

Provaris lodges NT EPA Referral Submission for Tiwi H2 Project

Highlights:

- Lodgement of Referral submission to the Northern Territory Environment Protection Authority (NT EPA) for the proposed 2.8 GW green hydrogen production and export project on the Tiwi Islands (Tiwi H2 Project).
- Tiwi H2 Project proposal includes 100,000 tonnes per annum of green hydrogen for export into the Asia-Pacific region.
- Referral submission is the first stage of the NT EPA assessment process, with a decision on assessment level expected in October 2022.

Provaris acknowledges that its proposed Tiwi H2 Project is located on the traditional lands of the Munupi people. It is a privilege to have the support and such a close working relationship with the Munupi Landowners, Tiwi Land Council, Tiwi Plantation Corporation, NT Government, Office of Township Leasing and NT Port and Marine.

SYDNEY: Provaris Energy Ltd (ASX.PV1, Provaris, or the Company) is pleased to announce it has lodged a Referral submission to the Northern Territory Environment Protection Authority (**NT EPA**) for its proposed 2.8 GW Tiwi H2 Project on the Tiwi Islands (the **Referral**).

Provaris' Managing Director and CEO, Martin Carolan, commented: *"The Referral submission for the Tiwi H2 Project is a key milestone for Provaris, as the Company continues to demonstrate the benefits of compressed hydrogen as an export carrier to alternatives that require mega-scale and capital and energy intensive processes for conversion to transport and reconversion back to hydrogen. Tiwi H2 offers the NT and Australia a first mover advantage for the export of green hydrogen into Asia."*

The Referral has been prepared to inform the NT EPA of the proposal by Provaris to develop green hydrogen production and export facilities on Melville Island, within the Tiwi Islands of the Northern Territory (NT). The hydrogen will be produced by electrolysis of purified sea water powered by solar energy, with production expected to reach 100,000 tonnes of hydrogen per annum.

Provaris' Executive Director and Chief Development Officer, Garry Triglavcanin continued: *"The Referral has been developed to demonstrate the Tiwi H2 Project will develop a safe, sustainable and efficient supply chain for exporting green hydrogen in a way that minimises environmental and social impacts. Provaris is committed to working closely with the Tiwi Island stakeholders to develop a project that delivers benefits to the local community during all project phases. With the Referral submission now lodged, Provaris expects the NT EPA decision on level of assessment to follow in October 2022."*

Provaris is committed to making the future of green hydrogen accessible through the simplicity and efficiency of compressed hydrogen, and the Tiwi H2 Project has the potential to be Australia's first export project of gaseous green hydrogen.

Being primarily located on existing plantation land and within Port Melville, the Tiwi H2 Project aims to minimise environmental impacts (compared to the selection of a greenfield site), development time and costs, as well as provide proximity and access to the future demand markets in the Asia-Pacific region.



The Tiwi H2 Project consists of (as depicted in Figure 1):

- > **Solar Precinct** (2,640 ha) located on the northern tip of Melville Island approximately 12 km north of the nearest town, Pirlangimpi, and 22 km north of Port Melville. The Solar Precinct is comprised of three portions of Tiwi Plantations Corporation (TPC) plantation to be cleared.
- > **Transmission Line Corridor** (150 ha) for a high voltage 275 kV dual circuit 30 km transmission line that will carry the power generated at the Solar Precinct to the H2 Production Precinct.
- > **H2 Production Precinct** (40 ha) located on remnant bushland immediately north of Port Melville (Port), and approximately 1.3 km south-east of Pirlangimpi. Within this precinct, seawater extracted from Apsley Strait will be purified and then converted by electrolysis into hydrogen.
- > **H2 Export Precinct** (32 ha) within Port Melville's development boundary, where the hydrogen will be compressed and loaded onto Provaris' proprietary compressed hydrogen ships (H2Neo) by loading facilities at the Port. The hydrogen will be exported to markets in the Asia-Pacific region. Port Melville is situated on the Apsley Strait, which runs north-south between the Melville and Bathurst Islands. The community of Pirlangimpi (Garden Point) is approximately 1.5 km north of Port Melville and 130 km north of Darwin.

