

Hydrogen in Regional Australia

10:00 – 10:30 Welcome

Project Central-West Introduction

10:30 – 11:45 Project Central-West

Core Partners

Project Elements

1. Hydrogen Refuelling Solutions
2. Education (Social & Professional)
3. Beyond Hydrogen Mobility

Future Expansion

Project Stakeholders

11:45 – 12:00 Questions

12:00 – 12:30 Working Lunch

12:30 – 1:00 Hyzon

12.30 – 2:00 Deep Dive discussions with potential hydrogen users



HYDROGEN FUELS
A U S T R A L I A



Hydrogen in Regional Australia

Project Central-West

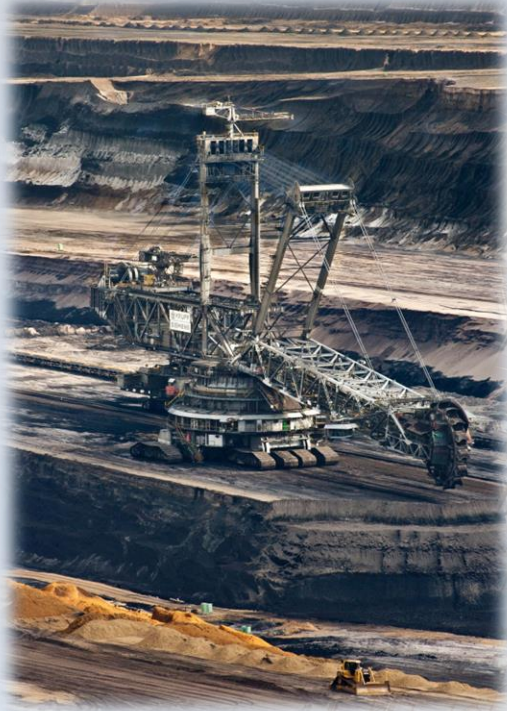
July 2022

The Economist Menu Weekly edition Search

4/10/21
 Finance & economics | Can't live with them, can't live without them

The age of fossil-fuel abundance is dead

Dwindling investment in oil, gas and coal mean high prices are here to stay



Forbes

SUSTAINABILITY

The Case For Fossil Fuel Divestment

David Carlin Contributor
Helping you to understand and thrive in our changing world Follow

Feb 20, 2021, 12:11pm EST

The divestment movement changed the conversation around fossil fuel finance. Investors and banks are increasingly questioning the long-term viability of the entire sector.

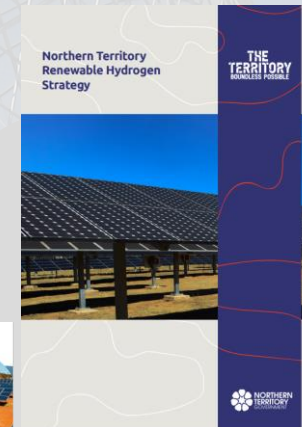
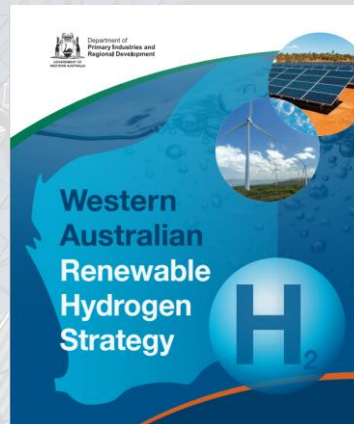
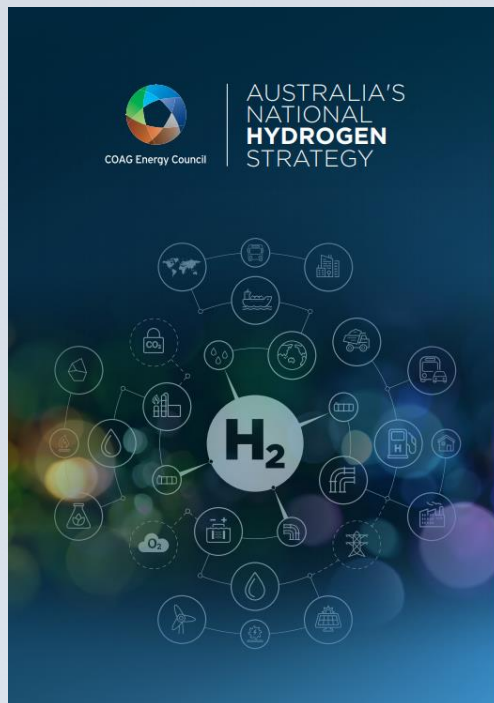
\$2B fuel security package
 Dept Industry, Science, Energy & Resources, May 2021

