Murchison Renewable Hydrogen Project

The Murchison Renewable Hydrogen Project is a large-scale renewable energy project being proposed by Hydrogen Renewables Australia (HRA). The project involves the construction of a combined solar and wind farm, a small desalination plant, electrolyser plant, a spur pipeline and a coastal terminal storage and transport facility.

The project will be situated on Murchison House Station, north of Kalbarri in the mid-west region of Western Australia. Utilising Siemens Limited electrolyser technology, the plant will produce low-cost, renewable or 'green hydrogen' from water sourced from desalination. The project will have an output of up to 5,000 MW which roughly equates to 15% of what we expect the Japanese energy market to be by 2030. The project will also create jobs and economic opportunities for Australia and supporting the global transition to zero-emissions energy.

Why are you proposing this project here in Western Australia?

WA's mid-west region has some of the best wind and solar capabilities in Australia. Studies[1] show that this area's richness in renewable resources indicate that it would be an excellent spot for the cost-effective production of green hydrogen for local industry and global export. The expected low environmental impacts and the proximity to both domestic and international markets are also significant drawcards for this area.

What benefits will this project bring to Australia and the mid-west of Western Australia?

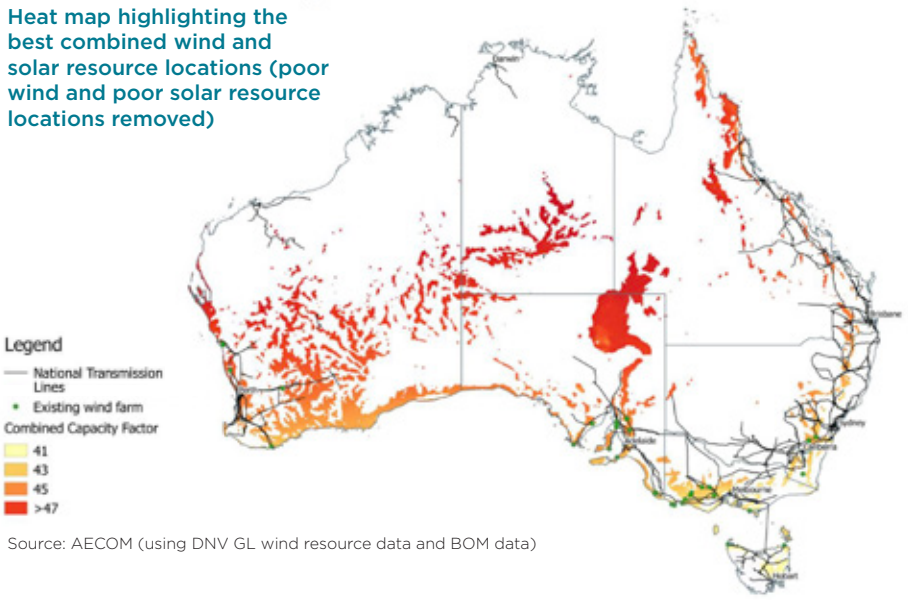
The project will contribute significantly to the national, state and local objectives for new investment, new jobs, renewable energy sources and new export markets. Our long-term aim is to export 'green hydrogen' to the booming international markets, notably Japan and Korea, creating significant job and economic opportunities for Australia and the mid-west of Western Australia.

The value of Australia's potential low-emissions hydrogen exports could reach $2.2 billion by 2030 and $5.7 billion by 2040[2].

Green Hydrogen

Green hydrogen is hydrogen produced from renewable energy sources. By using electricity generated from renewable sources, such as wind power and solar power to fuel the electrolysis process, green hydrogen is created without any CO2 emissions.

Heat map highlighting the best combined wind and solar resource locations (poor wind and poor solar resource locations removed)



Source: AECOM (using DNV GL wind resource data and BOM data)

1 Based on an independent AECOM study (*Co-location investigation: a study into the potential for co-locating wind and solar farms in Australia, AECOM, 2016*) of the best combined wind and solar resources across the country that were used to find the best location after considering permitting/environmental and land issues.

2 Western Australian Renewable Hydrogen Strategy, Department of Primary Industries and Regional development.

What infrastructure is required for a project of this size?

The project will bring many benefits to the area, including investment, jobs and infrastructure. This will include:

- A combined wind and solar farm providing a total maximum of 5,000 MW of installed capacity
- Desalination plant capable of supplying pure water
- Electrolyser plant capable of producing large scale and low-cost hydrogen
- A potential spur pipeline connecting to the Dampier to Bunbury pipeline to enable gas blending
- Coastal terminal facility for ships to take hydrogen to overseas markets

What stage is the project at?

It will take up to six years to scale up the project to enable exports to Japan and South Korea, ramping up to full capacity by 2028. However, we have already begun having important conversations of which the next step is to involve the community.

What have we done so far?

- Secured a long-term agreement with the pastoral lessees of the Murchison House Station
- Executed a geographically exclusive and binding MoU with Siemens Ltd
- All levels of government have been briefed
- Executed a heritage agreement with the Nanda Aboriginal Corporation (NAC) to govern the conduct of site resource monitoring investigations

Where do we have to go?

- Install wind and solar monitoring equipment to assess the natural resource quality
- Put community first through the development of stakeholder and communications plans
- Scope and undertake preliminary site layouts and designs
- Undertake environmental and permitting studies to obtain development approval
- Continue to work with NAC to develop an Indigenous Land Use Agreement
- Undertake socio-economic impact studies
- Determine the feasibility of gas blending
- Expand discussions in Asia and Europe with potential hydrogen off-takers and equity investors

Why are you consulting now?

We are keen to hear from you – the local community. We want to collect, at this early stage in the project, as many of the concerns, issues and suggestions in order to consider those matters in our project planning.

How can I have my say?

There will be plenty of opportunities for you to share your views on the project, as planning and site investigations progress. Get in touch with us if you would like to discuss. Enquires can be made to info@hydrogenrenewablesaustralia.com

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Hydrogen

- Hydrogen is an efficient way to store and transport energy
- It can be used to heat buildings, power vehicles and generate dispatchable electricity
- When burned, hydrogen releases no CO2 into the atmosphere, the only by-product is water
- Worldwide demand for hydrogen is set to increase
- Green hydrogen production costs are falling, technologies are progressing, and the push for non-nuclear, low emissions fuels is building momentum
- Hydrogen does not occur naturally and must be extracted from substances like water, natural gas, coal and biomass
- Extracting hydrogen from water does not release any CO2
- Hydrogen is produced through a process called electrolysis – electrical currents separate water into hydrogen and oxygen, where the former is stored for transport and the latter is released into the atmosphere

HRA
green hydrogen