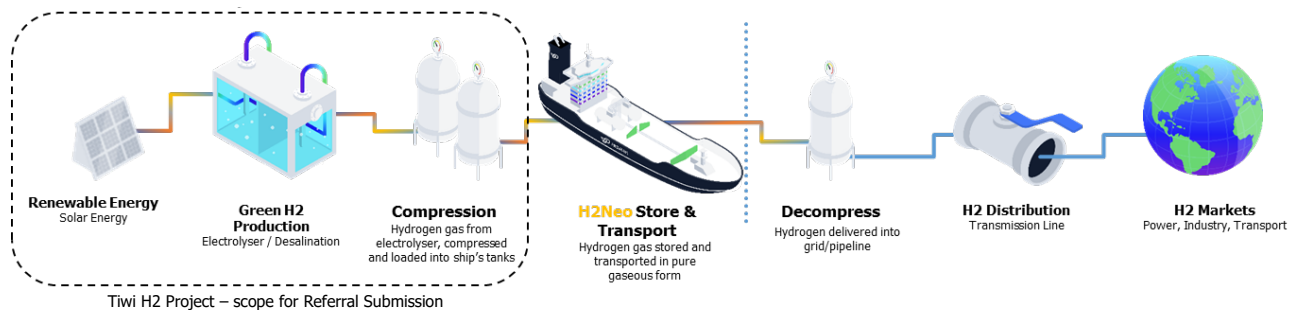
Figure 1: Map of Tiwi H2 Project proposal footprint and site layout


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The Tiwi H2 Project is a key part of Provaris' overall objective to develop a safe, sustainable and efficient supply chain for exporting green hydrogen as outlined in Figure 2 below. The Tiwi H2 Project will:

- > Develop a new, sustainable, and commercially resilient industry that will be a transformational business opportunity for the Tiwi Islands and align with the NT's hydrogen strategy to utilise its renewable energy to create a new export industry.
- > Contribute to the NT's 2050 policy target of 'net-zero' greenhouse gas emission targets by providing a commercially viable production and export facility for green hydrogen.
- > Minimise environmental impacts by repurposing currently under-utilised existing brownfield sites for development of new industry with a projected operation phase of 30+ years.
- > Work closely with Tiwi Island stakeholders to develop a Project that delivers benefits to the local community during all Project phases.

Figure 2: Illustration of the entire compressed hydrogen supply chain



The Tiwi H2 Project has in-principle support of key stakeholders to continue to progress the development of the required environmental and engineering assessments – including the Tiwi Land Council, the Munupi Clan, NT Port and Marine Pty Ltd and the Northern Territory Government.

Provaris acknowledges that:

“Twenty years ago, Tiwi leaders decided that they would use up to 10% of their land to create an economy, with real jobs for their children and grandchildren... Tiwi leaders determined to establish a number of commercial businesses and enterprises in order to create jobs and income for their people.” (TPC 2022)

Provaris is steadfast on ensuring that the Tiwi H2 Project helps meet this vision, creating jobs and income for the Tiwi people.

Provaris acknowledges that Munupi Clan permissions to date relating to the Referral submission are not an approval for Provaris to proceed with development of the Tiwi H2 Project. Approval for Project development will be subject to a staged assessment, commencing with Provaris presenting and informing the Munupi Clan of the findings of this Referral, and the next stage of approvals and permissions required, ultimately progressing to approval of land tenure by way of the execution of Section 19 Lease(s) under the Aboriginal Land Rights Act for the project.

The Referral submission was prepared with the support of Darwin-based consultants EcOz Environmental Consultants, along with the inclusion of technical and engineering studies across the solar site (CE Partners), transmission line, desalination, electrolysis and compression. Specific cultural and environmental studies include:

- > An Aboriginal Areas Protection Authority register check.
- > A Cultural Heritage Assessment Summary Report of an archaeological and heritage survey of the Project footprint by EarthSea (accompanied by Traditional Owners).
- > A Terrestrial Ecology Report, including data from a survey of vegetation types and threatened flora undertaken by EcOz (accompanied by Tiwi rangers).
- > A Desalination Plant Scoping Study undertaken by Jacobs that includes desalination outfall modelling.

