Halcyon Green Hydrogen Project

Hydrogen from Geothermal Energy!

– A journey of a joint venture between

Tuaropaki Trust & Obayashi Corporation

30 July 2025

Halcyon Power

Aya Inagaki
Head of Operations

Hydrogen from Geothermal Energy!

Topics for today

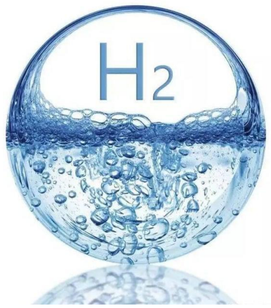
- Introduction
- Our project
- Going forward

Halcyon Green Hydrogen Plant at Mokai: From Partnership to Reality

Introduction

Geothermal meets hydrogen

from Local Resource to Global Solution



World Energy Council

Renewable electricity is the key input for producing green hydrogen

- Solar, wind power - Intermittent, depend on weather and daylight
- **Geothermal energy – Stable, available 24/7**

But you can’t store electricity, or you can’t move it without a grid

“Vision for Hydrogen”, MBIE

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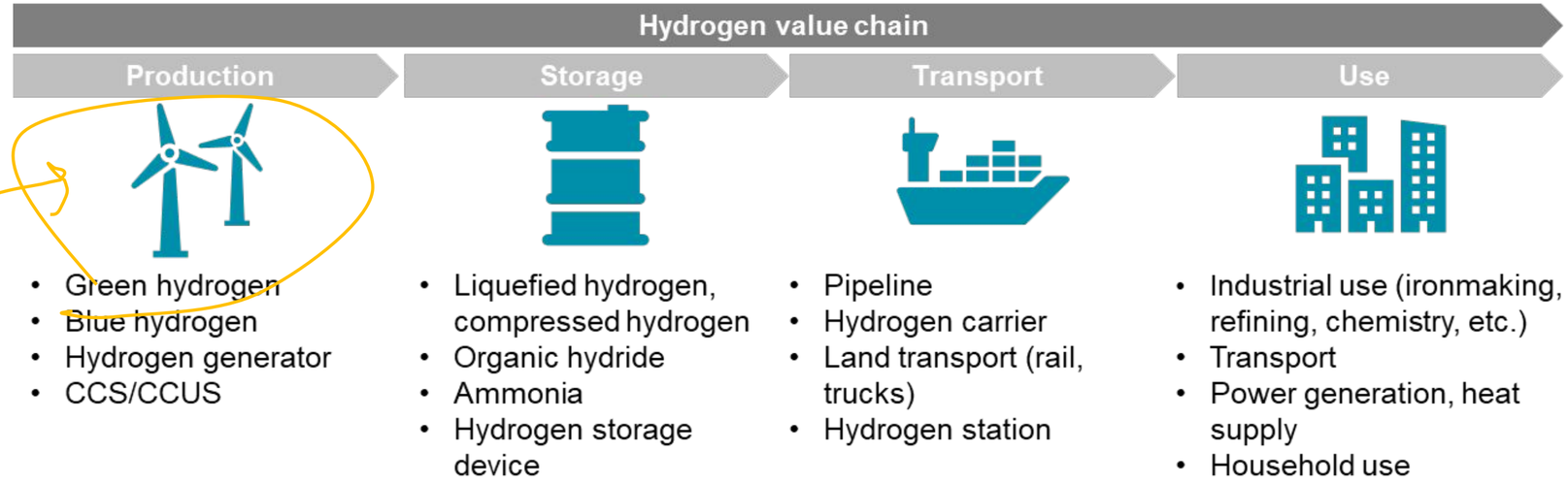
Hydrogen Overcomes Time and Distance

- **Electricity can be converted into hydrogen and transported both domestically and internationally**
- **Stable geothermal power supports the scale-up of hydrogen production**



Japan Hydrogen Association

Halcyon Overview

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About Halcyon

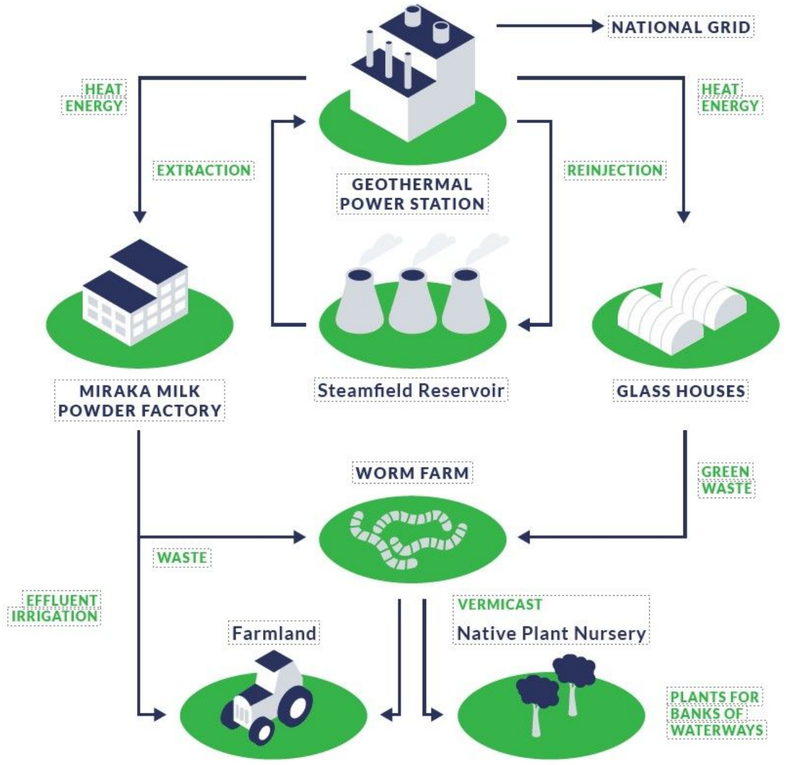
- **Halcyon Power Limited** is a NZ registered company and a 50/50 joint venture between Tuaropaki Trust and Obayashi Corporation.
- Producing green hydrogen using electricity generated from Mokai Geothermal Power Station and distributing to users in New Zealand.
- Output capacity is around 100-180 ton/year (i.e. 1.25MW).

