

20th September 2021

Project Haber to deliver further benefits as Pre-FEED completes

- Project Haber has completed the 7-month plant Pre-FEED study for the development of Australia's lowest carbon urea production facility.
- Technip Energies capital estimates decreased 6% on a like for like basis from January 2021 feasibility study estimates.
- Strike has formally chosen Haldor Topsoe's SynCOR[™] Autothermal Reformer technology to reduce carbon intensity of the urea, resulting in a further 24% reduction from previous estimates.
- Gas feedstock estimated to reduce by ~7% to 80 TJ/d and 584 PJ over 20 years.
- Strike to progress Front-End Engineering and Design (FEED) early works prior to drilling the highly prospective South Erregulla-1 well later this year.
- Shortlisted offtakers in negotiations to enter binding term sheets for total 1.4 mtpa of urea fertiliser offtake.

Strike Energy Limited (Strike – ASX: STX) is pleased to update that Project Haber has passed a major engineering milestone which has delivered additional carbon, capital, and technology benefits.

Pre-FEED Complete

Engineering firm Technip Energies has recently completed the base scope Pre-FEED study on Project Haber, a 1.4 mtpa ammonia to urea production facility to be located in Narngulu Industrial Area of Geraldton, Western Australia.

The Pre-FEED study has delivered a 6% reduction on the expected capital cost compared to the original Technip Energies feasibility report completed in January 2021¹. Pre-FEED capital estimates represents a base cost estimate of US\$1.64 billion, which includes the engineering, procurement and construction of the Haber plant delivered on site in Narngulu². The Haber plant incorporates the ammonia, urea and granulation plant technologies as provided by licensor partners; Haldor Topsoe, Saipem and Thyssenkrupp, as well as on-site supporting infrastructure, including the 10MW green hydrogen electrolyser, power generation, ammonia storage tanks, substantial fertiliser storage and offloading, and administration buildings.

Strike will now progress FEED early works scopes, which includes geotechnical and environmental surveys, impact assessments and various other agreements and studies on the water supply, logistics, port, construction camp and raw gas pipeline. Strike expects to conclude the majority of these activities prior to drilling South Erregulla-1 (SE-1) in Q4/21. Upon success at SE-1, Strike will look to formally enter FEED at Project Haber, which is expected to last less

¹ Refer ASX announcement released 11 January 2021 titled "Greater Erregulla to drive development of Project Haber for Mid-West Fertilisers".

 $^{^2}$ Pre-FEED cost estimates target overall accuracy of $\pm 25\%$



than a year and provide sufficient engineering and definition to award an EPC contract to an appropriate contractor at Final Investment Decision (FID).

Autothermal Reforming Technology

Strike has, in parallel with the Pre-FEED study, progressed additional engineering by Technip Energies to incorporate Haldor Topsoe's SynCOR[™] Autothermal Reforming (ATR) technology for ammonia production. This state-of-the-art technology is reported to have the following production advantages compared to the traditional and widely used steam methane reforming³:

- Up to 30% reduction in Carbon Dioxide (CO₂) emissions
- More than 50% reduction in Nitrous Oxides (N₂O) emissions
- Up to 50% reduction in water consumption

The adoption of ATR technology is estimated to also reduce gas feedstock requirements of the plant by ~7% from 86 to 80 TJ/d with only 552 PJ now required to underwrite the first 20 years of operations. Technip Energies and Haldor Topsoe, have undertaken additional studies in order to incorporate the low carbon SynCOR[™] technology with the ability to maximise the amount of green hydrogen consumed by Project Haber's urea manufacturing process. As green hydrogen is phased in, the gas feedstock and resources required to support the project will reduce in kind. Phasing in green hydrogen could see Project Haber become a regional carbon demand sink as integration of green hydrogen starts to dominate the total hydrogen supply.

