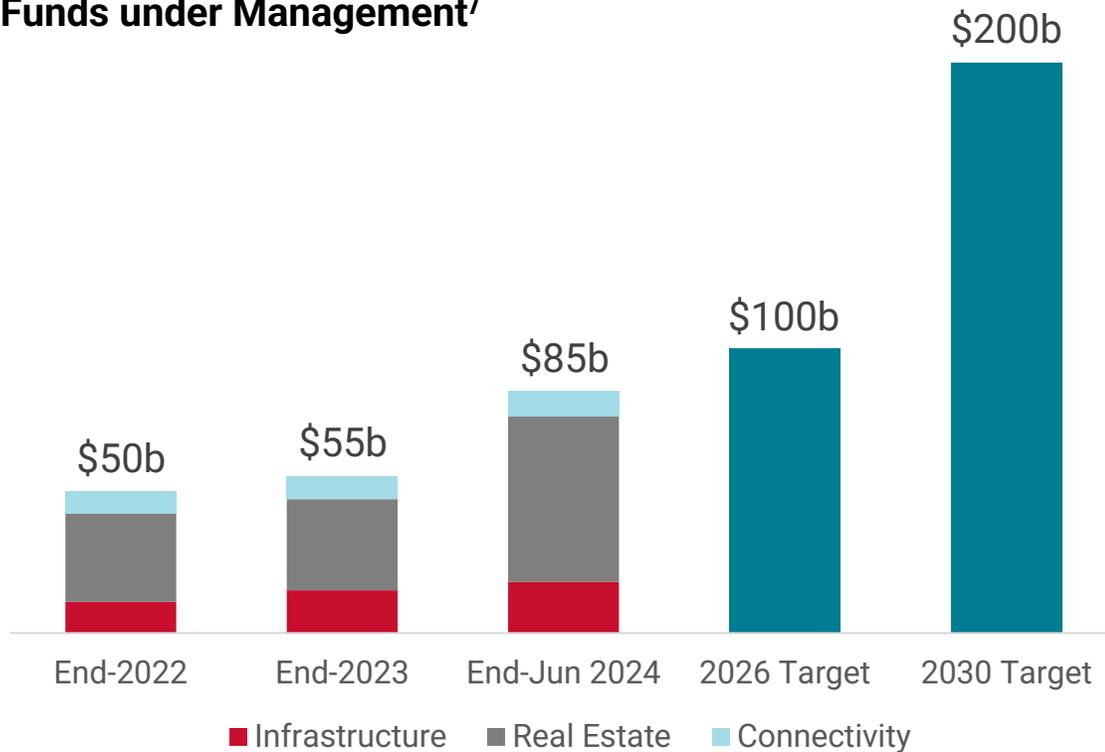
<sup>ii</sup> Gross asset value of investments and uninvested capital commitments on a leveraged basis to project fully-invested FUM

<sup>iii</sup> Includes 100% fees from subsidiary managers, joint ventures and associated entities, as well as share of fees based on shareholding stake in associate with which Keppel has strategic alliance

# Our growth will be funded by our FUM

Propelling Keppel towards **\$200b FUM by 2030** with strong **organic growth initiatives**, including **co-investments** by our private funds, and opportunistic M&A

## Funds under Management<sup>i</sup>



## Organic growth initiatives:

### Private funds

- Scale existing flagship products
- Launch new funds
- Expand with Aermont
- Strategic co-investments

### Listed entities

- Grow REITs and Business Trust portfolios

Well positioned to seize opportunities

## Dry powder

**\$25b**

## Deal flow pipeline

**\$27b**

\$9b in Infrastructure, \$14b in Real Estate, and \$4b in Connectivity

<sup>i</sup> Gross asset value of investments and uninvested capital commitments on a leveraged basis to project fully-invested FUM

# We harness synergies from our operating platform to build strong competitive advantage

We create critical solutions and assets that address sustainable development needs while **providing strong returns** to our investors

## Solutions for a sustainable future



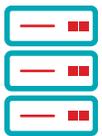
### Infrastructure

Pathways to decarbonising assets and businesses with renewables, clean energy and sustainability solutions



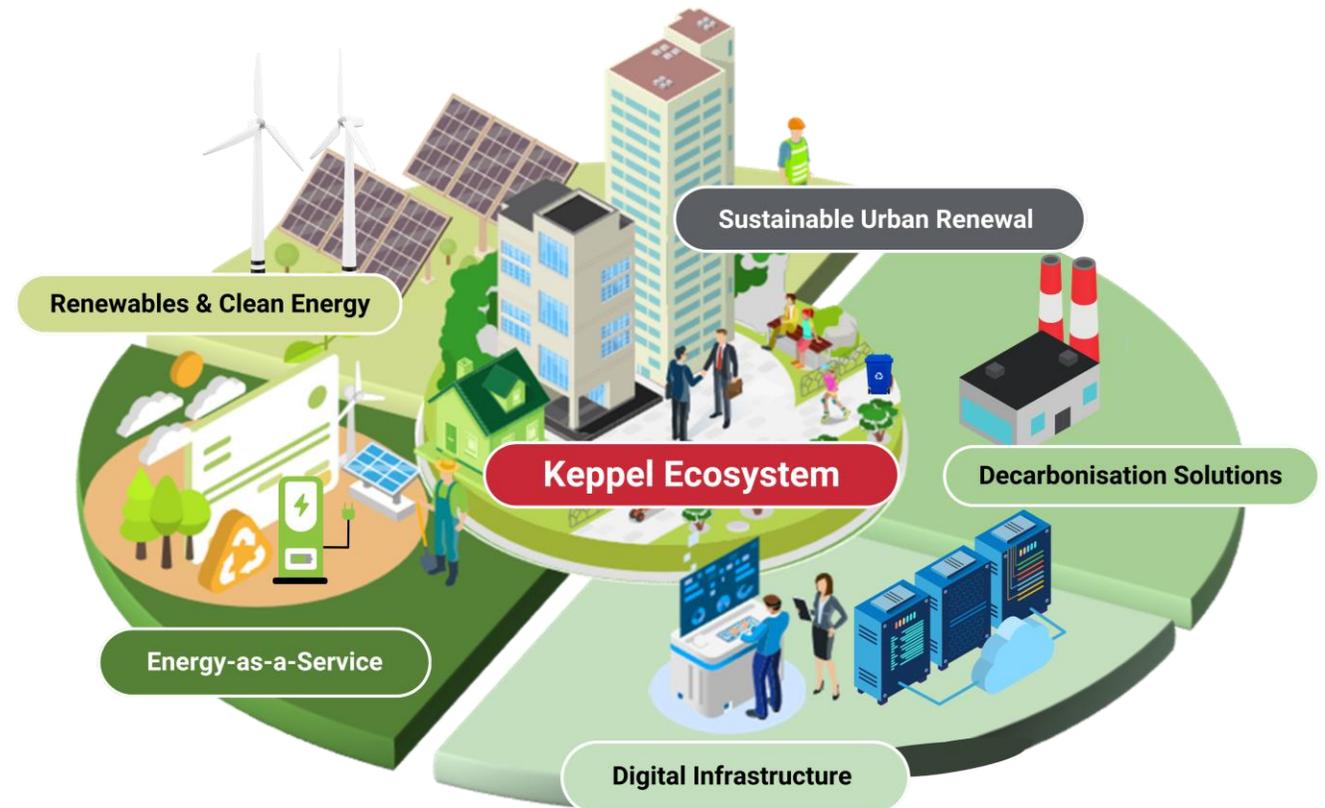
### Real Estate

Greener assets and more livable cities through smarter, sustainable urban renewal solutions



### Connectivity

More advanced and sustainable data centres with access to renewables and clean energy



# New Keppel is well positioned on our growth trajectory

## Seizing opportunities from macro trends

We are meeting rising global demand for alternative real assets across infrastructure, real estate and connectivity

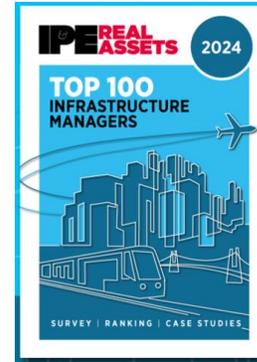
>50 years in Asia with established leadership position and “right to win”

## Rising global champion in alternative real assets

We match investment capital with sustainability expertise and real assets to meet some of the world’s most pressing needs

## Horizontally integrated business model

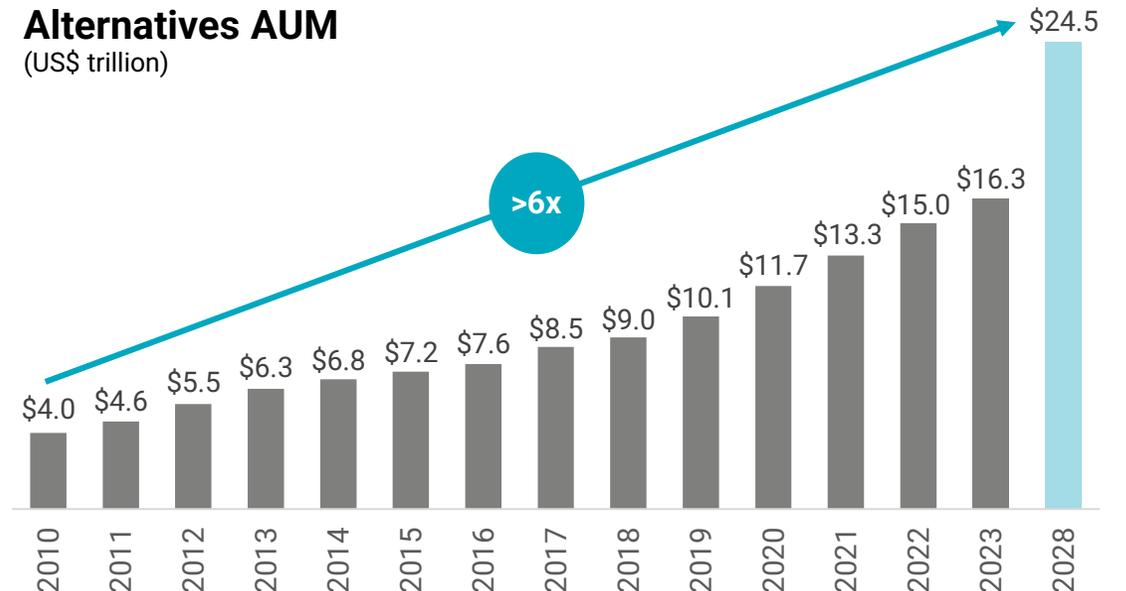
With the DNA of an asset manager and strong operating capabilities, we can create alphas for the funds that we manage



**3<sup>rd</sup>** largest listed infrastructure asset manager globally

**6<sup>th</sup>** largest infrastructure asset manager in APAC

## Alternatives AUM (US\$ trillion)



Source: Preqin

# Why invest in Keppel?

Our transformation is **on track**. We are in the **right space**, at the **right time**.

