

■ NATIONAL

# SA's green steelmaking 'a matter of utmost urgency'

SA can lead the global drive to decarbonise the industry thanks to its abundance of iron ore and hydrogen, workshop told

🔒 BL PREMIUM

19 APRIL 2023 - 15:30 by MICHELLE GUMEDE

ADVERTISEMENT



ArcelorMittal SA's Vanderbijlpark plant. Picture: FINANCIAL MAIL

SA must accelerate its programme to produce decarbonised steel if it is to take advantage of Europe's scramble to be carbon neutral, according to an industry

expert.

Speaking at a workshop hosted by the Trade and Industrial Policy Strategies (TIPS) and the Leadership Group for Industry Transition (LeadIT), in Johannesburg on Tuesday, Hilton Trollip said Hydrogen Direct Reduced Iron (H-DRI) – which is produced using green hydrogen instead of natural gas – is almost certain to be a central component of steelmaking, alongside recycling.

ADVERTISEMENT

The energy-intensive, high carbon-emitting steel sector is a major contributor to global warming and climate change, making it a prime contender for countries to reconfigure to reduce the carbon footprint of the industry.

“H-DRI is going to be a major international commodity and SA is one of three places in the world where this commodity can be made at least cost,” said Trollip. “We can export hydrogen in various forms and one of the most important forms is in [green] iron.”

SA is among the 10 biggest producers of iron ore, while Europe has stringent targets for transitioning to renewable energy by 2030, and producers of renewable energy are scrambling to secure the requisite materials to increase production in line with their governments’ commitments.

“The main shortage Europe is facing is that if it looks at its H-DRI commitments, to achieve that they are going to need piles of green energy which we have got in abundance here,” Trollip said. “They have stated they are going to be importing green hydrogen and green electricity.”

Sasol and ArcelorMittal SA (Amsa) have announced they will develop carbon-capture technology to produce sustainable fuels and chemicals, as well as steel using green hydrogen and derivatives by 2030.

Among their planned projects is the Saldanha green hydrogen and derivatives study, which will explore the region’s potential as an export hub for green hydrogen and derivatives, as well as green steel production.

The Vaal carbon capture and utilisation (CCU) study is set to use renewable electricity and green hydrogen to convert captured carbon from Amsa’s Vanderbijlpark steel plant into sustainable fuels and chemicals.

ADVERTISEMENT

“There is a lot of potential in hydrogen,” said Amsa’s head of market and product development Jerry Dungu. Blast furnaces would still be required to produce high-quality steel, which means there would still be emissions, albeit lesser amounts, he added.

In November, the Department of Trade, Industry & Competition gazetted the

Green Hydrogen Commercialisation Strategy Panel Report and called for public comment the following month. The policy prioritises exports of green hydrogen and chemicals, alongside stimulating the local demand.

Describing the policy plan as “the biggest revolution in industrial policy” in SA, Trollip said SA has an excellent iron ore resource, while its solar radiation is second to none, and wind generation is top-tier. Additionally, the country has plenty of land, an industrial base that can build the facilities needed, and excellent financing institutions with a strong regulatory sector.

He said a scenario in which global steel production was to be aligned and relocated to where it is technically and economically least cost, would entail moving production of H-DRI steel to Australia – which is already under way – and SA, Morocco, Brazil and Guinea.

“What we need to do is show very clearly that each European country will benefit,” he said, adding that a level playing field would be required since developing nations aren’t able to compete with the state aid and protectionist policies offered to industries in the West.

“They have to see a good reason to put up a whole lot of new zero-emission steel production plants in SA to start with,” said Trollip.

Håkan Juholt, Sweden’s ambassador to SA, echoed Trollip’s sentiments, saying the international steel community had to abandon its “silo” approach and all stakeholders needed to co-operate.

ADVERTISEMENT



“The time for official dinner speeches is long gone,” said Juholt. “We’ve had so many agreements like the Paris agreement, the Tokyo agreement and others, yet last year was the highest level of CO<sub>2</sub> emissions ever.”

He said action was needed from the private and public sectors, noting that Sweden – the first country to produce carbon-neutral steel – plans to produce about 5-million tonnes annually at Boden, a town in the northernmost part of the country.

Juholt said SA would be wise to reinvigorate a mindset across business and unions to be “first into the new, rather than last out of the old technology”.

[gumedemi@busineslive.co.za](mailto:gumedemi@busineslive.co.za)

**BDTV**

[Read more →](#)





**Stock Watch - 19 March 2023**

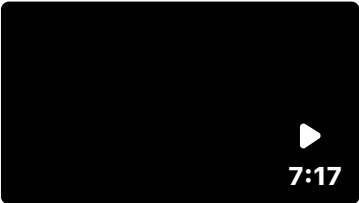
16 hours ago 24:55

Next video



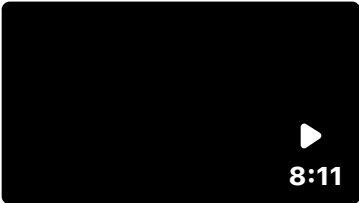
Watch: Musk's strategy for Twitter

 16 hours ago




Market Report - 19 April 2023 | The Close

 16 hours ago



Watch: Civil society heads to court over

 20 hours ago



Watch up on





Powered by  oovvuu

Loading...

Commenting is subject to our [house rules](#).

