



Hydrogen energy storage botswana

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The Company has signed a 10MW Power Purchase Agreement (PPA) with Botswana Power Corporation, and the power dispatched under this PPA will assist in the displacement of existing carbon-intensive power. Transmission lines connecting Lesedi to the existing electricity grid are expected to be completed in 2023.

The prototype hydrogen production unit is currently being designed, built, and tested in Brisbane before being transported to Lesedi in 1H22 for production trials to begin. Successful production of hydrogen and solid carbon products could enable the Company to generate revenue ahead of the 10MW PPA's gas-to-power revenue.

Synergen Met Pty Ltd (“SM”), the Company's hydrogen technology partner and a market leader in plasma torch and pyrolysis technology, has informed the Company that preliminary engineering for their hydrogen-carbon production process has been completed. The plasma torch will be calibrated and configured to maximize the production of hydrogen and solid carbon.

A consultant engineering firm (Kemplant) has been retained to assist with prototype engineering, allowing for the start of detailed design and fabrication. The plasma torch is being tested to determine the optimal parameters for the production of hydrogen and solid carbon.

Once at Lesedi, the prototype will utilize Tlou's existing gas flows to generate hydrogen and solid carbon byproducts. Following the planned addition of solar PV energy, the potential for net zero CO2 emissions will be realized.

The use of plasma technology for hydrogen production will be a first for the Sub-Saharan region and could have significant implications for the region's production of low-emission, clean energy – as well as for related fields such as waste-to-energy and waste disposal.

Tlou and SM intend to use the hydrogen generated by the prototype to generate electricity and, possibly, as a transportation fuel (at first in Tlou's own vehicles). Regional consumers who require solid carbon will have access to the product. Over the short and medium term, global markets for hydrogen and solid carbon black are expected to expand significantly.

SM believes that their process, which utilizes a plasma torch gas pyrolysis design, satisfies the definition of green hydrogen production.

SM intends to list on the ASX in the near future and is currently undergoing the pre-IPO process. Should this proceed, Tlou may participate in the IPO for up to US\$3 million under the terms of the Heads of Agreement between Tlou and SM. Given comparisons to similar publicly traded companies, the Company sees significant



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upside for a potential investment in SM.

Tlou sees significant potential not only for Tlou's hydrogen and solid carbon products in Sub-Saharan Africa, but also for SM's waste management technology. The conversion of otherwise toxic waste to inert products or otherwise landfill organic waste to energy is intended to be a central pillar of SM's objectives through the use of their proprietary plasma technology.

The Company notes that significant legislative, environmental, and financial drivers are driving the development of these activities, and these drivers are expected to intensify and persist.

The agreement with SM provides significant growth potential for the Company by providing an alternative route to market for Tlou's gas in Botswana, while also increasing revenue streams from high-value carbon and carbon products.

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