## Asset-heavy to asset-light

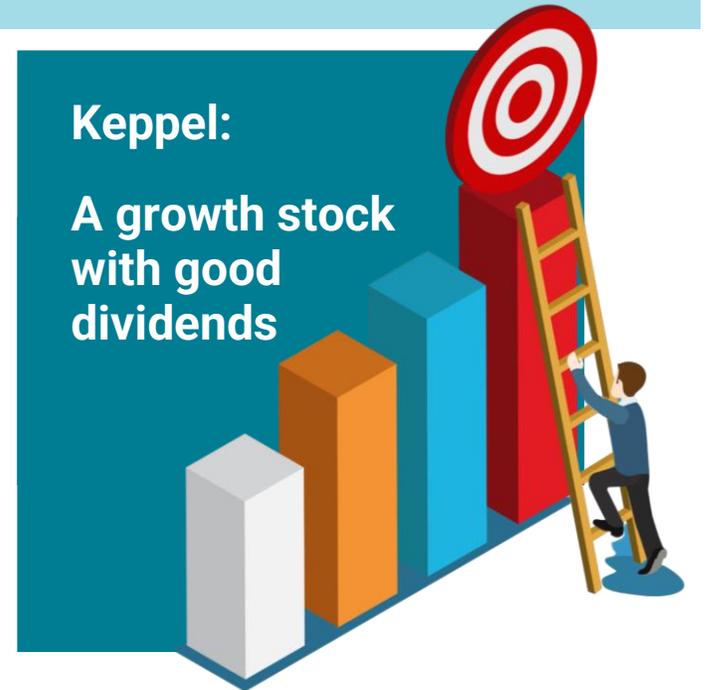
- **Accelerating** FUM to fund growth opportunities
- **Asset monetisation** will enable co-investments and opportunistic M&A, reduce debt, as well as reward shareholders

## Confidence to reward shareholders

- **Recurring income in FY23 was 88%** of net profit versus 25% in FY15<sup>i</sup>
- Attract **growth multiple** versus PB/RNAV/  
Conglomerate discounts
- Focused on driving **Total Shareholder Return**

## Re-rating has begun

- Full re-rating will happen as **transformation continues to unfold**
- In the meantime, shareholders are getting a **dividend yield of 5.1%**<sup>ii</sup>



<sup>i</sup> Post-transformation recurring income in FY23 comprised contributions from Asset Management and Operating Income and excluded effects of legacy O&M assets, whereas pre-transformation recurring income in FY15 comprised contributions from key business verticals including the former Keppel O&M

<sup>ii</sup> Based on Keppel's closing share price of \$6.64 on 31 July 2024, including 1H24 interim cash dividend of \$0.15 and FY23 final cash dividend of \$0.19



# The future is bright

We will continue to build on Keppel's unique value proposition as a **global asset manager and operator** to drive **stronger returns** for our Limited Partners and **greater value** for our shareholders

MSCI  
ESG RATINGS

AAA

CCC B BB BBB A AA AAA

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TIME  
WORLD'S  
**BEST**  
COMPANIES  
statista 2023

TIME  
WORLD'S MOST  
**SUSTAINABLE**  
COMPANIES  
statista 2024

# Thank you



Keppel

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# Keppel – a differentiated global real asset manager

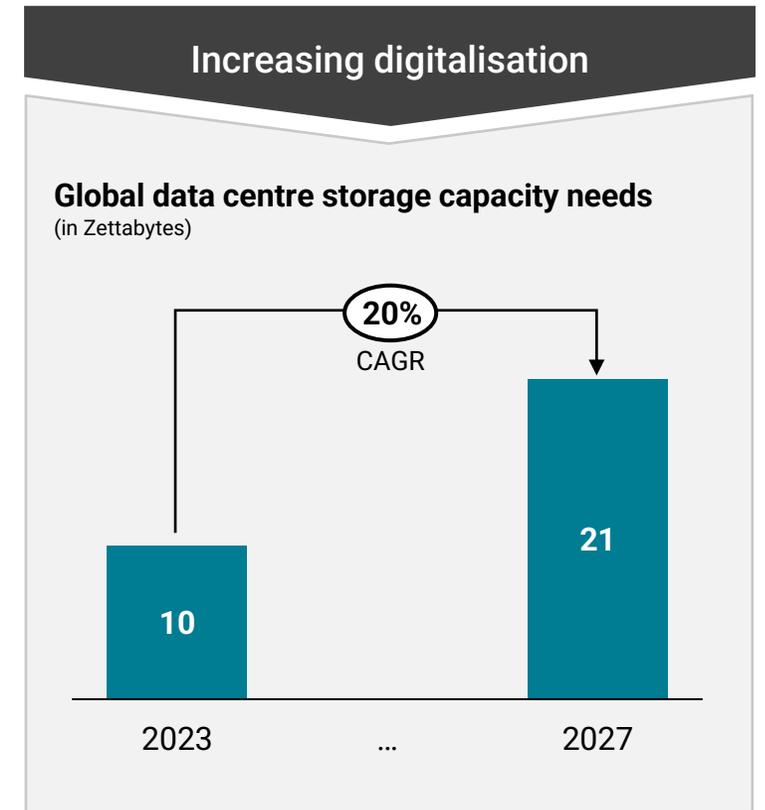
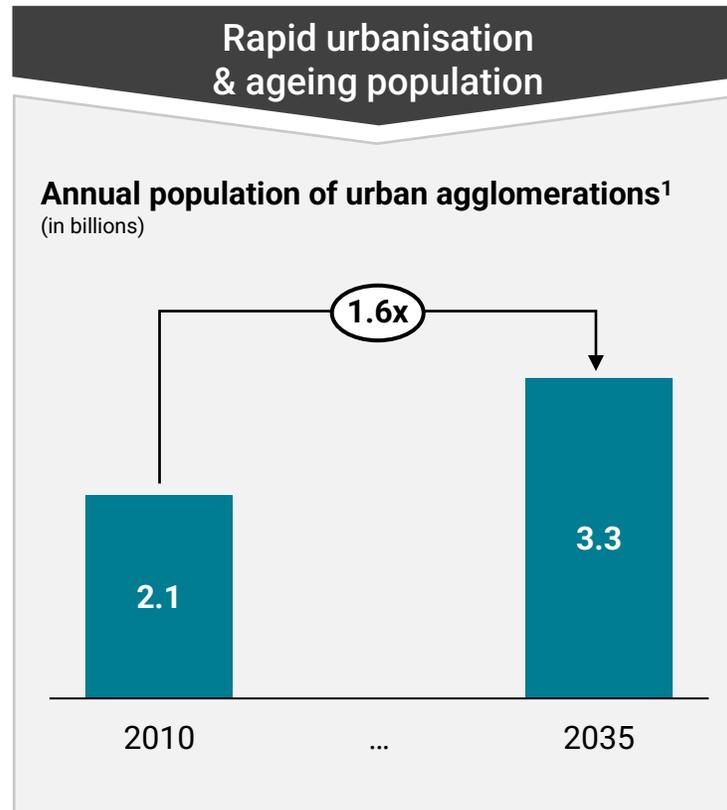
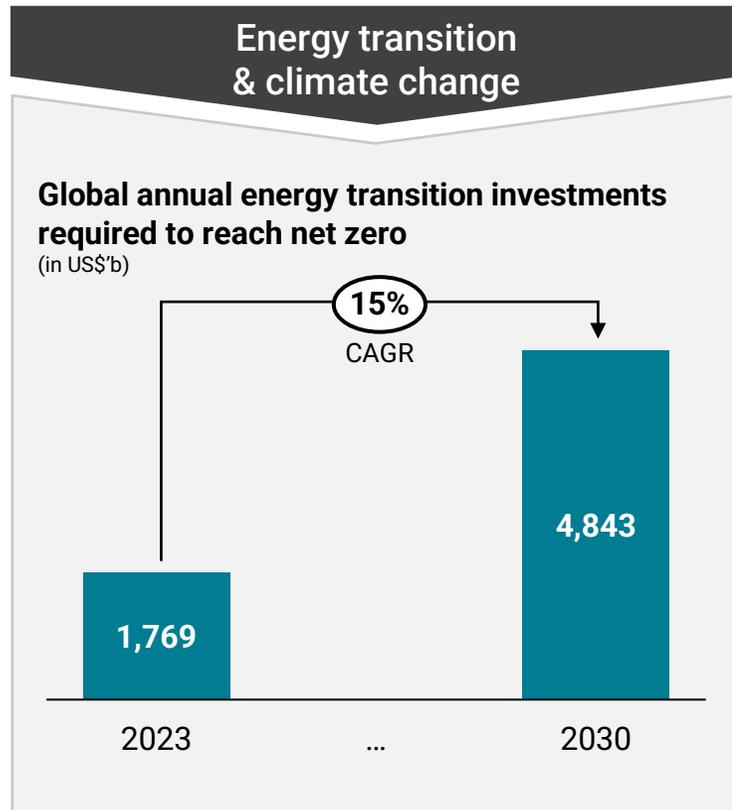
Ms Christina Tan,  
CEO, Fund Management & CIO

Investor Day, 20 August 2024



# Favourable global macrotrends

Investors seek investment strategies and asset classes in sectors underpinned by resilient macrotrends



Continued need for quality real assets to support the impending global macrotrends

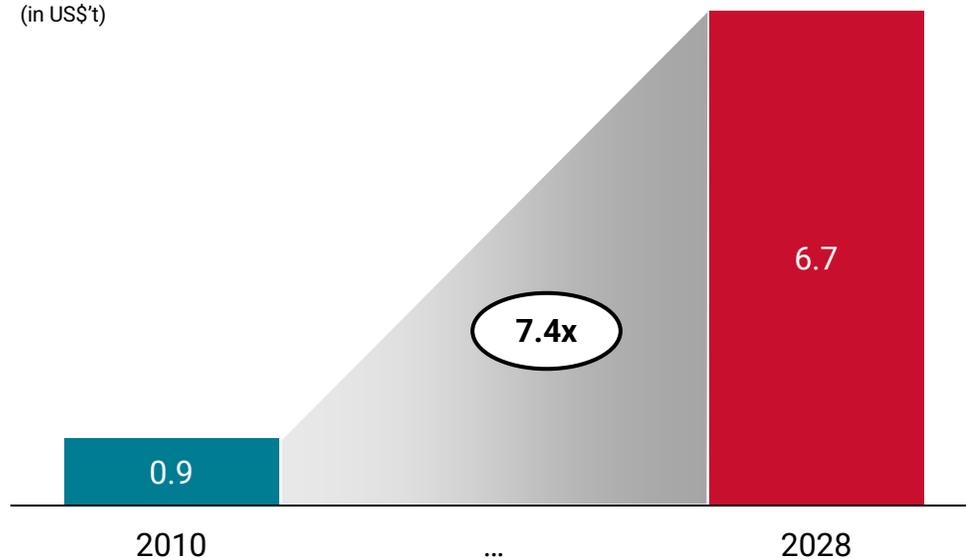
Source: BloombergNEF, United Nations Department of Economic and Social Affairs Population Division, JLL  
Notes: <sup>1</sup> Urban agglomerations with population of 300,000 or more in 2018

# Strategically positioned

## Investors are increasing allocation to real assets

Driven by the desire for portfolio diversification and the pursuit of stable and predictable cash flows

**Funds under Management:  
Real Assets<sup>1</sup> and Private Debt**  
(in US\$'t)



## Keppel is in the right space, at the right time to seize opportunities amidst the macrotrends

Leveraging Keppel's operating capabilities and domain knowledge in the key segments of Infrastructure, Real Estate and Connectivity



### Energy transition & climate change

- Providing clean water and clean energy solutions
- Focusing on renewables, decarbonisation and environmental solutions



### Rapid urbanisation & ageing population

- Meeting demand for best-in-class, innovative urban space solutions
- Brown-to-green strategy – providing sustainable urban renewal solutions, giving ageing buildings a new lease of life, making these assets smarter, more well-connected and sustainable



### Increasing digitalisation

- Powering businesses and lives with digital infrastructure, including data centres, subsea cables and connectivity solutions
- Providing solutions for more efficient and greener data centres

Source: Preqin

Notes: <sup>1</sup> Real Assets represent both real estate and infrastructure (incl. digital infrastructure such as data centres)

