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Australia – Korea Decarbonisation and H2 Supply Chain

: Green Cement Project and
LH2 Logistics National Research

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Driving future energy



Presenting Today



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Welcome to Elecseed

We are living in a significant time as nations and companies decarbonise their assets to meet aligned global targets and provide for a cleaner future.

Elecseed is a progressive Renewable Energy Developer and Consultancy providing innovation, technical eminence, funding, and multifaceted solutions to deal with the paradigm shift in how we generate, manage, and consume energy.

With offices in Seoul Korea and Brisbane Australia, Elecseed identifies and leads specific market needs, not only to propel our drive to a greener future but also satisfy the immediate economic needs and demands.

We have experience across the Asia Pacific in bringing the right partners to develop solutions across renewables including Photovoltaics, Wind, Hydrogen and Battery Storage technology, leveraging off strategic financial and engineering expertise.

Join us in our tenacious journey to a more sustainable and responsible world, driving the future of renewable energy solutions.

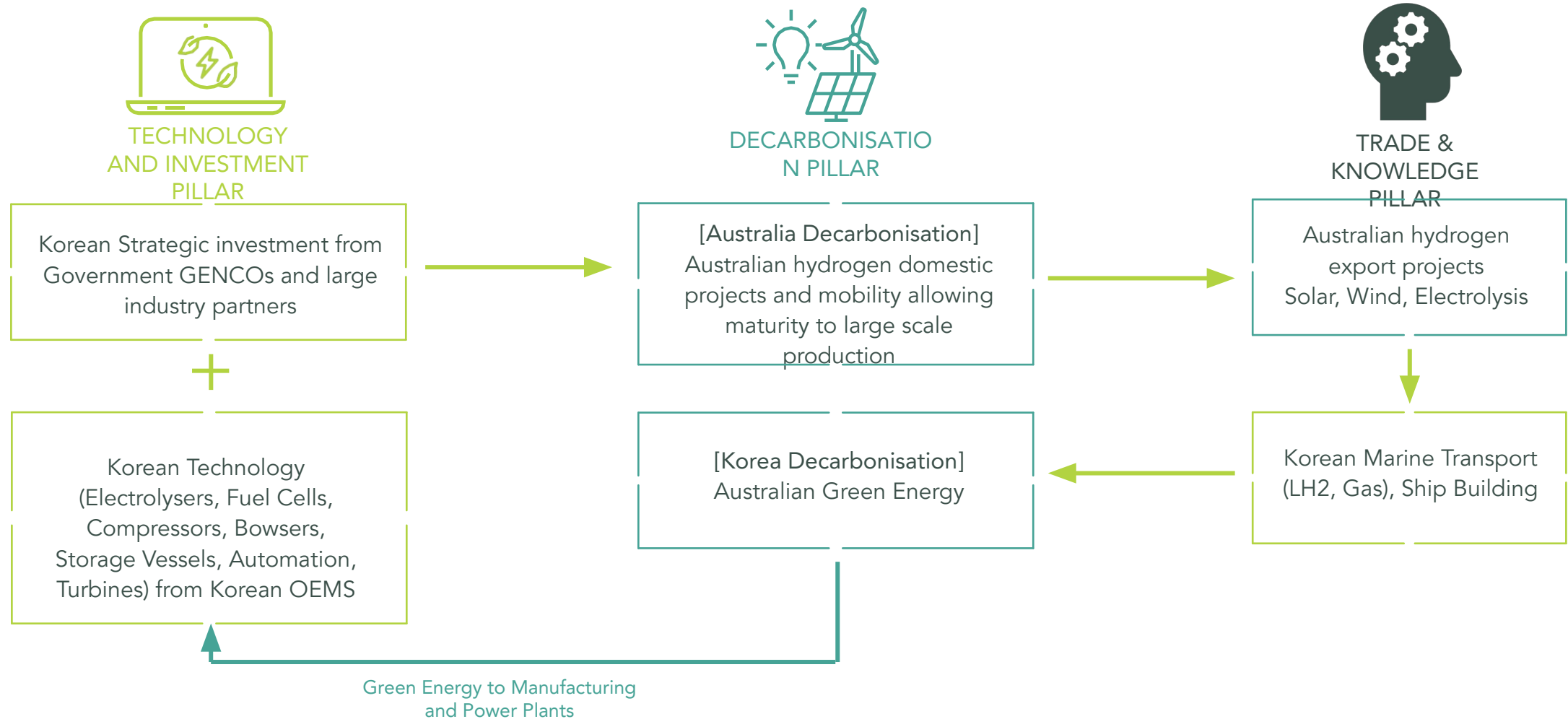


KOREA
AUSTRALIA
CLOSED LOOP
AND
ELECSEED
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What Elecseed work towards

The "Closed Loop" between our nations – A Unique Mutual Opportunity

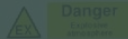


THE MASTERPLAN

Step 1 - Australia Decarbonisation (Local Application)