WEDNESDAY MARCH 29, 2017

According to a new report by the [International Renewable Energy Agency \(IRENA\)](#), the sweeping changes affecting the energy industry could leave more than US\$10 trillion in coal, oil, gas, and related assets stranded. IRENA made these reports in preparation for a G20 meeting on climate and energy, but the news underscores a growing number of reports indicating that the fossil fuel industry is on precarious economic ground—posing new risks for companies that rely on oil, gas, and coal.



In response.....



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Toyota opens hydrogen refuelling station in Melbourne

While most car makers are developing battery-powered electric cars, Toyota is hard at work developing a fuel source for future HiLuxes and LandCruisers.

Toby Hagon

Homes for reflection

St Barbara

Renewable hydrogen boost: ARENA funding announced

Wednesday, 05 May, 2021

On behalf of the Australian Government, the... announced that it has conditionally approved hydrogen projects, as part of its Renewable...

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Fortescue to roll out hydrogen powered buses at Christmas Creek

© August 18, 2020 | News | Salomae Haselgrove

Hydrogen refuelling station opens in Canberra

Hydrogen refuelling station in Fyshwick

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Delivering the renewable Hume Hydrogen Highway

Published: 18 Jul 2022

Because, doing nothing...

HOME IN EUROPE

The EU Wants A Carbon Tax On Imports – But Would It Be The Climate Solution Officials Expect?

TOPICS: Carbon Tax Climate Solution EU Climate Change



POSTED BY: THE CORNER 18TH APRIL 2021

THE BUSINESS

VIDEO: Whitehaven shareholders demanding action environment.

Michael Slezak

Posted Thu 13 Aug 2020 at 8:32pm, updated Thu 13 Aug 2020 at 9:03pm

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Emissions taxes

Leslie Nielson, Economics Section

Introduction

The Garnaut Climate Change Review favoured the establishment of a compromised emissions trading scheme. Further, it proposed the ir pending the establishment of an effective emissions trading scheme approach.

Oil Price Forecast 2020-2050

How the COVID-19 Pandemic Will Affect Oil Prices in 2021

BY [KIMBERLY AMADEO](#) | REVIEWED BY [SOMER G. ANDERSON](#) ✓ | Updated April 08, 2021

Oil Price Forecast 2025 and 2050

The EIA predicted that, by 2025, Brent crude oil's nominal price will rise to \$66/b.^[9]

By 2030, world demand is seen driving Brent prices to \$89/b. By 2040, prices are projected to be \$132/b. By then, the cheap oil sources will have been exhausted, making it more expensive to extract oil. By 2050, oil prices will be \$185/b, according to the EIA's Annual Energy Outlook.

The Sydney Morning Herald

'Breakthrough moment': Woodside investors revolt on climate change



By Nick Toscano

April 30, 2020 – 6:23pm

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We bring you:

Project Central-West

Who are 'We'?

Skai Energies delivers **modular** hardware, software and system solutions to support industry in its use of renewable energy.



skai
ENERGIES

POWERED BY





Commercial Solar Installation

- 40 years providing electrical solutions, with 10 years supporting solar growth
 - 30MW of installed systems
 - 50kW – 4.5MW through Australia & Samoa
- Solar solutions for Schools through to Councils
- Battery/Solar hybrid systems to support off-grid operation