01



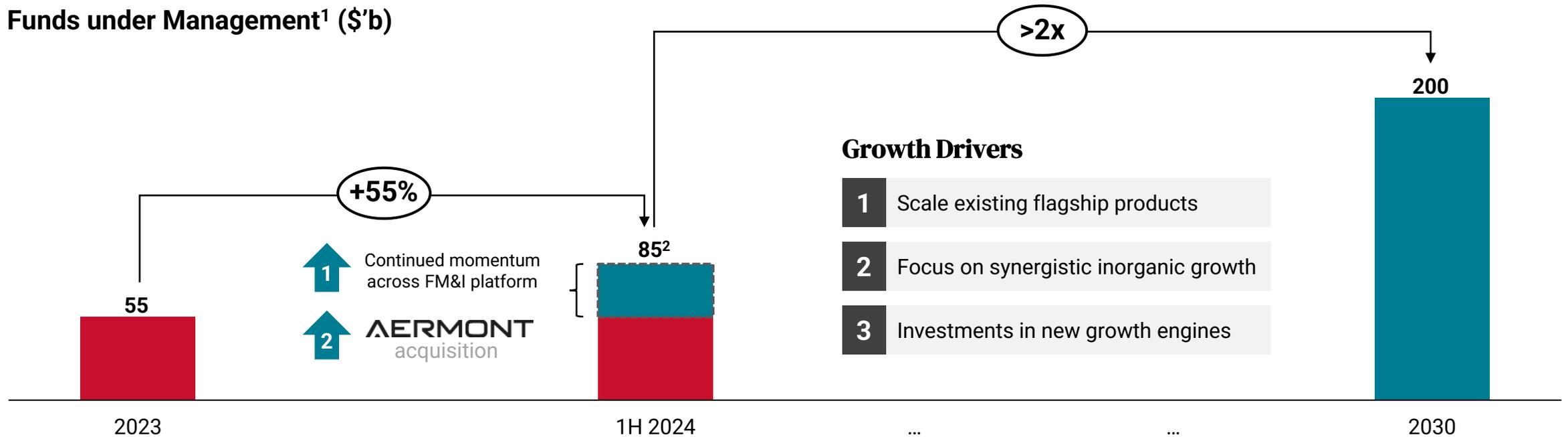
**Keppel**

# Bespoke investment solutions

# Accelerating FUM growth

Through **organic and inorganic growth strategies**, complemented by AI

Funds under Management<sup>1</sup> (\$'b)



## Growth Drivers

- 1 Scale existing flagship products
- 2 Focus on synergistic inorganic growth
- 3 Investments in new growth engines

## Key Enablers

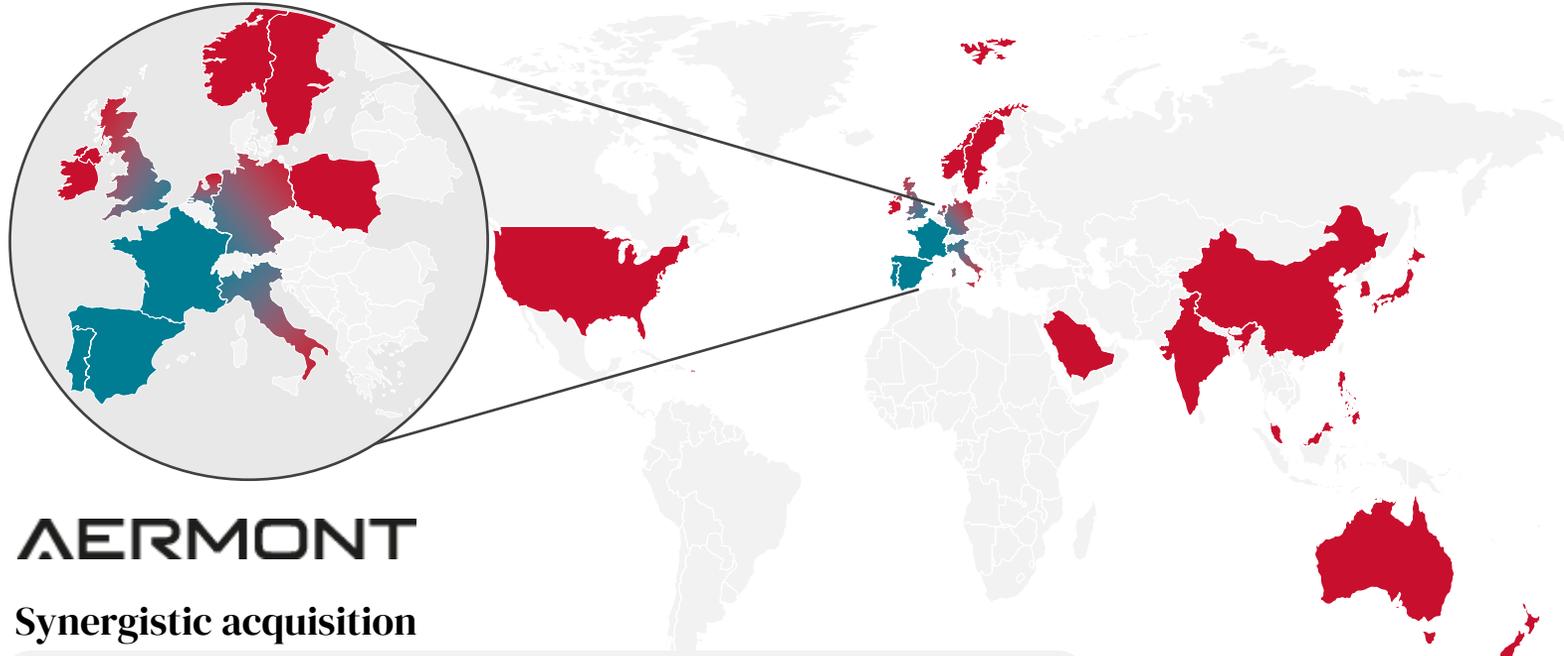
- ✓ **Realised integration synergies** – Removed conglomerate structure
- ✓ **Streamlined operations** – Centralised functions for cost-efficiency

- ✓ Leverage technology to improve productivity via **AI-enabled processes**
- ✓ Enhance efficiency by **automation**
- ✓ **Utilise data analytics** to support decision making

Notes: <sup>1</sup> Gross asset value of investments and uninvested capital commitments on a leveraged basis to project fully-invested FUM; <sup>2</sup> Represents 85% of Keppel's \$100b interim target by end-2026

# Expanding **global** footprint

Strategic replication of **win-win partnerships** across the core pillars to **strengthen Keppel's market position**



## AERMONT

### Synergistic acquisition

- Immediate, significant foothold in Europe
- Expanded Keppel's **network of blue-chip LPs**<sup>1</sup>
- Deepen **talent pool** and **asset management capabilities** beyond APAC

# +\$25b

Accelerated growth<sup>2</sup>  
towards FUM<sup>3</sup> target

### Next phase of growth



#### Cross-selling of funds

Broadening of LP base for fund raising



#### New fund investment opportunities

Co-creating new and larger  
fund products and platforms



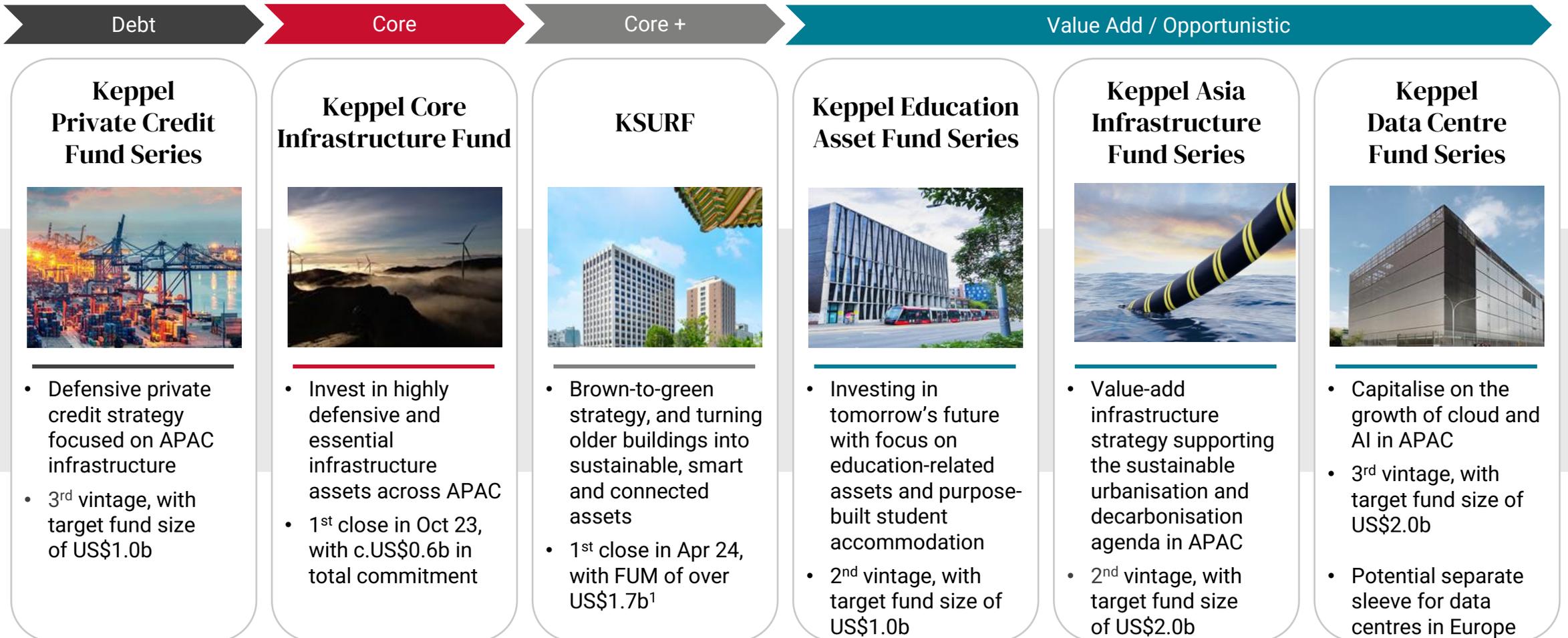
#### Acquire new synergistic platforms

Explore opportunities to expand  
across infrastructure and connectivity

Notes: <sup>1</sup> Aermont acquisition has expanded Keppel's investor network by c.50 global LPs; <sup>2</sup> Potential for further growth to \$60bn by 2030 with value-add from Keppel and joint initiatives; <sup>3</sup> Gross asset value of investments and uninvested capital commitments on a leveraged basis to project fully-invested FUM

# Diverse offerings providing strong returns

Customised offerings across a **myriad of investment strategies** that meet investors' needs



Notes: <sup>1</sup> Includes the first closing for KSURF, the China-focused SUR programme and its capital top-ups, co-investment capital, as well as Keppel's sponsor stakes in these vehicles

02



**Keppel**

# The Keppel difference

# Integrated platform

Keppel's value proposition stems from our ability to leverage our **deep operating expertise and domain knowledge** to **drive shareholder value and returns**

## Rigorous Investment Cycle

- Adding value with operating expertise
- Driving superior asset performance and investment outcomes



