Rio Tinto to develop BioIron™ R&D facility in Western Australia to test low-carbon steelmaking

04.06.2024 | Business Wire

Rio Tinto will invest US$143 million (A$215 million) to develop a research and development facility in Western Australia to further assess the effectiveness of its low-carbon ironmaking process, BioIron™, to support decarbonising the global steel value chain.

The development of the BioIron Research and Development Facility in the Rockingham Strategic Industrial Area, south of Perth, follows successful trials of the innovative ironmaking process in a small-scale pilot plant in Germany.

BioIron uses raw biomass and microwave energy instead of coal to convert Pilbara iron ore to metallic iron in the steelmaking process. When combined with the use of renewable energy and carbon-circulation by fast-growing biomass, BioIron has the potential to reduce carbon emissions by up to 95% compared with the current blast furnace method.

The BioIron facility will include a pilot plant that will be ten times bigger than its predecessor in Germany. It will also be the first time the innovative steelmaking process has been tested at a semi-industrial scale, capable of producing one tonne of direct reduced iron per hour. It will provide the required data to assess further scaling of the technology to a larger demonstration plant.

The plant has been designed in collaboration with University of Nottingham, Metso Corporation and Western Australian engineering company Sedgman Onyx. Fabrication of the equipment will begin this year, with commissioning expected in 2026. These works are expected to support up to 60 construction jobs.

The research and development facility will employ around 30 full-time employees and include space for equipment testing to support further scaling up of the BioIron technology, while developing a workforce highly skilled in steel decarbonisation and supporting WA universities and research organisations.

Rio Tinto Iron Ore Chief Executive Simon Trott said, "The world needs low-carbon steel to reach net zero, and we are working to make this a reality by finding better ways to turn our Pilbara ores into steel.

"BioIron is a world-first technology that has the potential to play a significant role in a low-carbon steel future.

"This research and development facility will further test the BioIron process, showcase Western Australian innovation capability, and further demonstrates Rio Tinto's commitment to supporting and enabling the decarbonisation of the steel industry."

Western Australian Premier Roger Cook said, "As one of the world's largest iron ore producers, it just makes sense for WA to lead the world when it comes to low-emission steelmaking.

"Our plan to turn WA into a renewable energy powerhouse opens up massive economic opportunities for the future, like producing low-emission steel right here at home.

"Processing iron ore in WA will create jobs, reduce the world's carbon emissions and help to diversify and strengthen our economy for decades to come.

"This is another job-creating clean energy project in our industrial heartland of Kwinana and Rockingham, part of our commitment to transitioning the industrial strip to a clean energy future."

Note to the editors

Fly through and B-Roll vision of the Western Australian BioIron Research and Development Facility is available to download here.

Steelmaking accounts for 8% of the world's carbon emissions, and 69% of Rio Tinto's Scope 3 emissions in 2023.

BioIron was invented by Rio Tinto's steel decarbonisation team after a decade of extensive research.

Electricity consumption in the BioIron process is about one-third of the electricity required by other steelmaking processes that rely on renewable hydrogen.

BioIron uses raw biomass such as agricultural by-products like wheat straw, barley straw, sugarcane bagasse, rice stalks, and canola straw, instead of coal as the reducing agent.

Rio Tinto is aware of the complexities around the use of biomass supply and is working to ensure only sustainable sources of biomass are used. Through discussions with environmental groups, as a first step Rio Tinto has ruled out sources that support the logging of old growth and High Conservation Value forests.

For more information about the BioIron process, please see here.

Category: General

View source version on businesswire.com: https://www.businesswire.com/news/home/20240603264140/en/

Contact

Please direct all enquiries to media.enquiries@riotinto.com

Media Relations,
United Kingdom
Matthew Klar
M +44 7796 630 637
David Outhwaite
M +44 7787 597 493

Media Relations,
Australia
Matt Chambers
M +61 433 525 739
Jesse Riseborough
M +61 436 653 412
Alyesha Anderson
M +61 434 868 118
Michelle Lee
M +61 458 609 322

Media Relations,
Americas
Simon Letendre
M +1 514 796 4973
Malika Cherry
M +1 418 592 7293

Vanessa Damha
M +1 514 715 2152

Investor Relations,
United Kingdom
David Ovington
M +44 7920 010 978
Laura Brooks
M +44 7826 942 797
Wei Wei Hu
M +44 7825 907 230

Investor Relations,
Australia
Tom Gallop
M +61 439 353 948
Amar Jambaa
M +61 472 865 948

Rio Tinto Plc
6 St James's Square
London SW1Y 4AD
United Kingdom
T +44 20 7781 2000
Registered in England
No. 719885

Rio Tinto Ltd.
Level 43, 120 Collins Street
Melbourne 3000
Australia
T +61 3 9283 3333
Registered in Australia
ABN 96 004 458 404

riotinto.com

Dieser Artikel stammt von Rohstoff-Welt.de
Die URL für diesen Artikel lautet:
https://www.rohstoff-welt.de/news/472668--Rio-Tinto-to-develop-BioIron-RundD-facility-in-Western-Australia-to-test-low-carbon-steelmaking.html

Für den Inhalt des Beitrages ist allein der Autor verantwortlich bzw. die aufgeführte Quelle. Bild- oder Filmrechte liegen beim Autor/Quelle bzw. bei der vom ihm benannten Quelle. Bei Übersetzungen können Fehler nicht ausgeschlossen werden. Der vertretene Standpunkt eines Autors spiegelt generell nicht die Meinung des Webseiten-Betreibers wieder. Mittels der Veröffentlichung will dieser lediglich ein pluralistisches Meinungsbild darstellen. Direkte oder indirekte Aussagen in einem Beitrag stellen keinerlei Aufforderung zum Kauf-/Verkauf von Wertpapieren dar. Wir wehren uns gegen jede Form von Hass, Diskriminierung und Verletzung der Menschenwürde. Beachten Sie bitte auch unsere AGB/Disclaimer!

Die Reproduktion, Modifikation oder Verwendung der Inhalte ganz oder teilweise ohne schriftliche Genehmigung ist untersagt!
Alle Angaben ohne Gewähr! Copyright © by Rohstoff-Welt.de -1999-2026. Es gelten unsere AGB und Datenschutzrichtlinen.