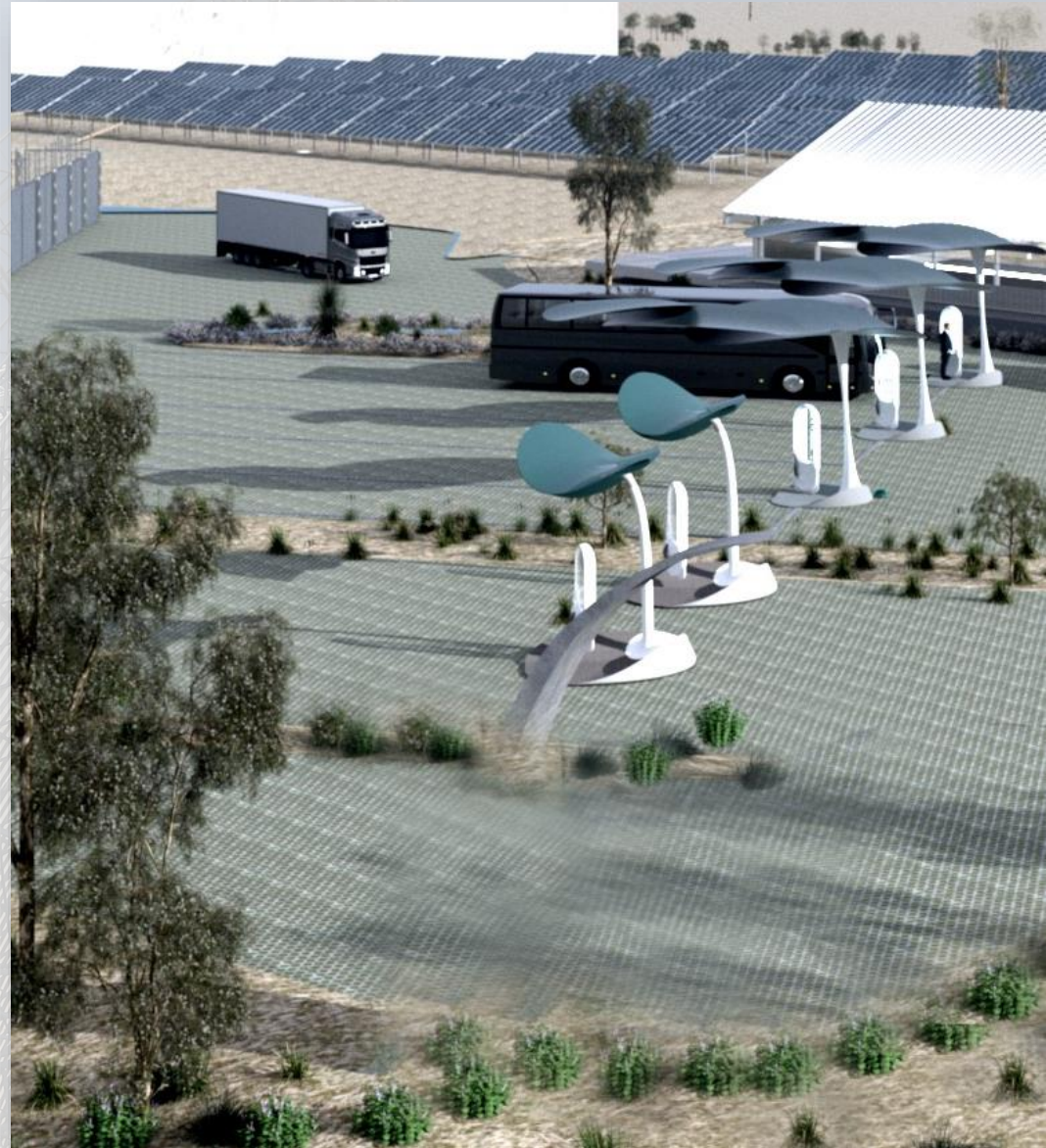
Image of inverter/battery cutaway





Hydrogen Refuelling Stations

- 1st site commissioning February 2022
- Truganina, Victoria up to 6,500kg/day
- Stage 1: Nilsson RE8760 to provide 60-90kg/day of green H₂, and full site power.
 - 432kW GHS Electrolyser
 - 125kW Hyundai Fuel Cell
- Stage 2: Full off-grid H₂ production and operation, including site eatery, function centre, and tours.
- BEV Charging
- Education
- Demand based development across South & East Coast of Australia



- Clean Cowra is about empowering regional agricultural communities to generate their own energy from organic waste material.
- Converting waste to high value products
 - Electrons
 - Hydrogen
- Project Viability established



Project Central-West

1. Build Hydrogen generation and fuelling

- Work with local businesses to understand hydrogen opportunities
- Bring hub'n'spoke hydrogen filling, with growth towards a greater network