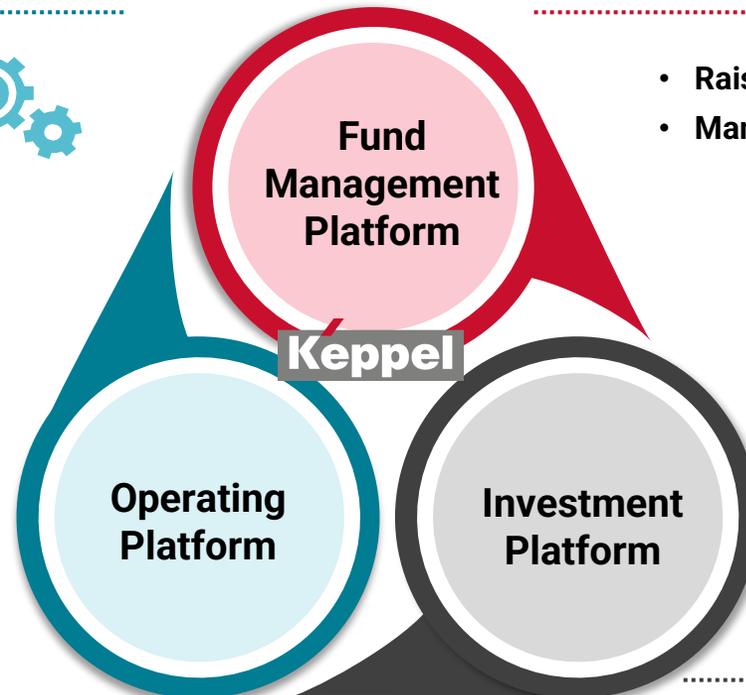
Best-in-class operational and technical expertise

Ability to develop proprietary projects from ground-up

Access to off-market proprietary deals

On-the-ground presence and strong industry partnerships

World-class technologies



- Raising capital and gathering assets
- Managing and optimising portfolio

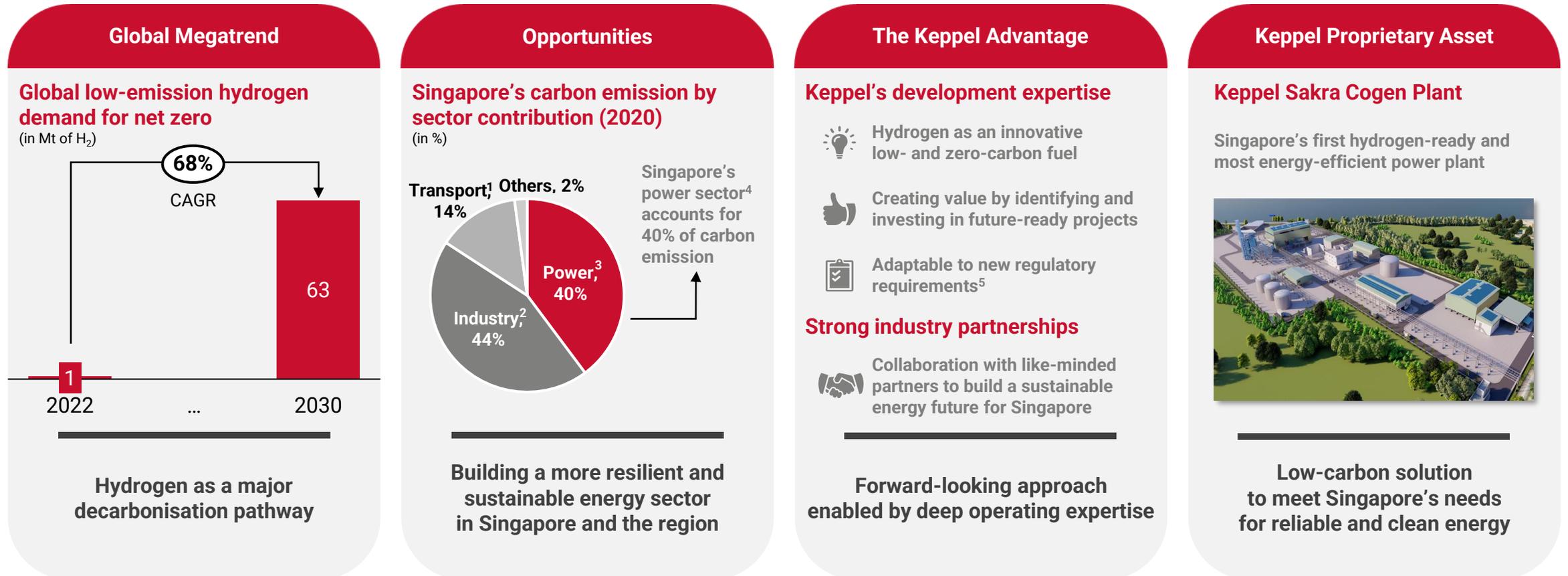


- Creating deal flow funnel and building quality pipeline
- Converting deals into quality investments to generate attractive risk-adjusted returns



# Case study: KAIF – differentiated value-add investment

Creating investable real assets through our flagship Keppel Asia Infrastructure Fund (KAIF) series

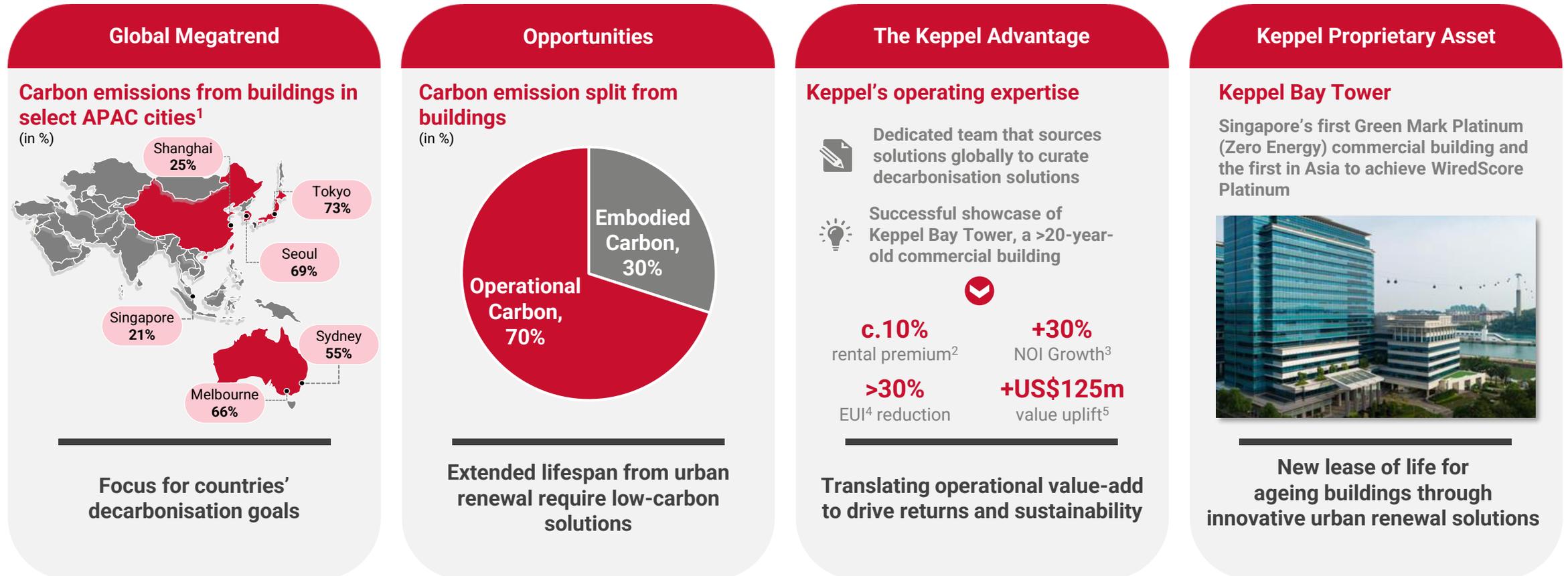


Sources: IEA, Ministry of Trade and Industry Singapore, Singapore Department of Statistics, Singapore Economic Development Board

Notes: <sup>1</sup> Refers to transportation and aviation companies; <sup>2</sup> Refers mainly to industrial companies such as manufacturing; <sup>3</sup> Refers to companies whose core business revolves around the generation of electricity or transmission, distribution and sale of electricity; <sup>5</sup> From 2024, all new and repowered power plants will need to be at least 30% hydrogen-compatible, and must be able to be retrofitted to run entirely on hydrogen in the future

# Case study: KSURF – brown-to-green solutions

Spearheading sustainable and innovative urban space solutions to build smarter cities of tomorrow



Sources: JLL, Singapore Green Building Council

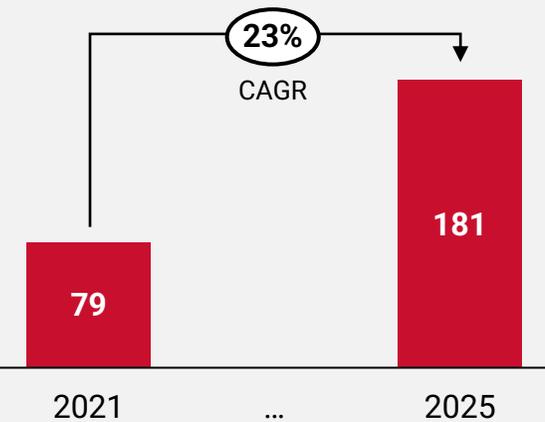
Notes: <sup>1</sup> Global carbon average building contribution to carbon emissions, based on key cities targeted by the Fund (Tokyo, Seoul, Shanghai, Singapore, Sydney, Melbourne); <sup>2</sup> Against surrounding buildings; <sup>3</sup> Based on KBT actual NOI growth from FY19 (post-AEI) to FY22; <sup>4</sup> EUI: Energy usage intensity; <sup>5</sup> Based on NOI growth of c. US\$5m from AEIs

# Case study: KDCF – trusted and experienced manager

Meeting the **exponential growth in bandwidth demand** with **connectivity solutions** through our flagship Keppel Data Centre Fund (KDCF) series

## Global Megatrend

**Global data creation**  
(in Zettabytes)



Ever-growing data needs  
in today's digital world

## Opportunities

**Technology evolution**

-  Natural language processing
-  Internet of Things (IoT)
-  Machine Learning
-  Generative AI
-  Robotics
-  Sustainable solutions

Constant innovations  
necessitate more data use cases  
and in a sustainable manner

## The Keppel Advantage

**World-class technologies**

-  Sustainability-focused design for improved efficiency<sup>1</sup>
-  Proprietary and innovative solutions for a sustainable digital future

**Best-in-class operational and technical expertise**

-  >15 years of end-to-end expertise in designing, developing and operating

Horizontally integrated value chain  
to build and provide solutions

## Keppel Proprietary Asset

**Floating Data Centre**

Singapore's first patented floating data centre that seeks to solve the problems of excessive urbanisation and climate change



Pivoting towards a  
cleaner digital world

Source: CBRE

Notes: <sup>1</sup> Annual avoidance of c. 2,500 tons of CO<sub>2</sub>e per MW and 13 Olympic-size swimming pools of water per MW



# Keppel – the **manager of choice**

We are **connecting investors with strategic real assets** across infrastructure, real estate and connectivity that produce **strong inflation-protected cashflows** amidst the volatile global environment.



## **LP-first mindset and strong track record**

Over **20 years' track record** in managing private funds with highly experienced management team



## **Differentiated value proposition for investors**

Global alternative real asset manager with **deep operating capabilities** and **extensive domain knowledge**



## **Capturing growth from long-term secular trends**

In the **right space**, at the **right time** to seize opportunities amidst the macro trends in **global energy transition, urbanisation and digitalisation**



## **Optimised structure for growth**

**Integrated platform** to drive **value creation** across the Infrastructure, Real Estate and Connectivity segments

# Thank you



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The background of the slide is a photograph of a modern, multi-story glass skyscraper. The building has a distinctive stepped design with several cantilevered floors. The sun is shining from behind the building, creating a bright lens flare effect. The sky is filled with soft, white clouds. In the foreground, there are some green trees and a blue sign with a white arrow pointing left.