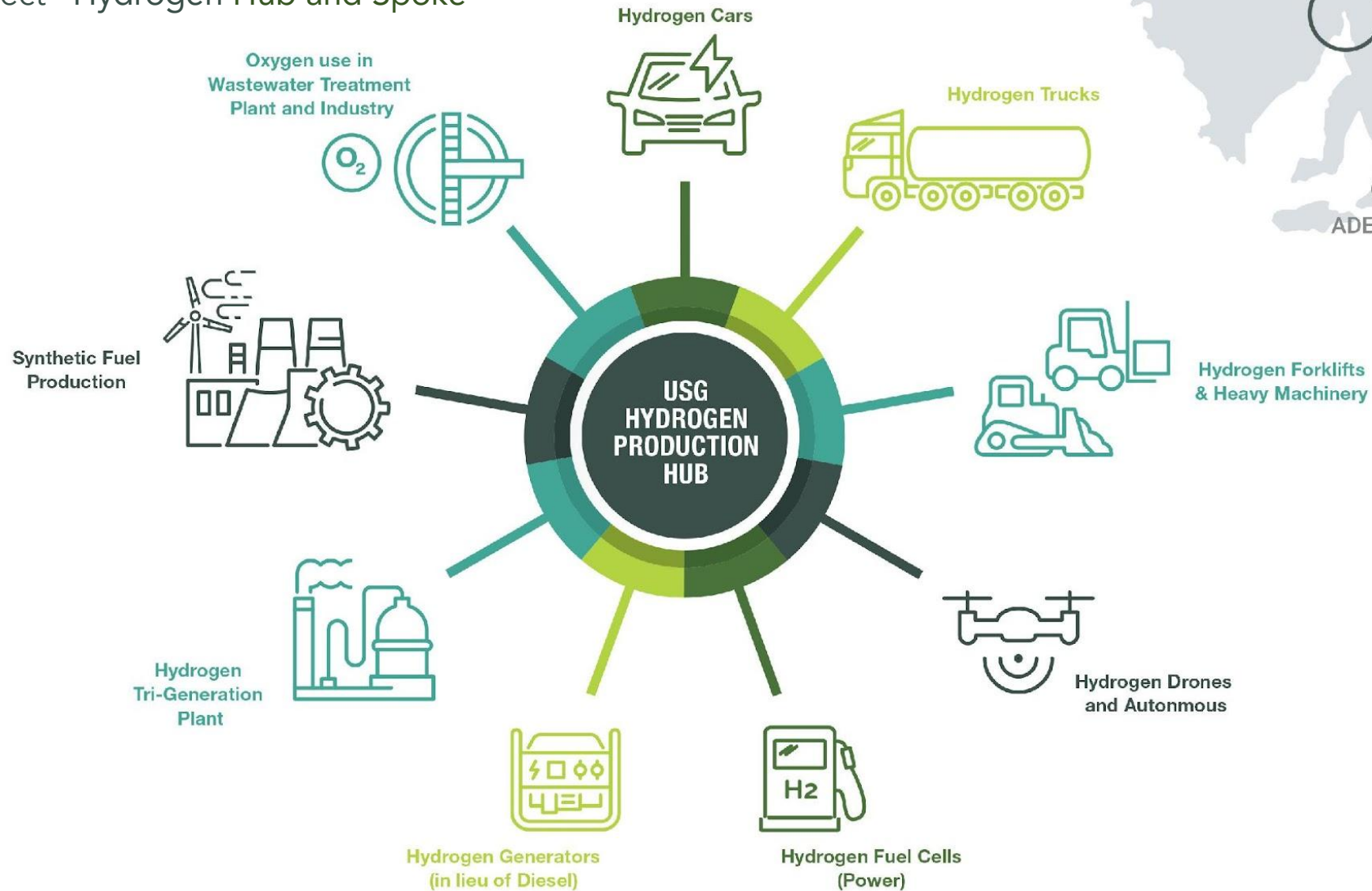
Step 2 - Korea Decarbonisation (H2 Supply Chain)

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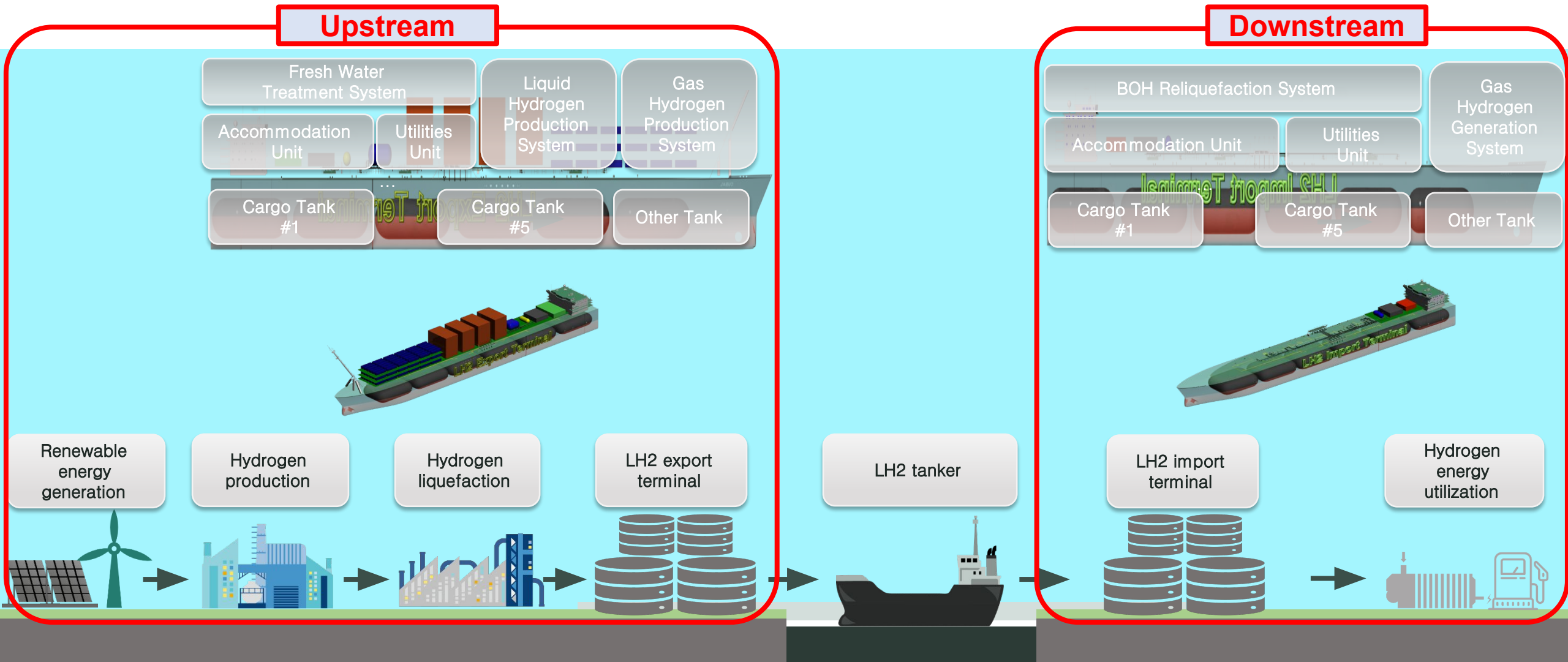
Masterplan Step 1 - Australia Decarbonisation