Owner of Mokai Geothermal Power Station in partnership with Mercury

Major constructor participated in Auckland Waterview Tunnel Project

Mokai Circular Economy

Look after the land, and the land will look after you



Halcyon is the latest addition to Mokai Industrial Community

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Obayashi in New Zealand

Joint Owner of Eastland Generation

3 Geothermal in Kawerau (Eastland Generation)

Tarawera Ormat Power Plant 1 (TOPP1)
Output：23.9MW
（binary）
Operating since 2013
(acquired by EG in 2021)

Te Ahi O Maui (TAOM)
Output：26.2MW
（binary）
Operating since 2019

Geothermal Developments Limited (GDL)
Output：9.1MW
（binary）
Operating since 2008
（acquired by EG in 2010)

Source	Number	Capacity(MW)
Solar	1	5.2
Hydrogen	2	1.5
Hydro	1	4.0
Geothermal	3	59.2
Total	7	69.9

[Under Construction]
TOPP2 Geothermal

Christchurch
Invest in Fabrum
(Hydrogen related equipment manufacturer

FABRUM.

Auckland Waterview Tunnel O&M

OBAYASHI

Auckland Hydrogen Refuelling Station

Halcyon Green Hydrogen

Taupo Hydrogen Production Facility

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Solar in Gisborne (EG)
Te Ihi o te Ra

Eastland Generation

Output：5.2MW
Operating since 2023

Hydron in Hawkes Bay (EG)
Waihi

Output：4.0MW
Operating since 1986
(acquired by EG in 1999)

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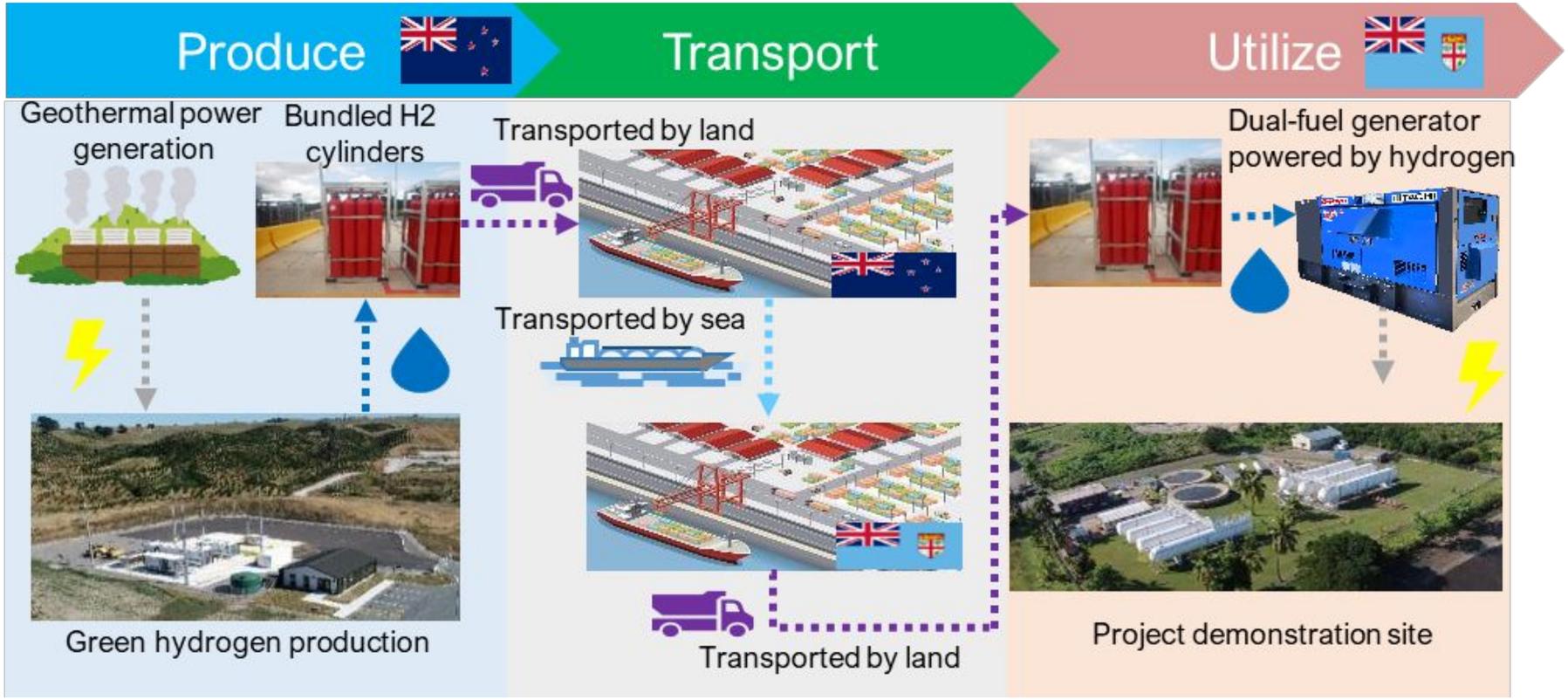
Hydrogen export to Fiji from 2023-2024