# Operating Platform presentations

Investor Day, 20 August 2024

The background of the slide is a photograph of a modern building with a prominent vertical garden facade. The building is covered in lush green plants, including ferns and various leafy species. A glass-enclosed balcony is visible on the ground floor. In the foreground, three people are walking on a paved path, and a blurred motorcycle is moving across the frame. The sky is blue with light clouds.

# Infrastructure

Ms Cindy Lim, CEO, Infrastructure

Investor Day, 20 August 2024

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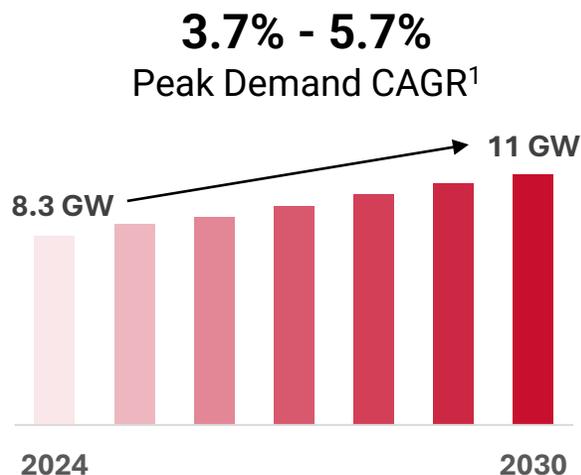


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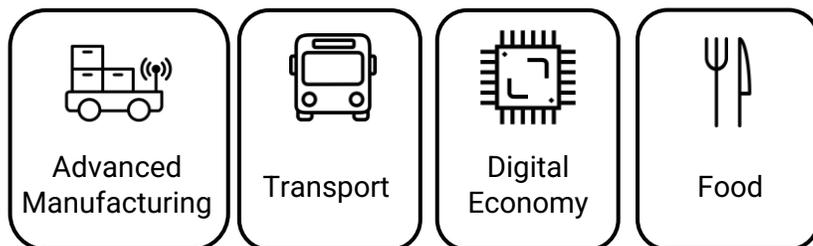
# Integrated power business

# Stable growing demand, reduced market volatility

Singapore's electricity demand will continue to grow organically...



New solutions required to serve emerging energy intensive industries



## Integrated Power Business

	1H 2023 (\$'m)	1H 2024 (\$'m)	Change (%)
Revenue	2,263	2,005	- 11%
EBITDA	315	356	+ 13%
Operating Income	261	317	+ 21%

- High energy prices from the energy crisis has run its course
- Strong regulatory guiderails to rein in energy price levels
- Despite the weakening of wholesale power prices, stable earnings are expected in 2024 and 2025



Lower spark spreads

*offset by*



Higher contracted position

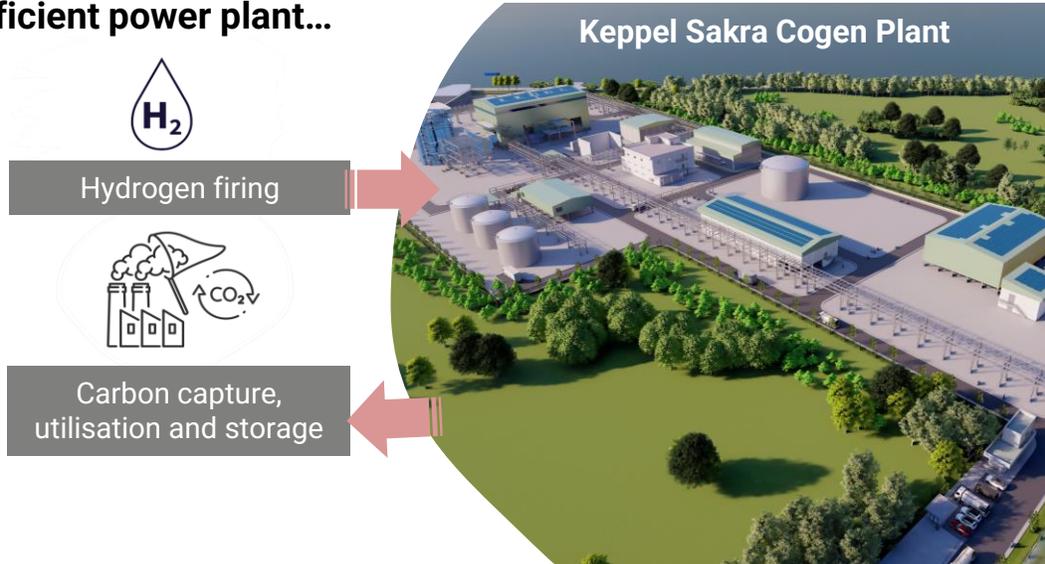
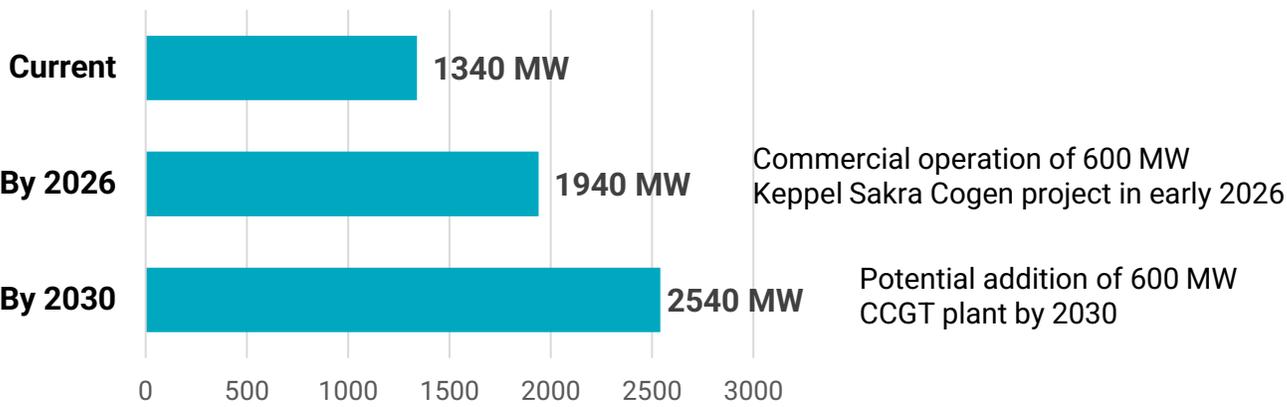
<sup>1</sup> As per EMA's demand forecast in the Request for Proposal to Build, Own and Operate New Generation Capacity issued on 4 June 2024

# Competitive advantages capacity and margin expansion



<p><b>01</b></p> <p><b>Asset Light</b></p> <p>Co-invested by KAIF, generating asset management fees</p>	<p><b>02</b></p> <p><b>Operational Capability</b></p> <p>Origination, project development, engineering, procurement and construction management</p>	<p><b>03</b></p> <p><b>Recurring Operating Income</b></p> <p>Operations &amp; maintenance fees and electricity retail</p>	<p><b>04</b></p> <p><b>Capital Recycling</b></p> <p>Potential for future capital recycling</p>
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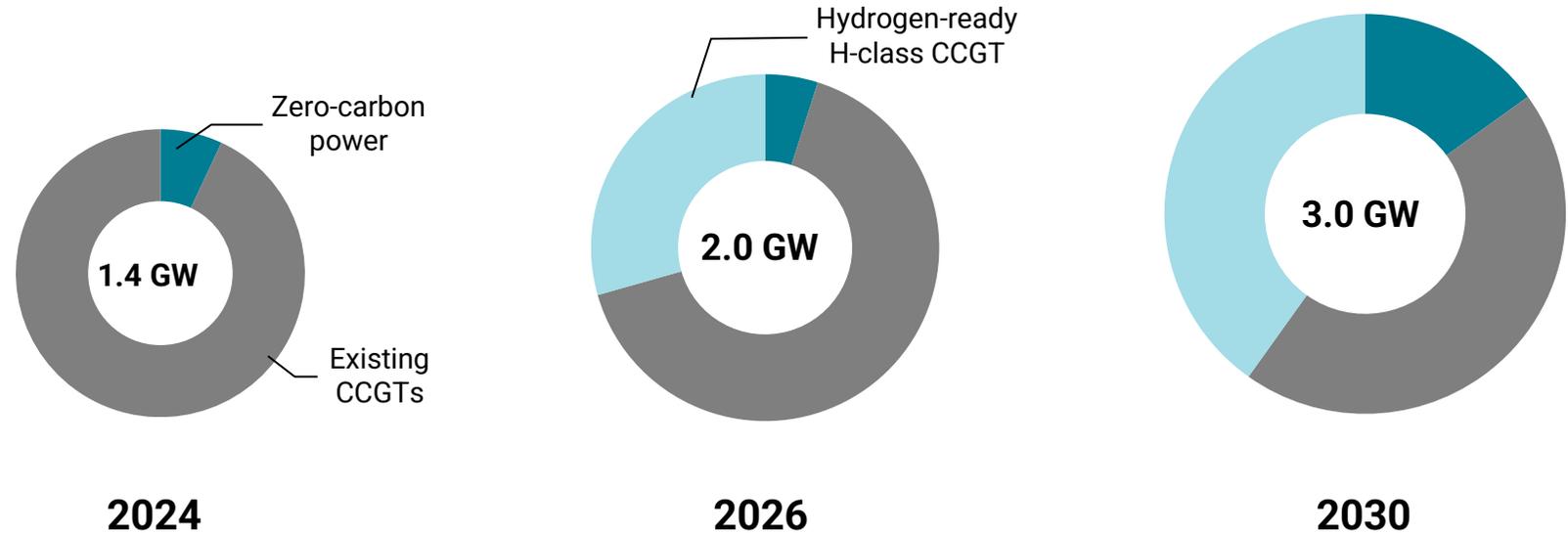
Growing market share in Singapore's electricity market with state-of-the-art, most efficient power plant...



# Future ready and resilient higher capacity with lower carbon intensity

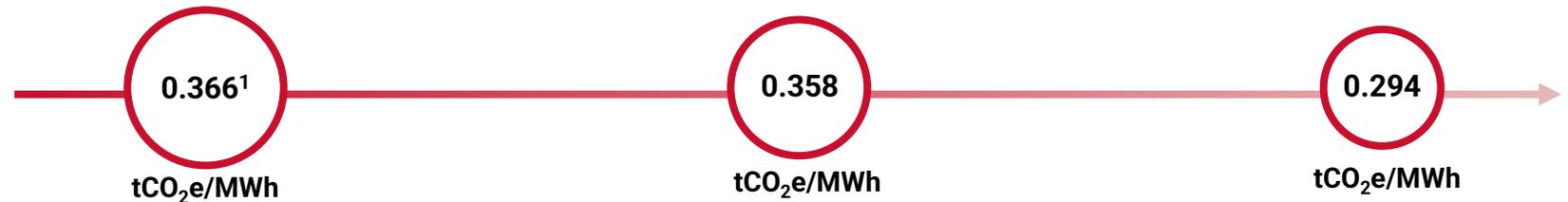
**+1.6 GW**

New generation capacity;  
doubling existing capacity  
in next 5 years



**20%**

Reduction in carbon intensity  
through best-in-class  
technologies, renewable  
imports and low-carbon fuels



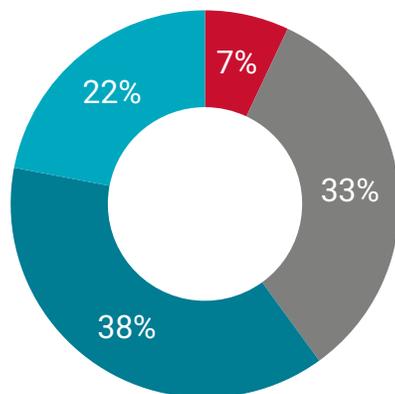
<sup>1</sup> GHG emissions intensity calculated based on direct emissions (Scope 1) from Keppel Merlimau Cogen's existing generation capacity