A perfect "Hydrogen Hub and Spoke" model



Masterplan Step 2 – Scale up and Export : Korea Decarbonisation

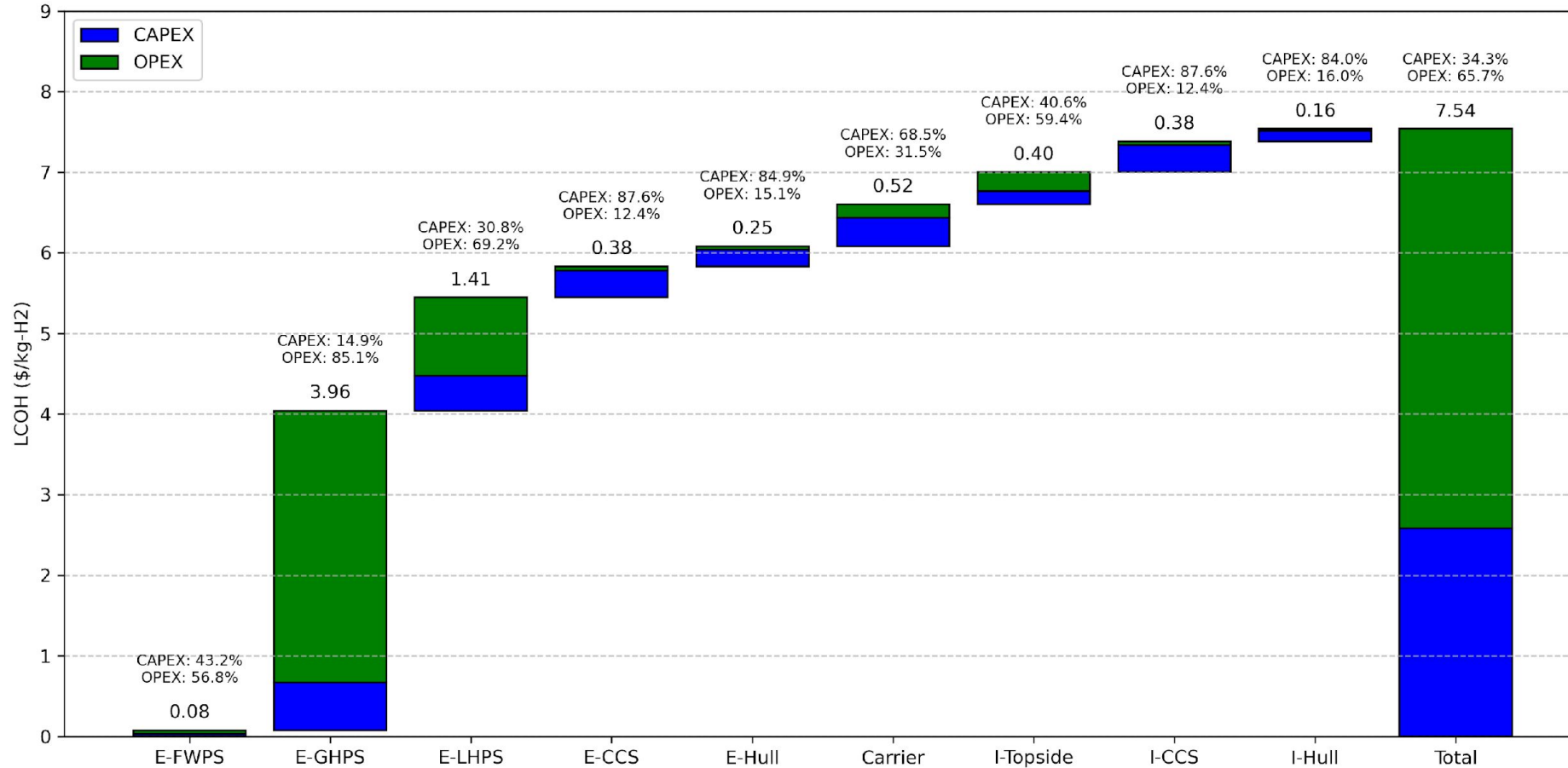
Supply Chain Study : 2021 - 2024



Masterplan Step 2 – Scale up and Export : Korea Decarbonisation

Supply Chain Study : 2021 - 2024

*Unit = US Dollar

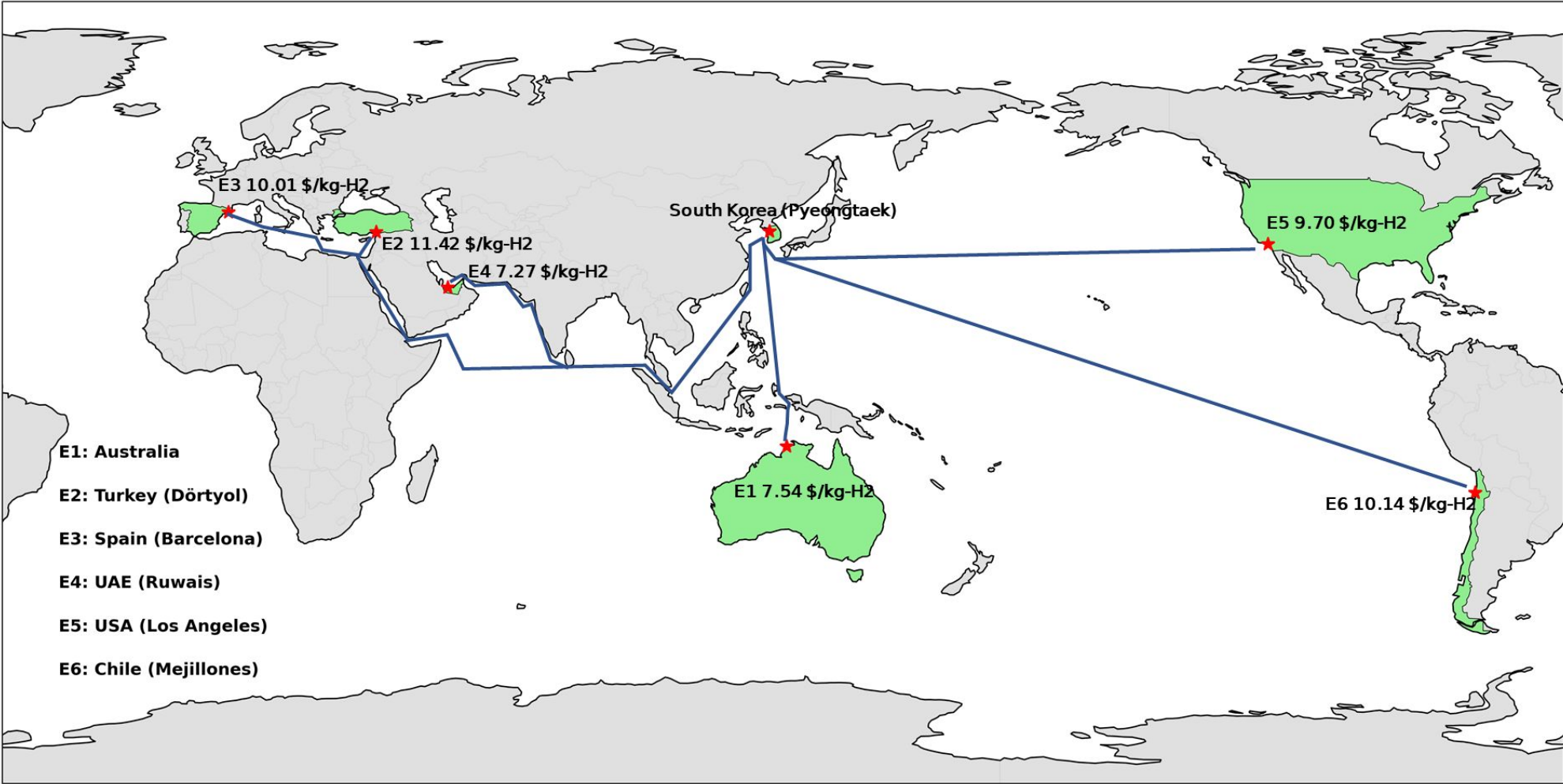


- FWPS Fresh Water Production System / - GHPS Gas Hydrogen Production System / - LHPS Liquid Hydrogen Production System
- CCS Cargo Containment System / - CHS Cargo Handling System / - HMS Hull and Marine System

World 1st CAPEX & OPEX National Research for whole Supply Chain of Green Hydrogen

Masterplan Step 2 – Scale up and Export : Korea Decarbonisation

Supply Chain Study : 2021 - 2024



*Unit = US Dollar

National Research funded by KETEP based on Aus-Kor bilateral commitments since 2021

