

**ASX Announcement | 19 May 2021
Hexagon Energy Materials Limited (ASX: HXG)**

Pedirka Blue Hydrogen Project Update

Highlights

- Hexagon now funded to undertake PFS and drilling at Pedirka
- PFS program underway including NT government liaison
- Strong team assembled for Pedirka Blue Hydrogen Project
- Positive government support for Blue Hydrogen and financial incentives

Financing

As announced in the ASX release of 3 May 2021, Hexagon successfully completed its funding round for current activities, this fully funds the Company through the completion of the PFS for the Pedirka Blue Hydrogen project and will fund the ongoing initiatives around the Company's Hall Creek gold project.

Pedirka Blue Hydrogen Project update

On 30 April 2021 Hexagon commenced the Pre-Feasibility Study "PFS" in partnership with Genesis, a subsidiary of Technip Energies. The scope of the PFS covers all aspects of the project business case from coal feedstock extraction through transport of product to port. The PFS decision-making process includes consideration of a number of alternatives including:

- choice of end product (hydrogen or ammonia)
- detailed plant location
- transportation alternatives for feedstock and product (rail or pipeline)

Hexagon and Genesis have assembled a top tier team with expertise covering all aspects of the business case. The backgrounds and roles of each key team member will be announced in a forthcoming update.

Drilling down further, a number of targeted studies have been prioritised including:

- Construction strategies
- Power for the facility (including renewable energy options)
- Water supply
- Waste and bi-product treatment and management
- Finalisation of technology for each process of gasification, air separation and ammonia synthesis
- CO₂ Injection locations
- CO₂ Transportation
- Hydrogen / Ammonia transportation

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The first study to be completed will be the Water Supply Study, outcomes from this study will influence gasification technology and have a bearing on exact location selection for the hydrogen/ammonia plant. Early discussions with the NT Government have been extremely useful and the team is now analysing and comparing a number of alternatives to support water supply for different locations.

With respect to gasification technology selection, there are two common methods for gasification, “wet” and “dry”. The availability of water at sufficient volume will influence this selection with both technologies suitable for Pedirka coal, based upon initial investigations.

During the first two weeks of May, the team held numerous meetings with various NT Government departments to:

- brief them on our project,
- understand the approvals pathway and requirements,
- confirm drilling approval requirements, and
- progress licensing/permitting and lead departments for each component of the project.

One outcome of these meetings was that Hexagon will lodge a proponent initiated environmental impact assessment (EIA) and commence the lodgement of the Mineral Licence Application. These items have been identified as the longest lead items for NT Government approval, however by pursuing the proponent-initiated EIA, we believe approvals are attainable within two years.

To support the development of the proponent initiated EIA, the company will seek to engage a reputable EIA consulting organisation with applicable experience in the Northern Territory during the next month to commence the EIA development.

During the week commencing the 24 May 2021, several members of the team will travel to Alice Springs to meet with the traditional landowners, the Central Land Council and local council members and will conduct a site visit to confirm the drilling campaign with the land holders at Andado Station and drilling company (Silver City Drilling).

It is intended that drilling will commence in early Q3, 2021.

With completion of the PFS proposed for December 2021, the targeted side studies will expediate the options selections, which will form the basis of the Detailed Feasibility Study (DFS) expected to commence in early 2022.

Other initiatives

Further work is being undertaken with potential offtake partners which may also assist with the project development at Pedirka. Discussions with major Asian groups interested in partnering on Blue Hydrogen projects are on-going.

Hexagon attended the Northern Territory Hydrogen Cluster launch on 11 May 2021 as it positions itself to be a key contributor to the implementation of the Northern Territory’s hydrogen strategy.

Recent macro drivers in the hydrogen space

Finally, the Hexagon team continues to monitor the development of hydrogen projects world-wide.

Of particular interest are the very rapid advances made by Cummins in retrofitting diesel-electric locomotives with fuel cells, and the upcoming report to be released by the China Classification Society on the conversion of cargo ships to hydrogen power.

Cummins, with a US\$37b market capitalisation, recently partnered with NPROXX, a company that manufactures hydrogen related infrastructure for trains, trucks and ships. Cummins plan to tow a NPROXX tender behind a retrofitted diesel engine to allow fuel-cell locomotives to operate over long distances. Canadian Pacific Rail also recently announced that they are racing to become the first rail transportation company to operate fuel-cell retrofitted locomotives on long cross-country rail.

China Classification is conducting a study on powering cargo ships with fuel cells, which would significantly reduce greenhouse gases worldwide. Such ships would require refilling stations at key ports around the Pacific, Atlantic and Asia. China and Korea construct the largest and the most ore carrying ships in the world, and the China Classification report is expected to indicate that hydrogen-powered ships will become the norm in coming years.

In addition, the US government has recently announced its intention to provide hydrogen production subsidies to producers:

In President Biden's "The American Jobs Plan" the President calls on Congress to invest \$35 billion in the full range of solutions needed to achieve technology breakthroughs that address the climate crisis and position America as the global leader in clean energy technology and clean energy jobs. This includes launching ARPA-C to develop new methods for reducing emissions and building climate resilience, as well as expanding across-the-board funding for climate research. In addition to a \$5 billion increase in funding for other climate-focused research, his plan will invest \$15 billion in demonstration projects for climate R&D priorities, including utility-scale energy storage, carbon capture and storage, hydrogen, advanced nuclear, rare earth element separations, floating offshore wind, biofuel/bioproducts, quantum computing, and electric vehicles, as well as strengthening U.S. technological leadership in these areas in global markets.

The US administration is also working to create a new tax credit for the production of clean hydrogen. Initial indications suggest that the credit would be structured as a production tax credit (PTC) of up to \$3/kg for zero carbon hydrogen (green and pink). Blue hydrogen is also understood to be eligible for a credit as well, but the dollar amount is not yet known.

We will eagerly watch the US activities and be encouraging their Australian Federal counterparts to follow suit.

Ends

This announcement has been authorised by Board of Directors of Hexagon Energy Materials.

About Hexagon Energy Materials Limited

Hexagon Energy Materials Limited (ASX: HXG) is an Australian company focused on resources, energy materials, and clean energy. Hexagon is primarily focused on developing its Pedirka blue hydrogen project in Australia's Northern Territory. At Pedirka, Hexagon aims to produce the blue hydrogen required to support the conversion to clean energy economies over the coming decades.

In Australia, Hexagon also owns the McIntosh graphite, nickel and PGE's project and the Halls Creek gold and base materials project. In the US, Hexagon has an 80 per cent controlling interest in a graphite exploration project in Alabama.

Hexagon actively seeks ways to progress value-added enterprises consistent with its strategy, skill set, and focus on clean energy.

To learn more, please visit www.hxgenergymaterials.com.au

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