# Strong margins in 2024 underpinned by robust portfolio

**>99%** of our customers are locked in on fixed or indexed electricity price plans, delivering healthy recurring revenue

**60%** of portfolio is on long-term contracts of 3 years and above

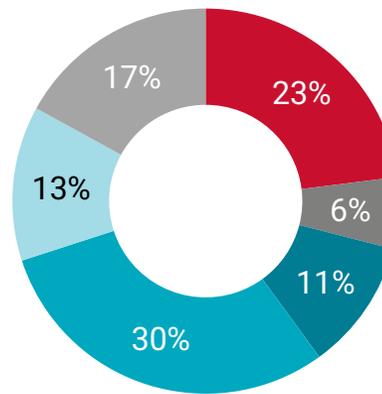
**Portfolio Tenure**



- <1 year remaining
- >=1 to <3 years remaining
- >=3 to <10 years remaining
- >=10 years remaining

**Diversified customer base**  
No more than 30% concentration in any one sector

**Customer Sector Mix**



- Commercial Buildings
- Data Centers & Communication
- Healthcare
- Manufacturing - Electronics
- Residential
- Others



With a large proportion of our customers on long-term contracts, Keppel's margins are insulated from volatility in the wholesale energy markets



Execution remains key to profitability. Focused on operational capability to achieve reliability and high availability of generation units

02



# Decarbonisation & sustainability solutions

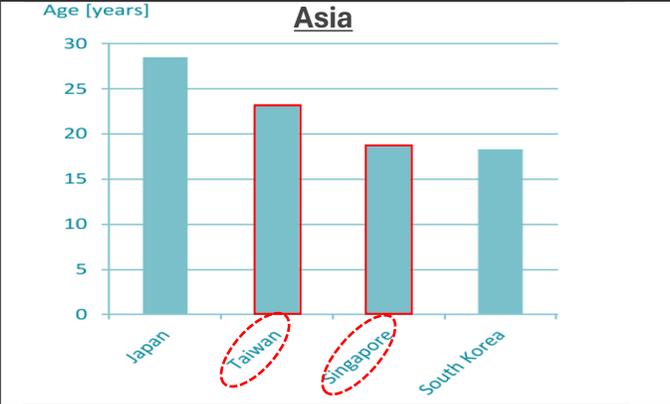
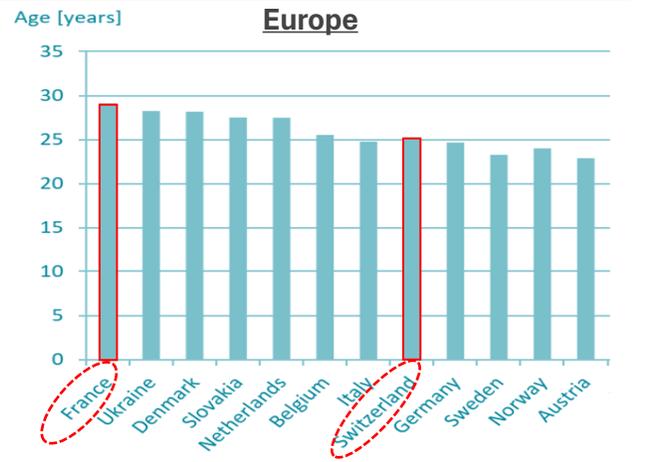
# World class technology provider with global track record



<sup>1</sup> Integrated Waste Management Facility (IWMF)

# Target markets and offerings

Strong pipeline of WTE in markets with existing WTE plants due for replacement



Technology Solutions



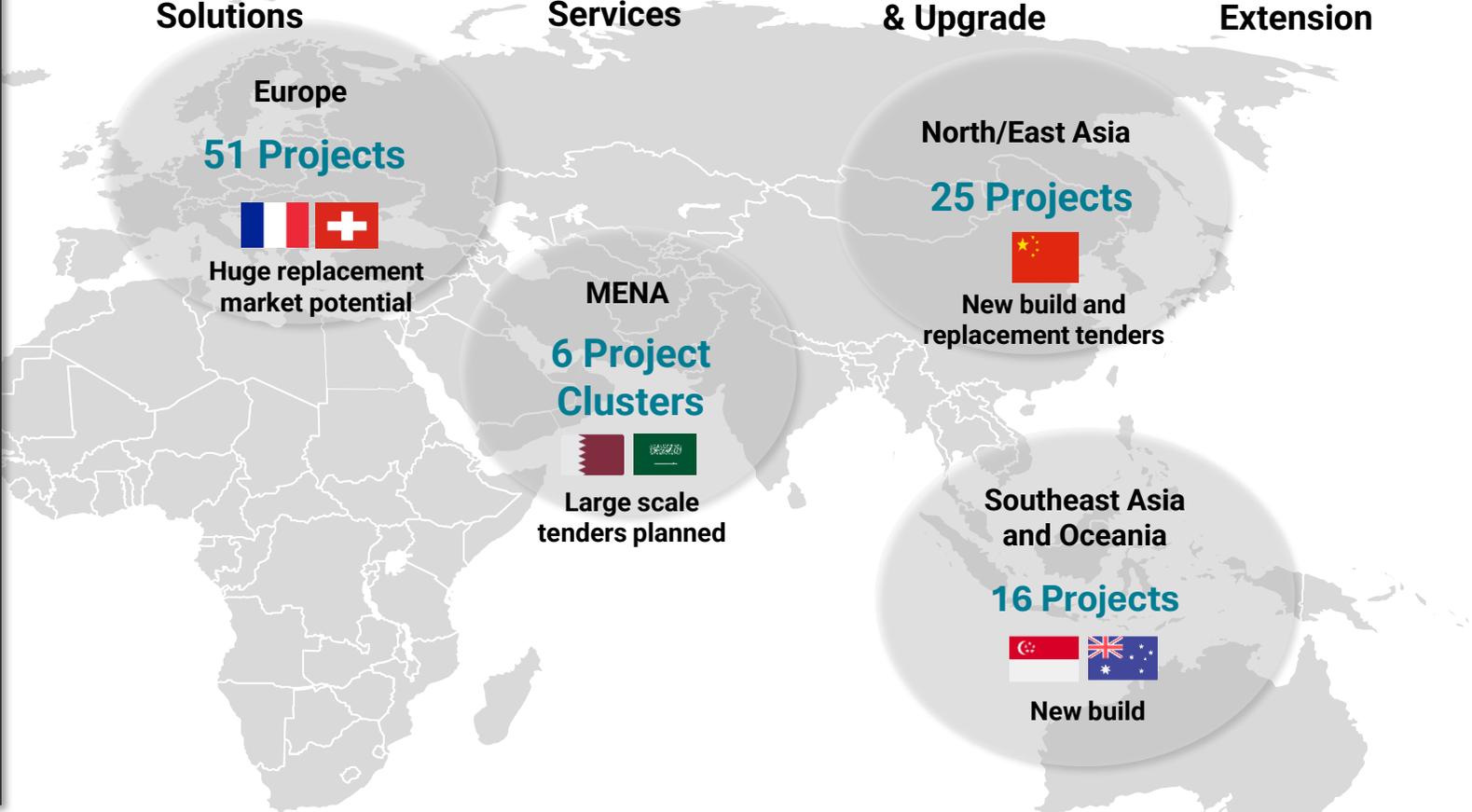
Technical Services



Plant Follow-up & Upgrade



Life Extension



<sup>1</sup> Source of data: ecoprogram

# Capturing landmark EaaS projects and beachheads overseas



## Entry into China

- Entered China with 11,000RT designed capacity for Perennial Holdings
- Testament of “Growth via partnership model” with customer
- Large addressable markets in China, Vietnam, Thailand



## HDB Cooling-as-a-Service

- 5,250RT designed capacity
- Replicable in other precincts
- Potential to provide additional value add services to residents



## Largest deployment of ultrafast chargers at a single site in Southeast Asia

- 15-year contract to deliver power
- Phased approach of up to 80 DC charging points of 360kW and 120kW ratings



## Jurong Lake District

- 29,000RT designed capacity
- Mixed used including residential
- Capability to expand beyond serving JLD to reach entire Jurong area



## Raffles City Singapore

- 12,000RT in cooling capacity
- Singapore's largest integrated development to adopt Cooling-as-a-Service
- Targeting Green Mark Platinum (Super Low Energy) for this 38-year-old iconic building



## Largest single-site rooftop solar panel system in Singapore

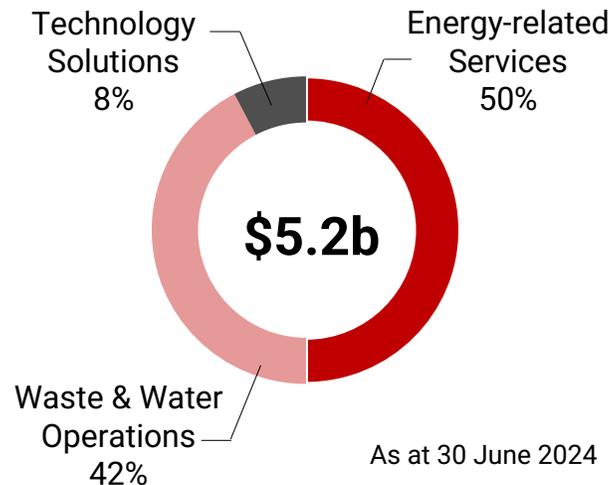
- 25-year contract
- 43MWp installed capacity
- First airfield side solar installation in the world
- Strong reference for international airports in gateway cities

EaaS in commercial & industrial segments is expected to grow rapidly

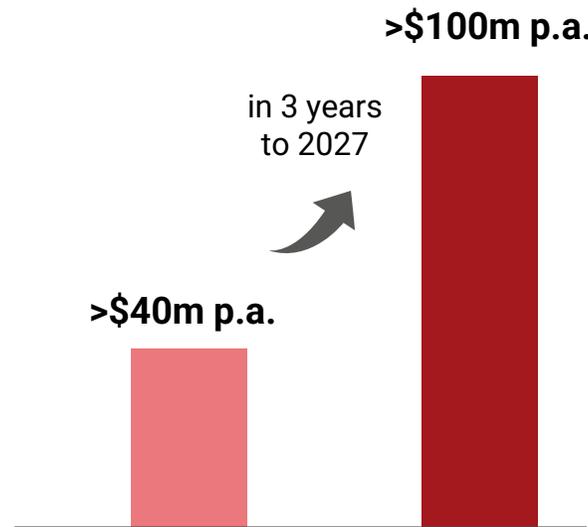
# Strong earnings growth from solutions and services riding the energy transition momentum

Recurring, steady cash flow over the next 10-15 years

**\$5.2b** long-term contracts secured  
**>20%** growth from \$4.3b at end-2023



**2.5x** EBITDA growth target



Actively developing low-carbon energy value chain



Developing strong capabilities and partnerships in the new energy sector

## Early Wins



Shortlisted by Singapore Authorities to undertake pre-FEED on end-to-end solutions for zero- or low-carbon ammonia for power generation and bunkering



One of the six shortlisted projects under the **Australia Hydrogen HeadStart Subsidy** programme

# Thank you



The background of the slide is a detailed architectural rendering of a modern building. The building features a large, white, grid-like canopy structure supported by several tall, white, tree-like columns. The building's facade is composed of a mix of glass, wood, and metal panels. Multiple levels of the building are covered in lush green plants and trees, creating a vertical garden effect. A wide, paved walkway runs along the base of the building, with several people walking. A road with a white car and a black car is visible in the foreground. The sky is blue with some light clouds.