Initially, Strike will supply 2% of its hydrogen demand from a dedicated 10MW hydrogen electrolyser within the Haber plant. This unit is planned to be powered from nearby cost-effective wind and solar power or potentially by Strike's geothermal resources in the Perth Basin should exploration and appraisal of Strike's Mid-West Geothermal Power Project prove successful. As the renewable hydrogen market matures Strike intends to increase the import of green hydrogen up to 100% of the ammonia feedstock over the project's life. As recently announced, Strike has entered into separate non-binding Memorandum of Understanding (MOU) with ATCO and Infinite Blue Energy (IBE) for (among other things) potential green hydrogen supply, which it can use as feedstock into the facility⁴.

Once operational, Project Haber via its ATR technology, lower carbon Greater Erregulla gas, shorter supply chains and green hydrogen inputs, will be able to produce some of the lowest carbon urea in the market at 0.37t CO₂e per ton of urea initially and reducing overtime as green hydrogen imports increase. Strike estimates Project Haber's urea will drastically reduce the carbon intensity of the agriculture industry it services by approximately 780-885k CO₂e tonnes per annum or 60% from current imported baselines.

Urea Offtake Update

Strike is currently in negotiations with its shortlisted offtake partners and expects to progress and formalise a binding term sheet for the entire production volume (1.4 mtpa) in the final quarter of 2021.

Chief Executive Officer & Managing Director, Stuart Nicholls said:

"Using the best technology available, Strike is aiming to manufacture a globally unique and modern fertiliser in one of the country's major agricultural heartlands. Through the application of this technology, Strike expects to be able to pass on substantial carbon savings to Australia's farmers whilst also delivering shelter from global gas shortages and international shipping costs.

³ S. E. Nielsen, M. K. Hoffman, & P. J. Dahl, "Rethinking economy of scale – a new ammonia plant concept", Nitrogen + Syngas 2018 International Conference & Exhibition (Gothenburg 26 February-1 March 2018).

⁴ Refer to ASX announcement released 15 September titled "Project Haber paves the way to become regional green hydrogen and carbon sink".



Progression of key engineering deliverables in parallel with developments in Haber's offtake negotiations continues to materially de-risk the project on the path to a Final Investment Decision."

This announcement is authorised for release by the Managing Director and Chief Executive Officer in accordance with the Company's Continuous Disclosure Policy.

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Important Notices

Project Haber

The successful development of Project Haber is contingent on, among other things, the proving up of sufficient gas reserves at South Erregulla, the outcomes of FEED on Project Haber, access to finance and (where required) equity participation, securing binding urea offtake agreements, and obtaining all requisite regulatory and stakeholder permits, approvals and authorisations.

The concept, feasibility and pre-FEED studies prepared by TechnipFMC on Project Haber to date have been undertaken to determine the potential viability of Project Haber and to reach a decision to proceed with more definitive studies, and as such are indicative in nature only. The studies are based on low-level technical and economic assessments and are insufficient to provide full assurance of an economic development case at this stage or provide certainty that the conclusions of the studies will be realised and that the development of Project Haber will be commercially viable.

Forward looking statements

Statements contained in this release are or may be forward looking statements. All statements in this release regarding the outcomes of preliminary and definitive feasibility studies, projections and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. These statements relate to future events and expectations and as such involve known and unknown risks and significant uncertainties, many of which are outside the control of Strike. Actual results, performance, actions and developments of Strike Energy may differ materially from those expressed or implied by the forward-looking statements in this release. Such forward-looking statements speak only as of the date of this release. Refer to the 'Summary of Key Risks' section of the release titled " Equity Raising and Corporate Update April 2021" released to ASX on 15 April 2021 for a summary of certain general, Strike specific and acquisition specific risk factors that may affect Strike. There can be no assurance that actual outcomes will not differ materially from these statements. A number of important factors could cause actual results or performance to differ materially from the forward looking statements, including the risk factors set out in the aforementioned ASX release. Investors should consider the forward looking statements contained in this release in light of those disclosures. To the maximum extent permitted by law (including the ASX Listing Rules), Strike and any of its affiliates and their directors, officers, employees, agents, associates and advisers disclaim any obligations or undertaking to release any updates or revisions to the information in this document to reflect any change in expectations or assumptions; do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence). Nothing in this document will under any circumstances create an implication that there has been no change in the affairs of Strike since the date of this release.