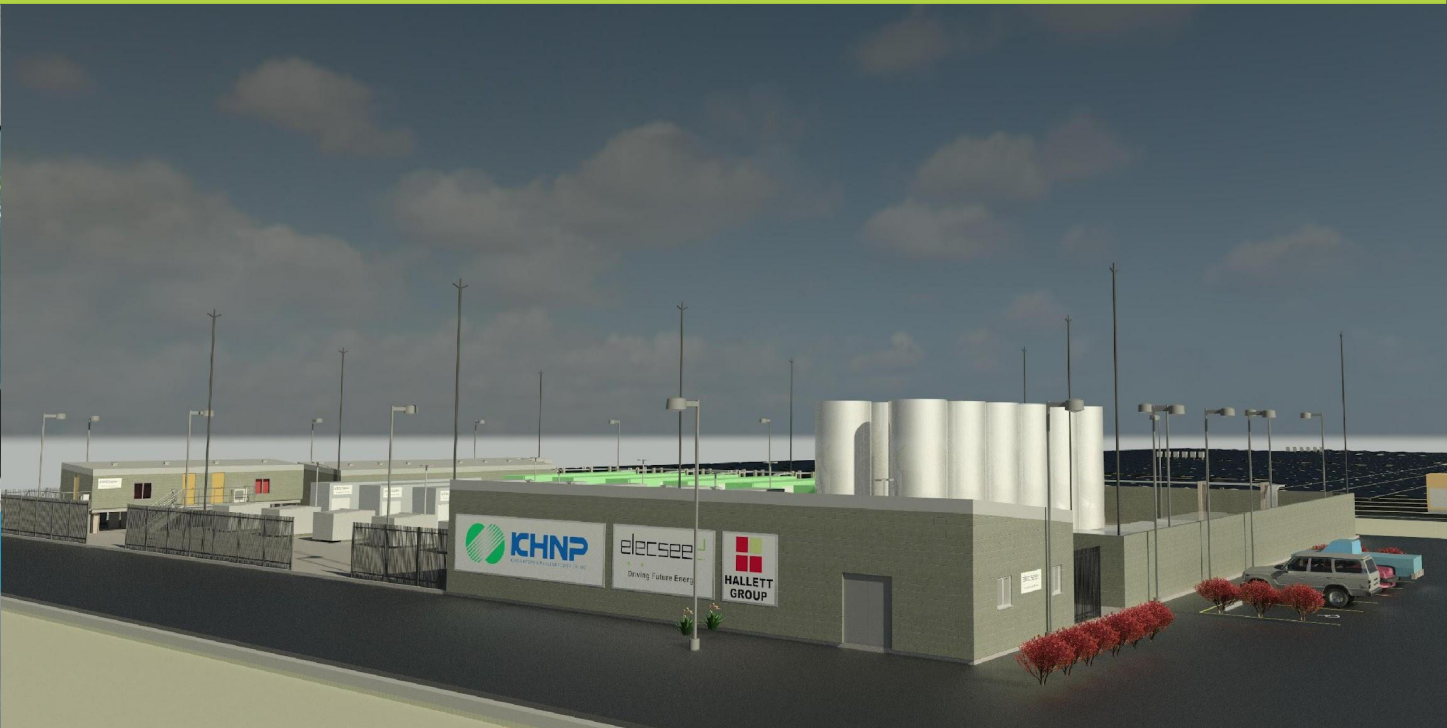
ELECSEED PROJECT HELIOS

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H₂ HYDROGEN POWER
CLEAN ENERGY OF THE FUTURE



Collaboration - Port Augusta South Australia



Green Hydrogen Project



Cement Drying Process



Green Hydrogen made on site



Korean Technology and Strategic Investment



Global First

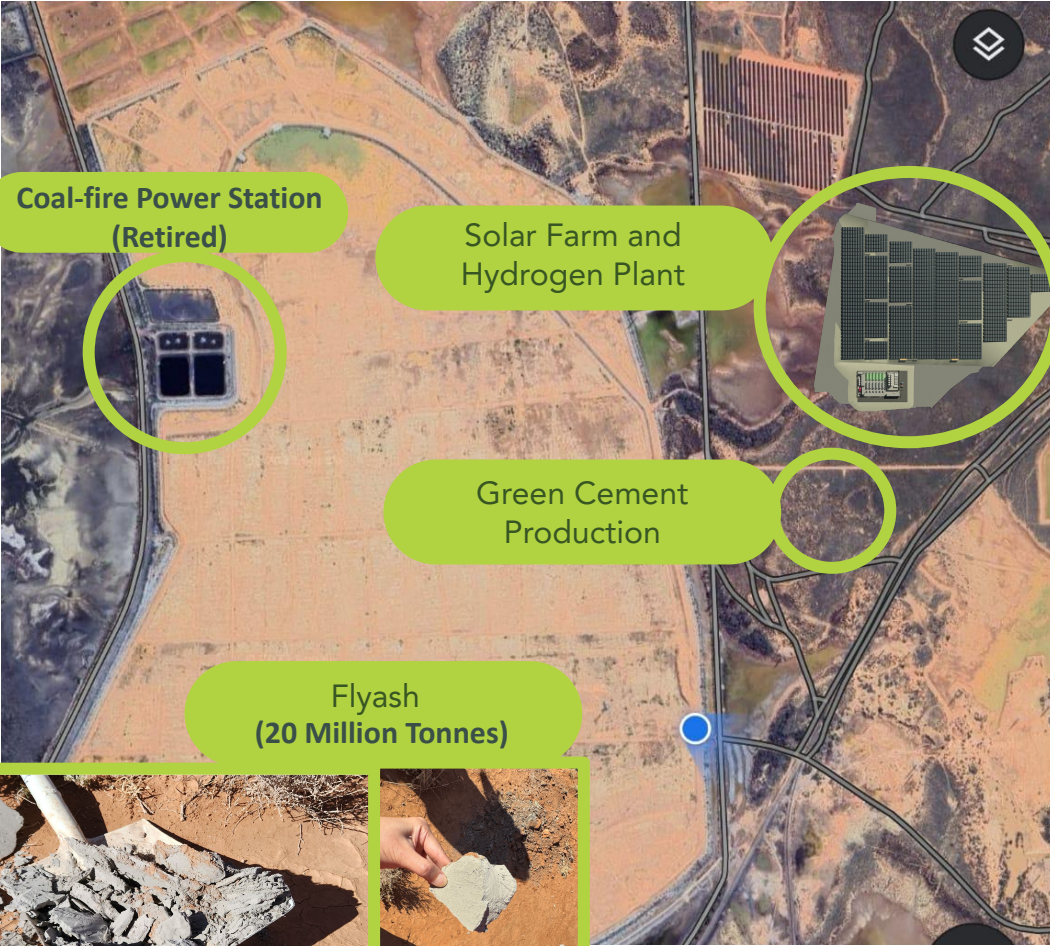
Project Helios

Some Context

- **In 2021**, world-wide emissions from making cement produced about **2.9 Billion metric tonnes of CO₂**. For perspective, if the cement industry was a country, it would be **the fourth largest national emitter in the world**, behind China, the US and India (Source : CSIRO)
- Demand for concrete and cement is predicted to grow 12 to 23 % above today's levels by 2050 (Source : Scientific America)
- **Coal Fired Power Stations are being closed** around the World and leaving layers of flyash, used as a **feedstock for supplementary cementitious materials (SCM)**
- **Australia currently consumes around 12 million tons per annum** of cement with around half of this imported in the form of finished (powdered) cement or cement clinker.
- The project will use existing and proven technology to manufacture supplementary cementitious materials (SCMs) that can **replace greater than 50% of traditional high CO₂ emitting** clinker-based cement.
- **15 million tonnes of cement** replaced completely with SCM **can reduce CO₂ emissions by 1,000,000 tonnes** becoming a strong contributor to State and National emissions reductions targets.