# Real Estate

Mr Louis Lim, CEO, Real Estate  
Investor Day, 20 August 2024



# We see trends shaping the **trajectory of asset values** in Asia

## **Adaptive Re-use**

Live-work-play integration evolving in urban centres

## **Sustainability**

Old buildings and precincts requiring a new, greener lease on life

## **Senior Living**

Rising market for aging-well products and services

## **Market Dynamics**

Opportunities from shifting consumer patterns and behaviours, investor expectations and increasingly complex geo-politics

# Recent acquisitions **leverage Keppel's SUR capabilities** to drive sustainability performance and returns



The **Asset Enhancement Initiatives** in Inno88, Seoul, produced:

**30%** Decrease in energy consumption

**27%** Increase in gross floor area



For One Paramount, Chennai, we are **targeting to achieve**:

**>10K<sub>KL</sub>** Water consumption reduction<sup>1</sup>

**>70%** Renewable energy utilisation<sup>1</sup>

<sup>1</sup>By 2028 against baseline of 2025

# Building on our experience and expertise to **grow our urban renewal, urban solutions and retail platforms**



**Sustainable Urban Renewal – Ngee Ann Polytechnic**  
Retrofitting School of Design & Environment for net zero



**Urban Solutions – Joint Venture with Jinan Pioneer**  
Providing consulting services to large scale integrated project in Jinan



**Retail Platform – Hanoi Centre**  
Deepening our retail footprints in Vietnam



# We opened our first award winning senior living asset in Asia

## Global iF Design Award (Germany)

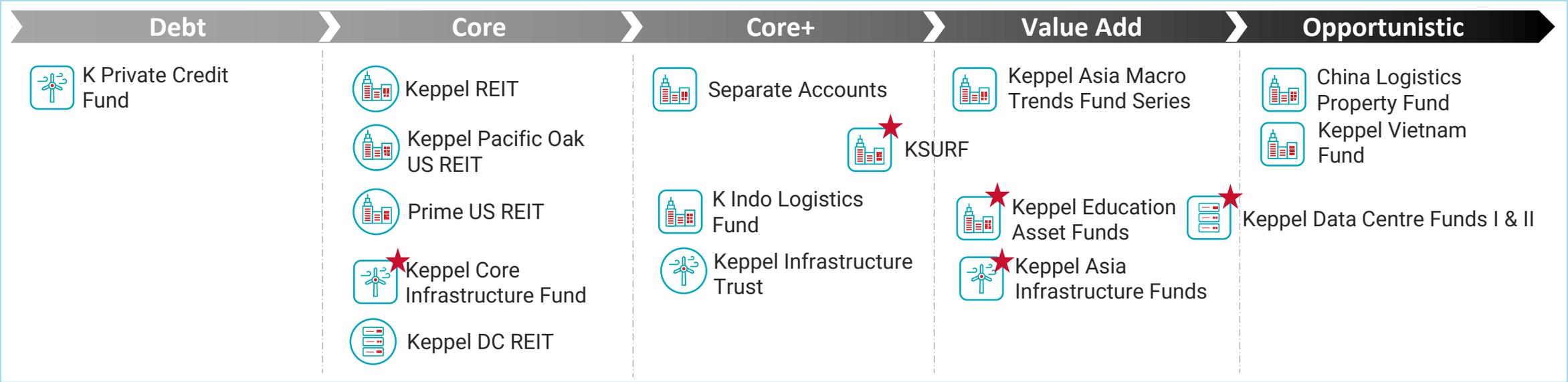
For the holistic transition programme to help elders assimilate to their new environment

## Gold Certification for Leadership in Energy and Environmental Design (United States)

US Green Building Council's Green Building Rating System for low-carbon, energy-saving and environmentally friendly designs



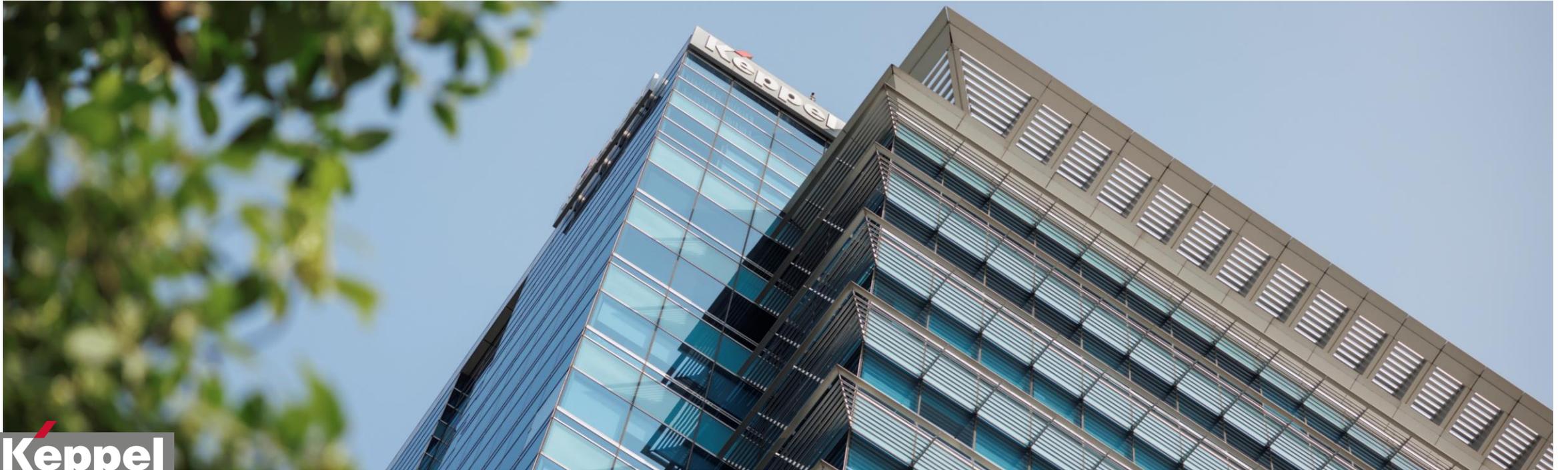
# Our real estate credentials and operating capabilities differentiate our real estate fund proposition



<p><b>1</b></p> <p><b>More than 40 years of property development and investment experience</b></p>	<p><b>2</b></p> <p><b>Strong operating capabilities</b>                        Sustainable Urban Renewal                        Urban Solutions   Retail                        Senior Living</p>	<p><b>3</b></p> <p><b>Collaborative partnerships</b>                        Workplace Solutions                        Urban Living   3<sup>rd</sup> party operator                        Digital Solutions</p>
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Infrastructure 
 Real Estate 
 Connectivity 
 Listed 
 Private 
 Flagship

# Thank you



The Keppel logo, consisting of the word 'Keppel' in a bold, white, sans-serif font with a red diagonal line above the 'e', set against a dark grey rectangular background.

The background of the slide is an architectural rendering of a modern, multi-story building. The building features a prominent facade of vertical, light-colored panels on the left side, which transitions into a more traditional grid of windows and panels on the right. A central section of the building shows an external staircase with green accents. The building is set against a bright blue sky with wispy white clouds. In the foreground, there are lush green trees and a paved area with a small white van parked. The overall scene is bright and clear, suggesting a sunny day.

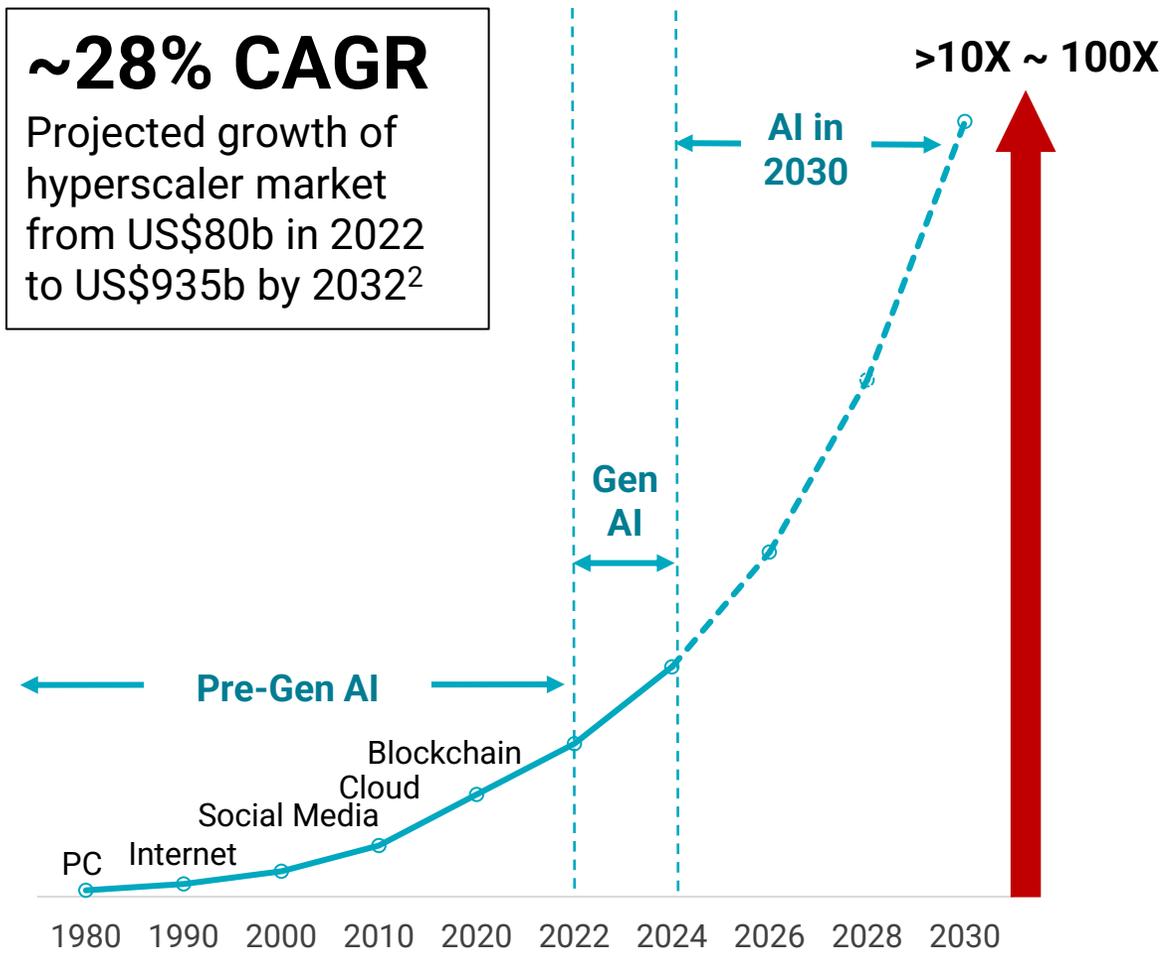
# Connectivity

Mr Manjot Singh Mann,  
CEO, Connectivity & CEO, M1

Investor Day, 20 August 2024

# Surging data demand driven by AI trends

AI requirements on compute have been increasing by 10 times every two years since 2022, a trend forecasted to continue<sup>1</sup>



## Rising AI market boosts hyperscale demand

- >50%** Existing hyperscale demand for global DC capacity<sup>3</sup>
- US\$150b** AWS planned expenditure from 2024 to 2039
- US\$2.9b** MS planned investments in Japan over 2025

