



# Energy Innovation 2022

## Workshop 1: Technology Translation in Energy Transition

15 July 2022

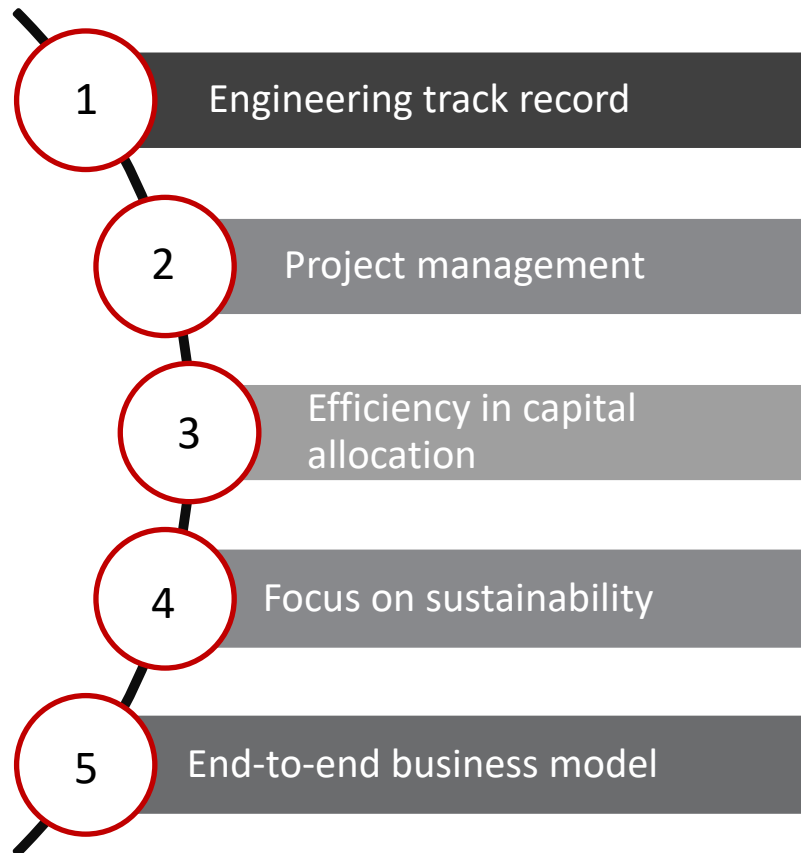


**Keppel Infrastructure**

# Overview of Keppel Group

Charting Keppel's future as an integrated business providing solutions for sustainable urbanisation

## Strengths & Differentiators



## Focus Areas

Energy & Environment	Urban Development	Connectivity
		
Keppel Infrastructure Keppel Offshore & Marine	Keppel Land Keppel Urban Solutions Sino-Singapore Tianjin Eco-City	M1 Keppel Data Centres Keppel Logistics
Asset Management		
Keppel Capital Eco-system of private funds and listed REITs & Trust		



# **Keppel Infrastructure** | Leading the development of sustainable infrastructure

- Established in May 2013 from the integration of Keppel Energy and Keppel Integrated Engineering
- Our goal is to improve quality of lives and living environments by delivering innovative and reliable solutions for sustainable infrastructure
- We invest in, develop, own and operate competitive energy and environmental infrastructure solutions and services

## **Power and Renewables**



- Experienced international developer, owner and operator of power plants
- Vertical integrated renewable, power and gas business
  - Gas Retail
  - Renewable & Brown Electricity Retail
- Developer, owner and operator of a network of integrated utilities and sustainable energy solutions