Green hydrogen production project overview

Site



Project Helios

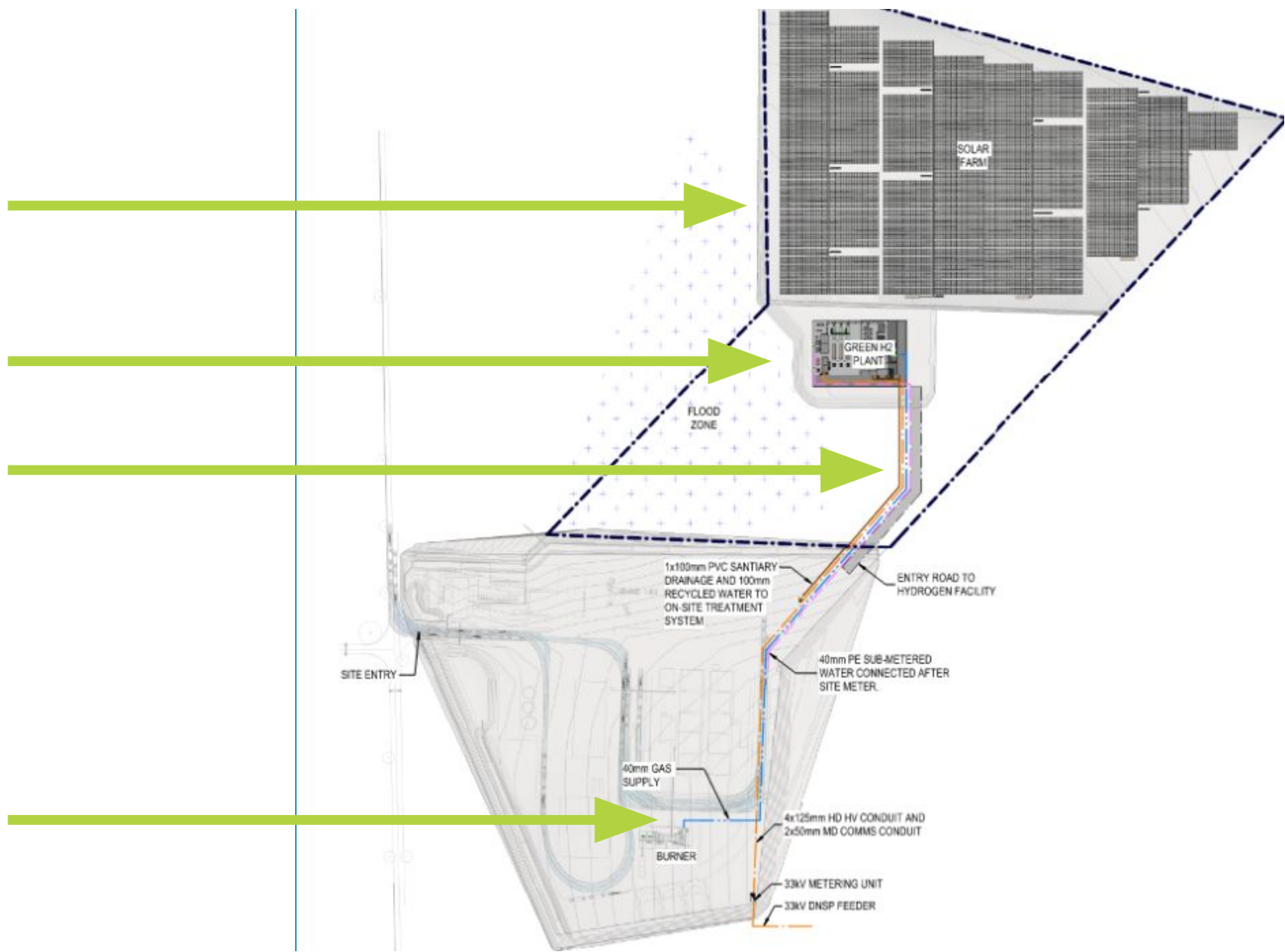
Technical – Initial Solution