supported by the Japanese Ministry of the Environment



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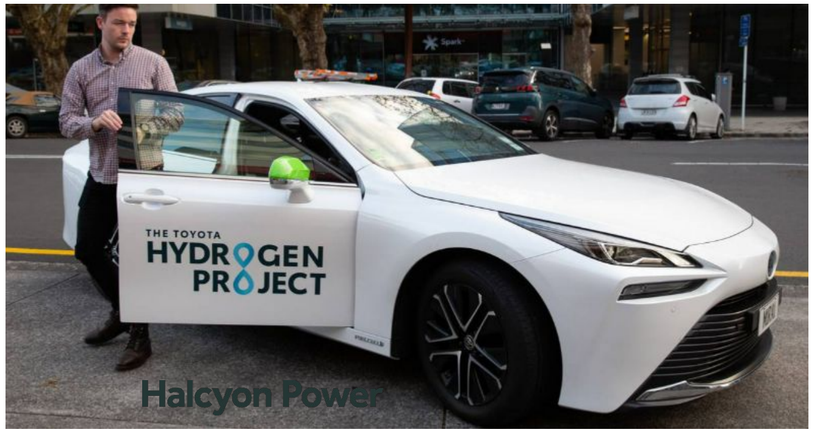
Going forward



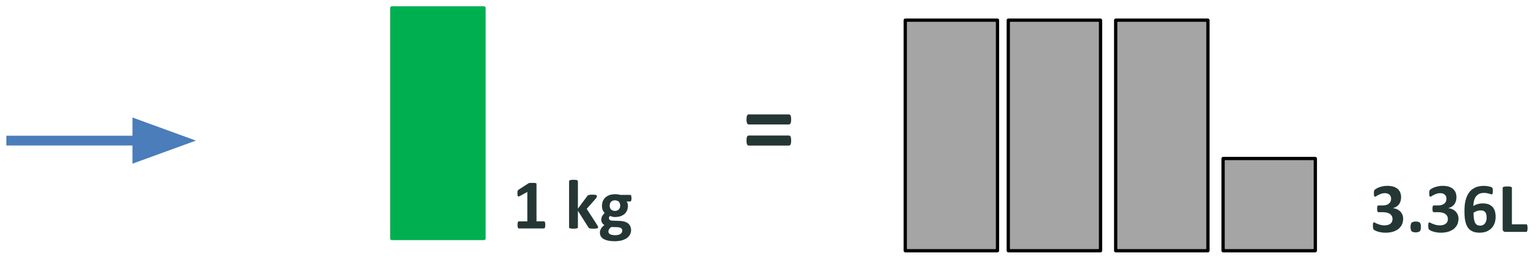
Hydrogen in Action in New Zealand

Toyota NZ, Hyundai NZ, Richardson Group are the kye drivers

Hydrogen Overcomes Time and Distance, but…

What does this mean for cost and competitiveness?

Electricity	Hydrogen	Diesel
50-55 kWh	→ 1 kg	= 3.36L



What’s next for Halcyon?

- ✔ Working with Ministry of Maori Development: Te Puni Kōkiri (TPK) and NZTE
- ✔ Feasibility project to investigate new methods of exporting Hydrogen to Singapore
- ✔ Exploring overseas markets such as Japan and Singapore
- ✔ Forming international partnerships with likeminded companies

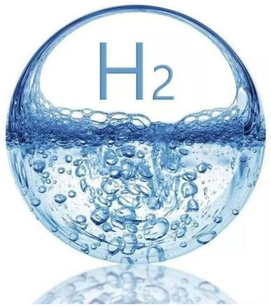
Key considerations:

- *Utilise night time electricity from geothermal power stations in Taupo*
- *A range of government financial support measures available in energy importing countries*
- *Likely adaptation of IMO Net Zero Framework this Octobre –Game Changer*

Thank you!

Geothermal meets hydrogen

from Local Resource to Global Solution



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