

Ironveld Plc

LOI signed with BurnStar Technologies for Hydrogen Production

Ironveld plc ("Ironveld" or the "Company"), the AIM quoted mining development company, is pleased to confirm that its subsidiary, Ironveld Energy (Pty) Limited ("Ironveld Energy"), has signed a Letter of Intent ("LOI") with BurnStar Technologies (Pty) Limited ("BurnStar"), to proceed towards a binding Legal Agreement (the "Agreement") under which BurnStar will, implement its patent-pending 'Guilt-Free Hydrogen'TM technology, to process Liquefied Natural Gas ("LNG") on site at Ironveld's Rustenburg smelter.

Under the Agreement, BurnStar will produce hydrogen as a furnace reductant gas which could significantly reduce Ironveld's carbon consumption and enable Ironveld to produce premium priced 'green metals' in South Africa.

Highlights

- BurnStar has a patent-pending protected technology in more than 45 countries which can produce hydrogen from various hydrocarbons including flare gas, LPG, naphtha and LNG. BurnStar owns and applies the trade name 'Guilt-Free Hydrogen'TM;
- BurnStar will supply and install a commercial plant at its own cost at Ironveld's Rustenburg smelter facility;
- Use of hydrogen as a reducing agent within Ironveld's smelting process has the potential to significantly reduce total carbon consumption, reduce production costs, and enable the production of premium priced 'green metals';
- Binding Agreement expected to be signed within two months.

Martin Eales, CEO of Ironveld, said: *"This is a hugely significant step for Ironveld. Our partnership with BurnStar will allow us to benefit from an on-site supply of hydrogen at extremely attractive prices, which has the potential to virtually eliminate carbon consumption from our production process and achieve 'green metal' end products. This may lead to Ironveld having the ability to certify its end products, ensuring that their sustainability credentials are reflected in their market value. We look forward to finalising the formal Legal Agreement with Dr Brand and his team in the coming months."*

Dr Johan Brand, CEO of BurnStar, said: *"Our technology produces "Turquoise Hydrogen" which stands apart from 'grey' and 'blue' hydrogen because no CO₂ is produced during pyrolysis of the LNG. Furthermore, all the carbon produced can be sold as a bio-char replacement in fertilizer and will therefore become permanently sequestered. The plant is scheduled to be installed before year end and will demonstrate 'Guilt-Free Hydrogen'TM commercialisation at a large-scale industrial facility."*

Details of the LOI

The LOI states that Ironveld Energy and BurnStar intend to enter into the binding Agreement under which BurnStar will supply and install, at its own cost, a plant at Ironveld's Rustenburg smelter capable of producing hydrogen from LNG at the rate of five kilograms ("kg") per hour.

The Agreement will be conditional on Ironveld Energy finalising its supply of LNG to the smelter, negotiations for which are already underway to feed the solar-hybrid power generation plant currently being installed.

Ironveld process and ‘Green Metals’

A reducing agent (“reductant”) is used in the smelting process to change the oxidation state of metal ore (to ‘decompose’ it), driving off unwanted elements, such as gasses or slag, and leaving the metal base behind. Typically, the reducing agent used is a form of carbon, for example anthracite, which in Ironveld’s process is mixed with the magnetite ore inside the furnaces.

Much research has been undertaken into the possibilities of using hydrogen as a reducing agent in smelting processes, including iron ore and scrap iron and steel. Iron and steel makers are actively developing processes and technologies to replace carbon-based reductants with hydrogen. The first green steel produced using hydrogen was shipped from Sweden by Hybrit (a joint venture between steelmaker SSAB, Vattenfall and LKAB) in August 2021.

Once the BurnStar plant is established at the Rustenburg smelter, and is producing hydrogen, Ironveld intends to evaluate its use as the reducing agent in its smelting process. The hydrogen will be supplied by BurnStar at costs at or below current market rates. If successfully applied to Ironveld’s production, this will enable the Company to significantly reduce its carbon consumption over and above the benefits of the solar-hybrid power plant, due to be commissioned in Q3 2023. This will also reduce overall production costs and, crucially, enable production of ‘green metals’, which command premium pricing in the market.

Information on BurnStar

BurnStar has developed a novel and proprietary process with patent applications filed in more than 45 countries. The liquid metal bubble column system produces ‘turquoise hydrogen’ from various hydrocarbons including flare gas, LPG, naphtha and LNG with the registered Trade Name of ‘Guilt-Free Hydrogen™’. BurnStar has successfully completed testing of its pilot plant and has secured all funding to design, build, own and operate a commercial sized unit and to demonstrate production of up to five kg of hydrogen per hour.

‘Turquoise hydrogen’ is a generic term for hydrogen in which no greenhouse gas (CO₂) is produced or emitted to the atmosphere during the production phase as all the carbon is separated in a solid form and sold as a fertilizer additive.

BurnStar is backed by specialist South African venture capital and incubator fund, Savant.

Further information on BurnStar and Savant is available at www.burnstar.co.za and www.savant.co.za

Timetable

Ironveld and BurnStar envisage signing the binding Agreement within two months.

For further information, please contact:

Ironveld plc
Martin Eales, Chief Executive Officer

c/o BlytheRay
020 7138 3204

finnCap (Nomad and Broker)

Christopher Raggett
Charlie Beeson

020 7220 0500

Turner Pope (Joint Broker)

Andy Thacker
James Pope

020 3657 0050

BlytheRay

Megan Ray
Tim Blythe

020 7138 3204

NOTES TO EDITORS

Ironveld (IRON.LN) is the owner of Mining Rights over approximately 28 kilometres of outcropping Bushveld magnetite with a SAMREC compliant ore resource of some 56 million tons of ore grading 1,12% V₂O₅, 68,6% Fe₂O₃ and 14,7% TiO₂.

In 2022 Ironveld agreed to acquire and refurbish a smelter facility in Rustenburg, South Africa, in which it can process its magnetite ore into the marketable products of high purity iron, titanium slag and vanadium slag. This transaction became unconditional in March 2023.

Ironveld is an AIM traded company. For further information on Ironveld please refer to www.ironveld.com.

This announcement contains inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ("MAR"), and is disclosed in accordance with the company's obligations under Article 17 of MAR.