Solar Farm

Hydrogen Plant

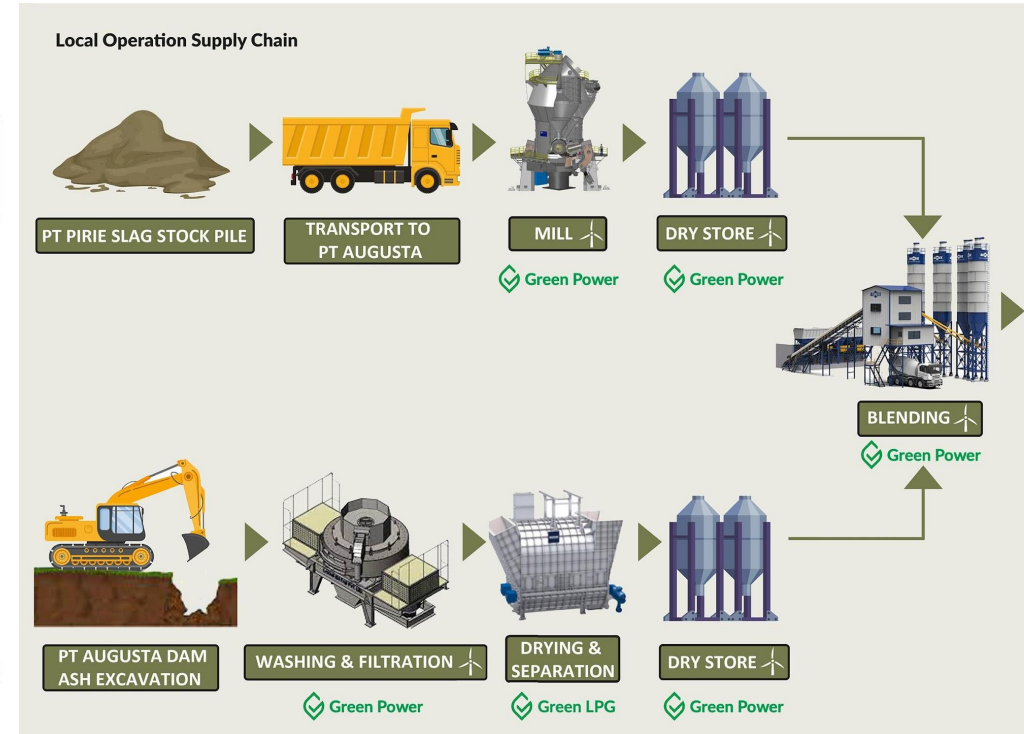
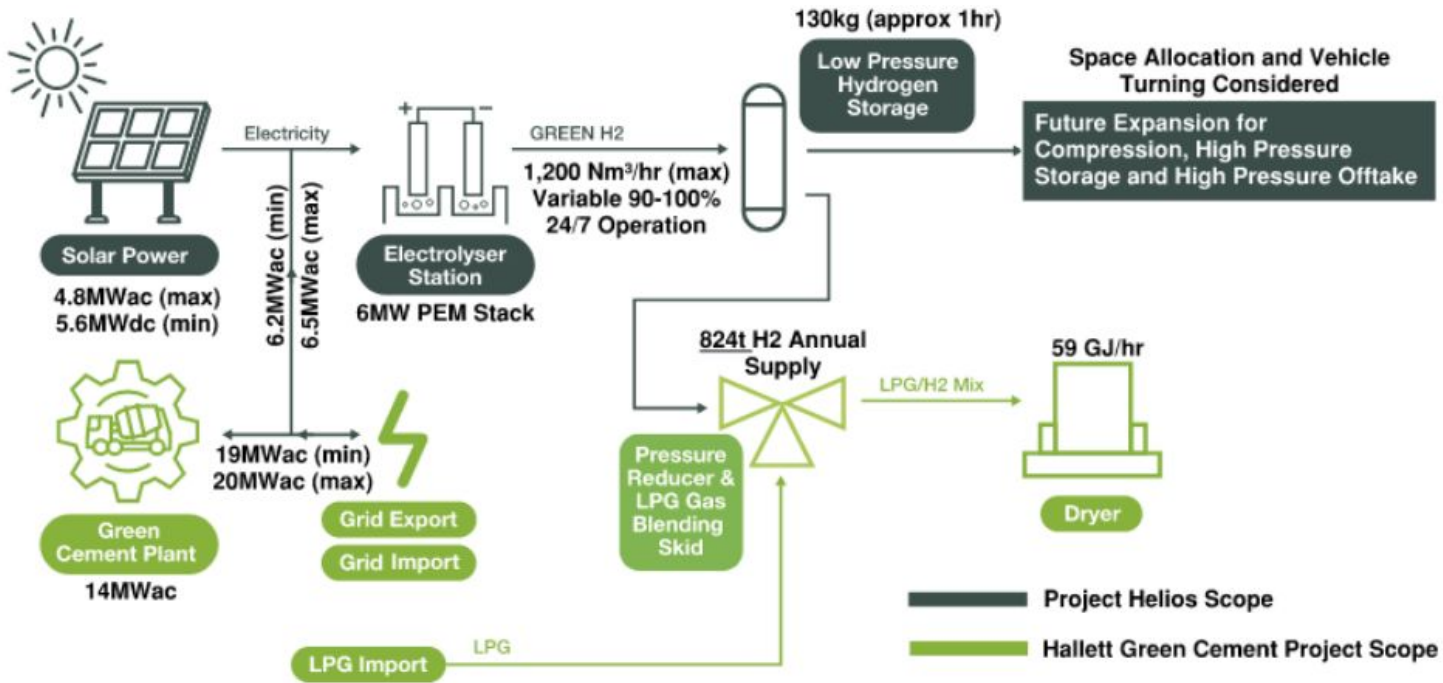
Pipeline to Plant