## **Environment**

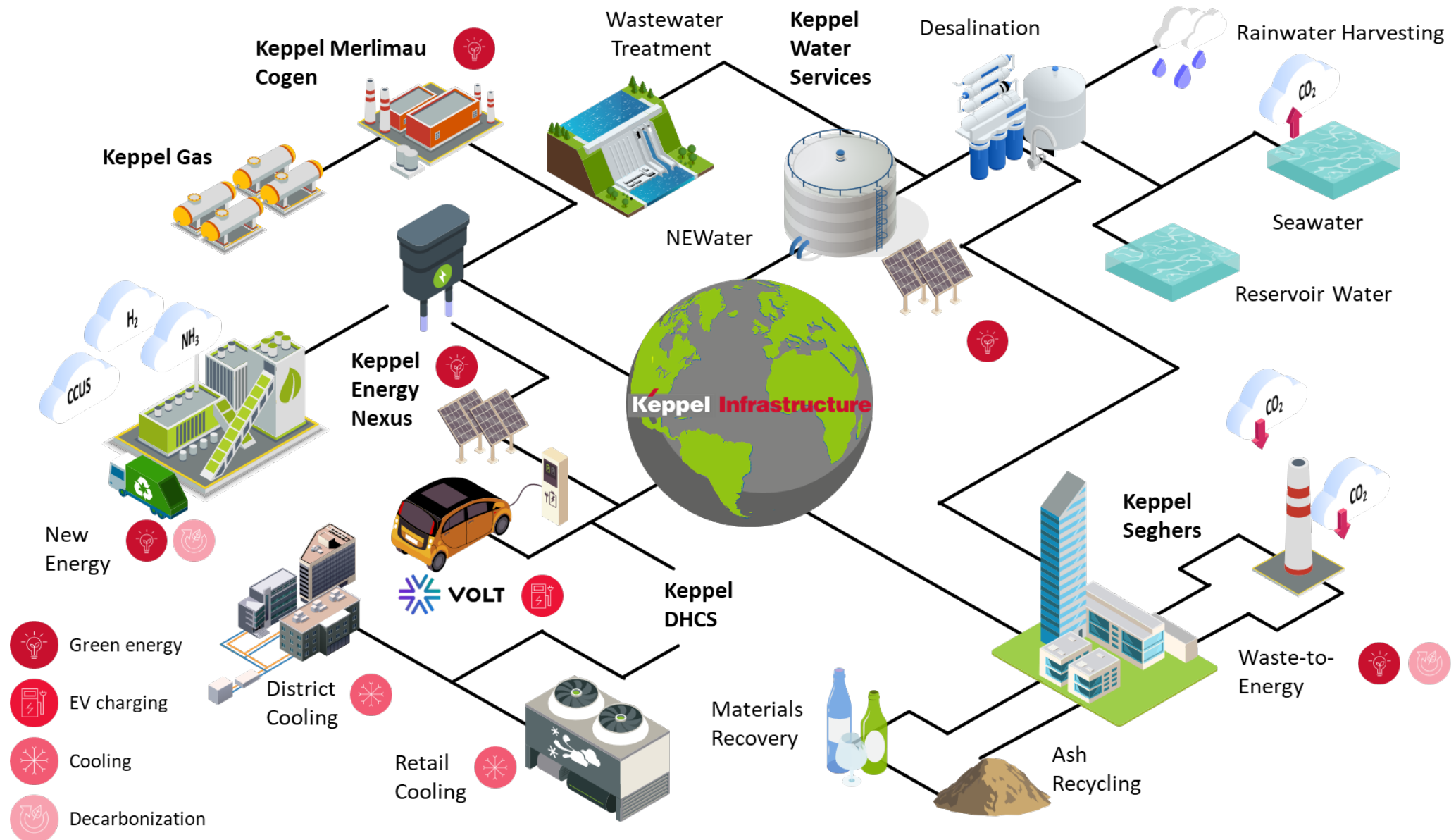


- Global player in environmental technology and solutions
  - Waste Treatment
  - Water and Wastewater Treatment
- 100% owned in-house technology, design and engineering expertise
- Track record of over 450 projects in 25 countries