2. Create Education opportunities for the region, in operation and awareness

- Working with Deakin University and Tafe to build community knowledge
- Identify professional learning needs, and build knowledge



3. Work with local stakeholders to create parallel benefit

- Use of oxygen and other 'waste' streams to support local needs
- Provide local security across the resource opportunities

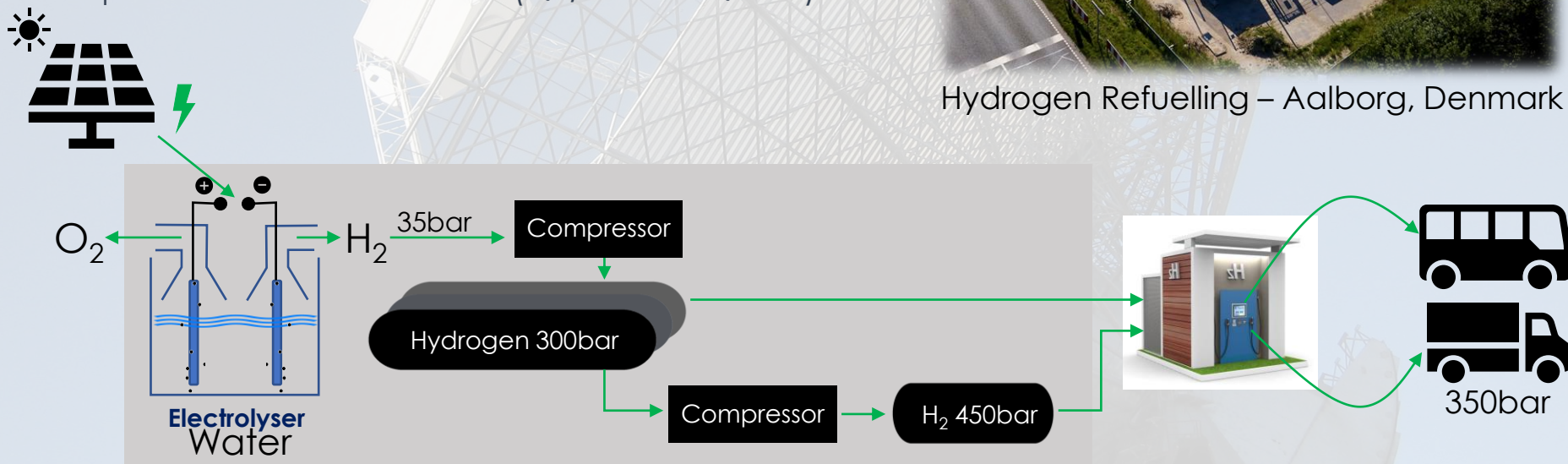


1. Hydrogen Generation/Fuelling Project

- Step 1: Know who will/can use hydrogen (Q1 2023)
 - Local bus operator
 - Local operating trucking fleet operator
 - Agricultural operators
- Step 2: Support the work to transition to hydrogen
- Step 3: Build the infrastructure (Q1/2 '23 to Q2 '24)



Hydrogen Refuelling – Aalborg, Denmark



2. Education

- Build awareness of the opportunities from hydrogen (July '22 onwards)
- Build community knowledge and comfort (coming soon)
- Build local technical skills (TBD)