Flyash Drying Ovens



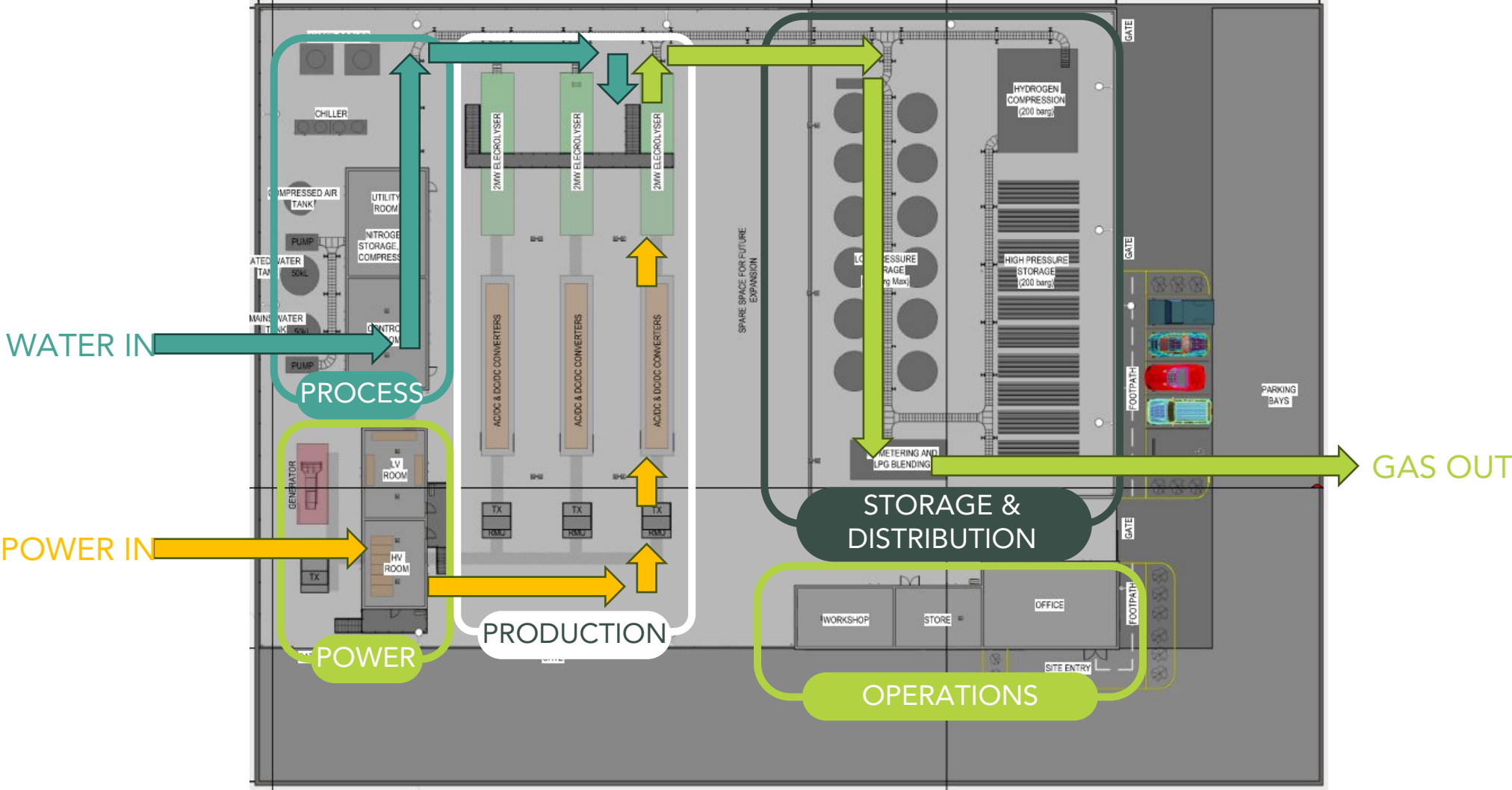
Project Helios

Schematic – Initial Volumes



Project Helios

Technical Summary – Hydrogen Plant



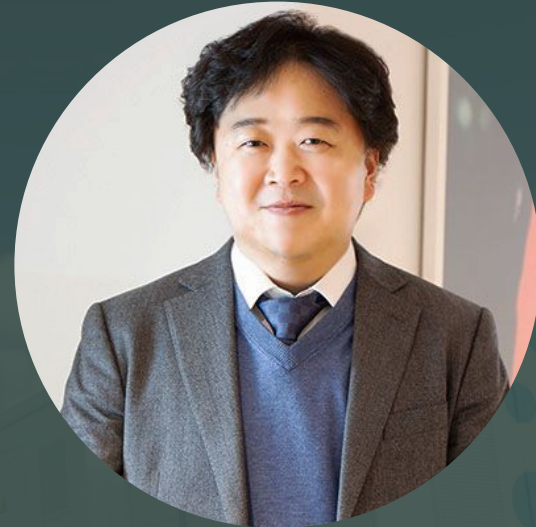
Project Helios

Technical Summary – Hydrogen Plant



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Thank you
감사합니다



Driving future energy

H_2
HYDROGEN
ENERGY STORAGE

International Offices

Elecseed have offices in both the Republic of Korea and Australia. We work closely together and bridge the two nations, connecting investment, technology, skills, common goals, research and overall collaboration. We work from central modern facilities and welcome you to contract or visit our offices in Brisbane and Seoul.

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We are very open to collaborating with your company to support your decarbonisation journey in the Upper Spencer Gulf.