With the Referral submission lodged on 30 June 2022, and subject to the NT EPA accepting the Referral, the Referral and supporting information will be made available for public comment. After considering the Referral and comments,

it is expected that in early October 2022 that the NT EPA will decide on the level of environmental impact assessment is required. Summary of the key impact areas identified in the Referral is summarised in Appendix A.

The construction of the Tiwi H2 Project will likely be undertaken in stages, so that hydrogen production and export volumes can increase over time in line with customer demand, benefit from ongoing capital cost reductions across the supply chain, as well as maintain an acceptable level of construction workforce in relation to the local communities.

Provaris will continue to develop and progress the detailed engineering design of the Tiwi H2 Project throughout 2022 and 2023, in line with the permissions and approvals of the Munupi Traditional Landowners. This work will run in parallel to Provaris' ship engineering and class approval program to complete mid-2023.

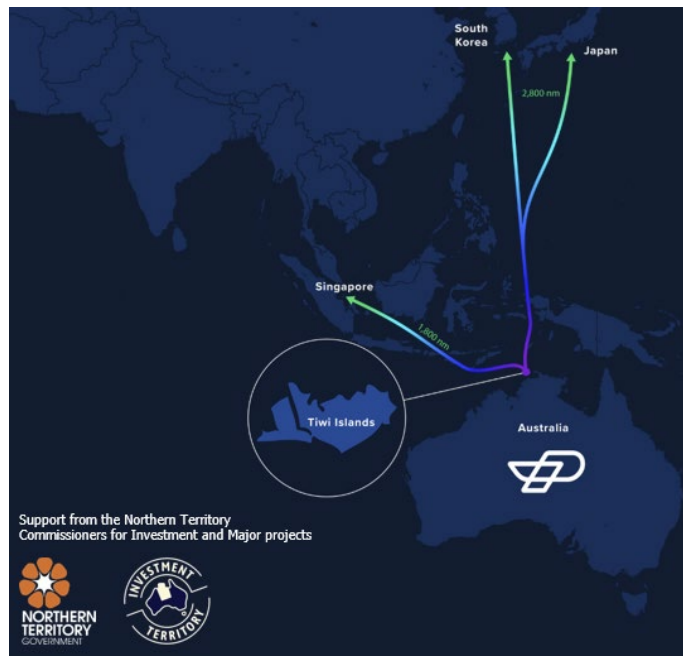
The target project schedule can be summarised as follows:

- > Development / detailed engineering: 2022 and 2023
- > Financial close / commence construction: early 2024
- > Initial construction phase: 2024 – 2026
- > Commencement of hydrogen export: early 2027
- > Project life: 30+ years

Next steps for the Tiwi H2 project will focus on:

- > **Referral consultation** with all key stakeholders, including the key findings and level of environmental impact to the Munupi Clan and Tiwi Land Council, along with Northern Territory and Federal government agencies.
- > **Engineering surveys and studies** will continue to be undertaken, mostly on-country, in line with the permissions granted to the Company and as required to complete the pre-feasibility study.
- > **Prepare for and commence solar monitoring** in two locations for a period of 12 months. Permissions have been granted, with associated monitoring agreements with the Tiwi Plantation Corporation to be concluded in the September quarter of 2022.
- > **Request for proposal and appointments of lead consultants** in the second half 2022 to commence detailed engineering and support the target of financial close of an initial phase of development by late 2023.
- > **Ongoing discussions with strategic partners** regarding offtake, investment, development, and future ownership structures for the project.

Figure 2: Proximity of Tiwi H2 Project to key Asian hydrogen markets



This announcement has been authorised for release by the CEO of Provaris Energy Ltd.

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For further information please contact:

Norm Marshall

Company Secretary

+61 481 148 629 | nmarshall@provaris.energy

Martin Carolan

Managing Director & CEO

+61 404 809 019 | mcarolan@provaris.energy

Simon Hinsley

Investor Relations

+61 401 809 653 | simon@nwrcommunications.com.au



ASX.PV1



@ProvarisEnergy



Provaris Energy Ltd.



info@provaris.energy

Perth: Unit 19, 40 St Quentin Avenue Claremont, WA 6010, Australia

Sydney: Level 14, 234 George St, Sydney NSW 2000, Australia

About Provaris Energy

Provaris Energy Ltd (ASX: PV1) is the leading developer of integrated compressed hydrogen projects for export to regional markets. Our purpose is to develop green hydrogen supply chains that are simple and efficient to enable the global transport of zero-carbon energy.