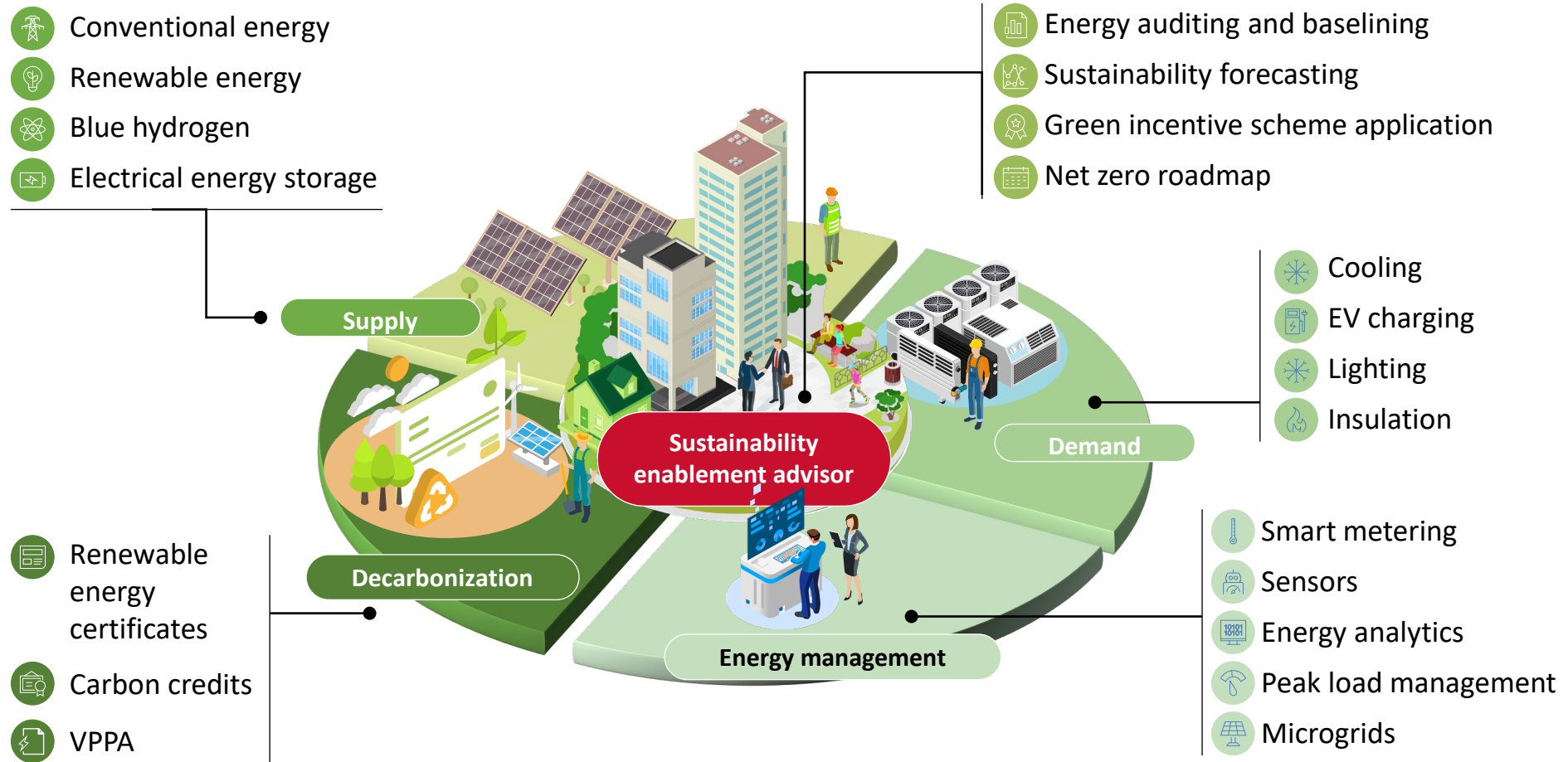
## **New Energy**



- District Heating and Cooling provider in the region
- Distributed Energy Services
  - EV Charging
  - Energy Storage System
  - Smart Microgrids
- Green Hydrogen
- Carbon Capture and Storage



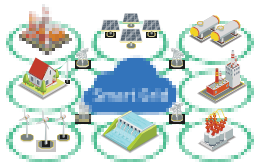
# Keppel Infrastructure | End-to-End Energy-as-a-Service



# **KepInfra Energy Transition Centre**

**KETC**, the innovation and technology arm of Keppel Infrastructure, harnesses technological foresights and provide low-carbon living-labs and sand-boxes for test-bedding, demonstration and new technologies development through partnerships with technology providers, Institutes of Higher Learning (IHLs), accelerators, interest groups and funding agencies.

## Our Key Innovation Priorities



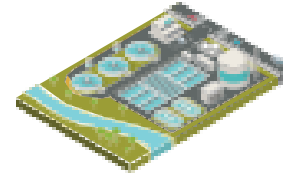
**Multi-layered  
Smart Grid  
Integration**



**Renewables and  
Low Carbon Fuel  
Alternatives**



**Energy Storage**



**Water and  
Waste-water  
Treatment**



**Sustainable  
Waste  
Management**



**Data-driven  
Digital Solutions**

## Fostering Global Ecosystem Partnership

Polymakers

Think Tanks

Institutes of Higher Learning

Industry Experts

Funding Agencies

Interest Groups

**Some of our strategic technology collaborators include:**





# Keppel Infrastructure-NUS Low Carbon Living Laboratory

Creating, test bedding, and scaling up the deployment of commercially viable innovations

## SMART AC/DC HYRID MICROGRID

Integrate renewable and distributed energy resources (DC microgrid) into the existing AC grid without disruption



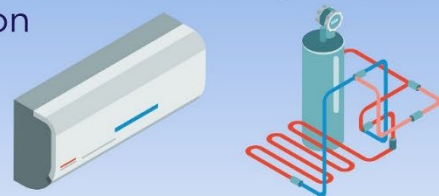
## SMART ELECTRIC VEHICLE (EV) CHARGING STRATEGIES

Balance the needs and constraints of the existing electrical network, and charging demand and charging costs for EV owners



## DISTRICT COOLING SYSTEM (DCS)

Provide DCS solutions with innovative thermal energy storage using proprietary phase change materials as an energy storage medium, outdoor cooling technology and intelligent process optimisation



## SEAWATER DESALINATION PRETREATMENT TECHNOLOGY

Experiment on enhanced seawater desalination pretreatment technology for carbon dioxide sequestration and scalant removal







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## Workshop 1: Technology Translation in Energy Transition



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