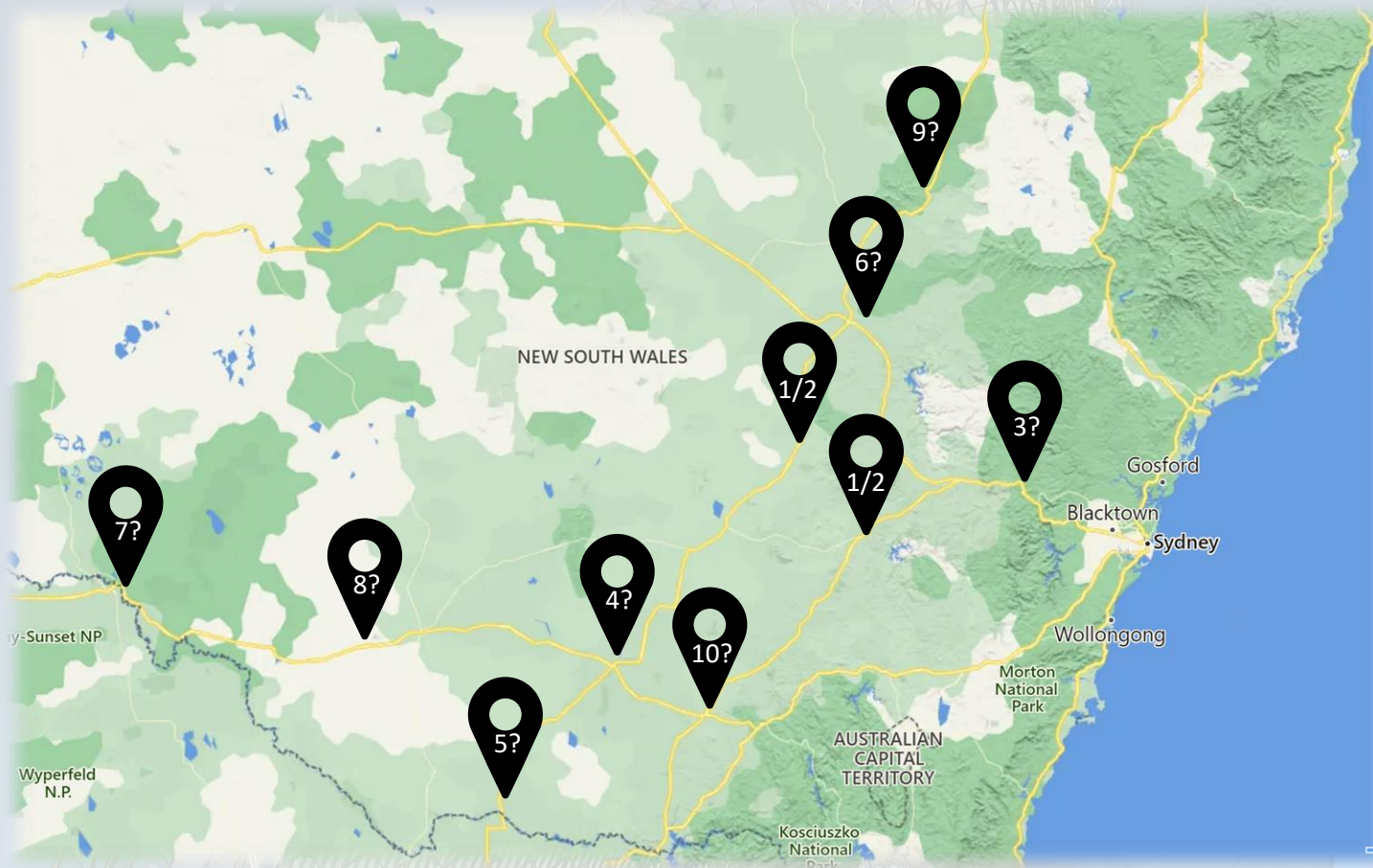


3. Parallel Benefits

- Oxygen
 - Medical gas
 - Industrial gas
 - Waste Water Treatment
- Heat (low grade)
 - Living Spaces climate control
 - Greenhouses
- Fuel Security
 - Transport
 - Agriculture
- R&D
 - Test-bed for research in agriculture



Future Expansion (projected)



Stakeholder Involvement/Support

- Experts in Field (Bring industry knowledge and offtake support)

- OEM vehicle manufacturers
 - Hyzon
 - JCB
 - Scania
 - Kenworth
- Deakin University – Warrnambool Hycel
- Fleet Operators

HYZON



- Government Support

- Introductions to industry
 - Road Transport Companies
 - Mining & Aviation Organisations
 - Agricultural Operators
 - Waster Treatment Operator
 - Water Management Operators
- Engagement with local Educators



Next Project Steps

1. Engage with Offtake Opportunities to establish pathway for hydrogen use (2nd Half, 2022).
2. Engage with local Government to form action plan on infrastructure target.
3. Engage with education pathways, to begin technical and community education.
4. Explore opportunities to begin parallel benefits
5. Put in place commercial agreements with the various parties (1st Half, 2023).

Thank You

More Information: www.skaienergies.com/central-nsw-hydrogen

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