Provaris is developing a portfolio of integrated green hydrogen projects, leveraging our innovative compressed hydrogen GH2 Carrier with a focus on value creation through innovative development that aligns with our business model of simplicity and efficiency.

The choice to support all development phases of a project is in line with Provaris' strategic desire to develop and invest in profitable hydrogen projects across the value chain, with a measured risk profile, and to retain an equity position of these assets over the long term.

Appendix A – Summary of likely environmental impacts on the NT EPA’s environmental values

The proposal is being referred to the NT EPA to determine whether formal assessment is required pursuant to the NT Environmental Protection Act 2019 (EP Act). The Referral also gives consideration as to whether the proposal should be referred for assessment under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

A pre-referral screening of the Tiwi H2 Project determined that the proposal has potential to impact 7 of the 14 NT EPA environmental factors as listed below.

- > Terrestrial ecosystems
- > Hydrological processes
- > Marine environmental quality
- > Marine ecosystems
- > Atmospheric processes
- > Community and economy
- > Culture and heritage

Terrestrial Ecosystems. The residual impact to terrestrial ecosystems will be minor, mainly due to site selection making use of the existing plantation footprints. There will be no direct impact to sensitive vegetation types, such as wetlands and rainforests, and no loss of any habitat critical to the survival of listed threatened species.

Hydrological Processes. All potential impacts to surface water can be managed using Stormwater Management Plans and Erosion and Sediment Control Plans. Development of the H2 Production Precinct could reduce the area of recharge available for Pirlangimpi water supply bore-field. Provaris is discussing the implications of this situation with Power and Water Corporation (PWC). Accessing the Port bores for construction water use would only be for a limited time until a temporary, and then permanent, desalination plant is running. The Port bore is ~1.1 km from the bore-field and so any temporary drawdown is unlikely to impact the town’s water supply.

Marine environmental quality. The Desalination Plant Scoping Study shows that the impact of brine discharge on the marine environment in Apsley Strait will be negligible. Nevertheless, the discharge will be regulated and monitored in accordance with the conditions of an environmental protection licence.

Marine ecosystems. All potential impacts have been avoided through Project design - such as no significant night lighting at the Solar Precinct - or will be minimised through mitigation measures - such as ship operational procedures when navigating through Apsley Strait. To minimise the impact of offshore lighting on marine turtle hatchlings, H2Neo ships will only be permitted to moor outside the biological import areas identified for the Green and Olive Ridley turtles (refer to Figure 9.5).

Atmospheric processes. Being a green hydrogen Project, the majority of GHG emissions will likely occur during construction. Estimates of Scope 1 and Scope 2 emissions are being prepared to inform Provaris of possible emissions avoidance and abatement opportunities. The hydrogen produced by the Project will provide GHG abatement opportunities in the Asia region. Further work is being undertaken to confirm baseline conditions and assumptions on which to base emissions calculations. Provaris will prepare emissions estimates in accordance with accepted guidelines, and will work through this with relevant stakeholders, to further minimise emissions and determine avoidance and abatement opportunities.

Community and economy. The Project will provide opportunities for the Tiwi community, and to the NT more broadly associated with establishing a safe, sustainable, and efficient supply chain for exporting green hydrogen. It is the Project’s objective to provide a new, commercially resilient industry that will be a transformational business opportunity for the Tiwi Islands and align with the NT’s hydrogen strategy to utilise its renewable energy to create a new export industry.

Provaris has sought to minimise environmental impacts by repurposing currently under-utilised brownfield sites. The screening level assessment presented in this Referral indicates there is further work to be undertaken with the TLC and Tiwi people to address negative impacts and maximise benefits, and Provaris commits to undertaking this work as part of negotiating agreements for the Project.

Culture and heritage. Although there are known values within, and surrounding, components of the Project footprint, these values can be protected – and impacts avoided – through implementation of measures such as no-go zones. Impacts to unidentified heritage can be minimised through implementation of standard unexpected finds procedures, and any other conditions determined in consultation with TLC and the Munipi Clan.