## Strong DC market growth in Asia Pacific & Europe

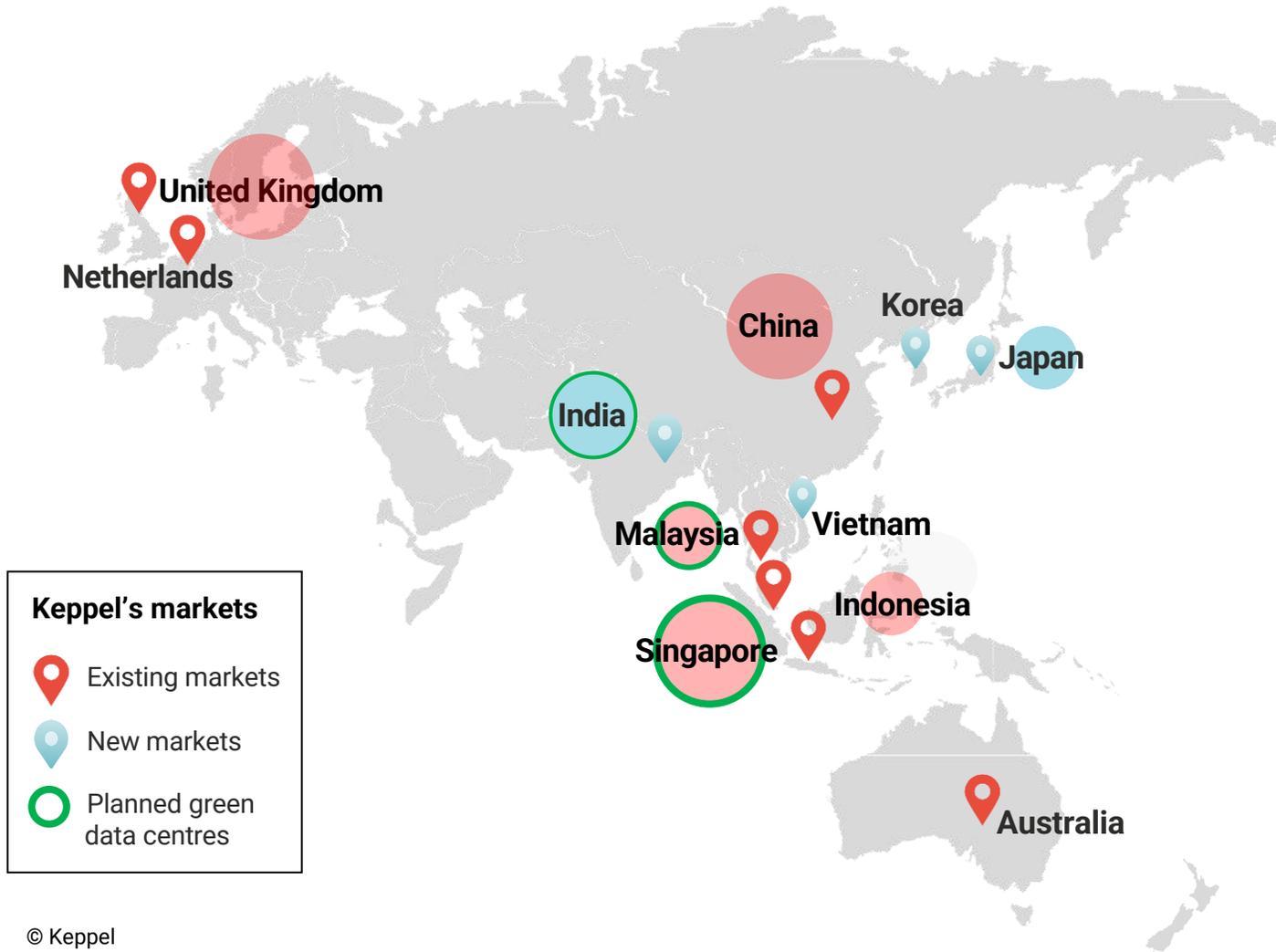
- >4.2x** Total data centre supply grew from ~700 MW in 2017 to >3,000 MW in 2022<sup>4</sup> in Asia Pacific
- In Asia and Europe, spillover demand in key markets continues to flow into secondary markets<sup>5</sup>

## Greater emphasis on sustainable DCs

- 300 MW** Near-term increase in total capacity in **Singapore**, with potential capacity for green energy deployments<sup>6</sup>

# Fueling growth through strategic expansion

Established footprint across **7** countries, and **4** new target markets in Asia Pacific and Europe; highly targeted approach focused on high growth markets with strong customer demand



## Our expansion strategies

- Deepen foothold in existing markets
- Expand presence into new markets
- Pursue M&A opportunities
- Strategic partnership with JV partners in new/ existing markets

## Our planned AI-ready green DC campuses

- Singapore: accelerating green energy transition with hydrogen grid
- Malaysia: to be 30% solar powered
- India: to be >90% solar and hydro powered

# Creating sustainable DC campuses building on Keppel's ecosystem

## Infrastructure

### Renewable Energy

- Wind energy, Laos-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) and power generation
- Accelerating green energy transition with hydrogen value chain

### District Cooling & Heating

- Leveraging centralised district cooling systems expertise

### Waste Management

- Solutions for waste and water & wastewater treatment

## Real Estate

### Real Estate as Master Developer

- Premier real estate developer and manager
- Strategic urban planning to optimise campus layout

## Connectivity

### Data Centres

- Efficient operating model (end-to-end value chain to design, build and operate)

### Managed and Hybrid Cloud Solutions

- Leading managed communications service, IoT provider (through AsiaPac)

### Subsea Cable Systems

- Jointly own and develop the world's first subsea cable system, enabling global connectivity and seamless data centre operations

# DataPark+

Redefining data centres through cutting-edge technology and sustainable, community-centric solutions aligned with Singapore's Green DC Roadmap

## Singapore's Green DC Roadmap



### Energy efficiency improvements

- Tropical DC methodologies to reduce energy needed for air-cooling
- Low-carbon energy sources to power DCs
- Cooling solutions to meet DC needs



### Water efficiency improvements

- Water Usage Effectiveness target of 2.0m<sup>3</sup>/MWh or lower over next 10 years



DataPark+: A scalable, modular data centre solution that aggregates demands and enhances community and ecosystem integration

## Key technical features:



Scalable up to 1 GW of green power



Compliant with tropical DC standards



Flexibility to operate at higher temperature



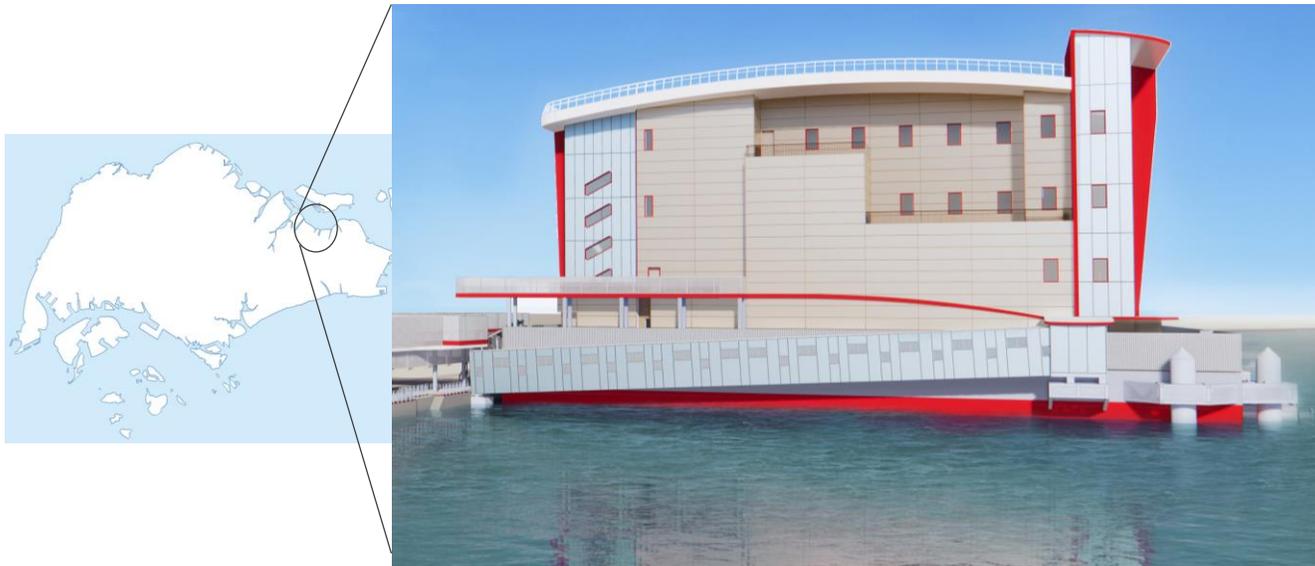
Seawater cooling eliminates use of potable water

## Integration with Keppel's submarine cables:

Enabling global connectivity and seamless data centre operations

# Floating DC

Designed to enable submarine cable connections directly between shoreside infrastructure and other regions; the design improves Power and Water Usage Effectiveness using technologies such as seawater cooling



\* Drawings are only for reference and subject to future planning and design



**Design Development:** In progress, working together with contractor and customer



**Electrical Load:** Power availability addressed, with confirmation of 20 MW maximum electrical load with SP PowerGrid by 2027



**FID:** Target completion in 2H24



**Target Completion:** 2027

# Bifrost Cable System

Enabling data centres with the world's largest capacity high-speed optical cable and subsea connectivity hub across the Pacific Ocean and beyond

- Cable laying operations: >80% completed to-date, with completion expected by early 2025
- Main trunk targeted to be ready for service by 1H25



**Length: >15,000km**

**Keppel's share of total project cost: ~US\$350m**  
Co-investors holding 60% stake in Keppel's share of fibre pairs

**Operating & maintenance fees: >\$400m**  
To be earned over 25 years from the first two committed fibre pairs upon completion

# Digital connectivity solutions



**Digital Platform**  
successfully implemented

Mobile & FBB Customers  
**100% Migrated**

From 200+ Databases  
**Now 1 Data Lake**

From 300+ Applications  
**Now 12 Core Applications**

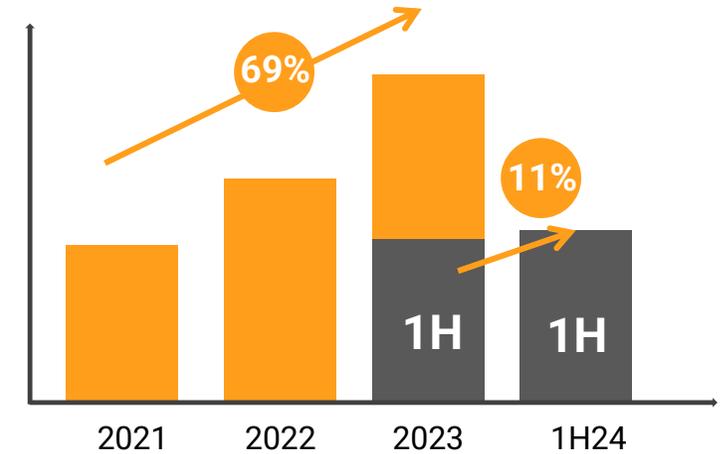


**5G SA Network**  
**>99% coverage nationwide**

**36** 5G enterprise use cases deployed

**~1/3** network traffic on 5G

**B2B revenue**



**Enterprise Biz**  
**double digit growth**

**+69%** from 2021 to 2023

**+11%** from 1H23 to 1H24

# Redefining digital infrastructure to enhance how we live, work and connect with one another

An integrated ecosystem that creates a seamless digital experience

## Data centres

Enabling the future of AI through more advanced and greener digital infrastructure



## Bifrost Cable System

Providing global connectivity with low latency for seamless data exchange



## Cloud native digital platform

Empowering businesses and individuals with scalable and secure on-demand services



# Thank you



Keppel

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