

Baffinland and ThyssenKrupp to Cooperate in Producing Low Carbon Green Steel

Nunavut High-grade iron ore to be used in tkH2Steel® project with the goal of decreasing carbon emissions along the steel value chain.

Iqaluit, Nunavut (July 20, 2023) – Baffinland Iron Mines Corporation (“Baffinland”) and German steelmaker thyssenkrupp Steel Europe AG (“thyssenkrupp”) have entered into a Memorandum of Understanding (MoU) to accelerate the development of high-quality feedstock for green and low carbon steel production with the use of Nunavut high-grade iron ore.

Lower carbon and green steel forms the basis of the transition to clean value chains and is necessary for virtually every aspect of the global decarbonization drive. Having high-grade iron ore is important for producing green steel. Baffinland’s high grade, direct shipping ores have superior chemistry and first-rate metallurgical properties and are extracted and shipped without generating wet tailings.

As part of its tkH2Steel® project, thyssenkrupp’s coal-based blast furnaces will be replaced by hydrogen-based direct reduction modules. The iron produced by this equipment, directly reduced by hydrogen, will be liquefied in downstream, specially developed melting units to produce high quality hot metal, in what thyssenkrupp maintains is a pioneering process. All subsequent production steps can take place in the existing plant structure, including the steel mills, allowing all of the company’s products to be produced with low CO₂ emissions whilst maintaining thyssenkrupp’s stringent quality standards. As a result, thyssenkrupp reiterates that tkH2Steel is a highly efficient and commendable approach towards achieving environmentally friendly steel production.

“We are delighted to be cooperating with thyssenkrupp Steel as a long-standing customer of Baffinland in achieving environmentally compatible steel production,” said Brian Penney, Baffinland’s Chief Executive Officer. “Projects like tkH2Steel® and the high-grade iron ore are keys to global decarbonization of the steel industry. We applaud thyssenkrupp Steel leadership in this regard and look forward to actively contributing our expertise to advance the tkH2Steel®.”

Dr. Arnd Köfler, Chief Technology Officer of thyssenkrupp Steel, adds: “Our goal is to reduce the carbon footprint associated with the entire steel production process, both within and beyond our plant boundaries. To achieve this, we are establishing our own production facilities that employ direct reduction plants combined with innovative melters, resulting in significantly lower CO₂ emissions. High-grade iron ore is an important raw material for thyssenkrupp Steel, both for use in the conventional blast furnace and, in perspective, in the direct reduction plant. We are particularly excited to work alongside Baffinland to explore the most effective utilization of high-quality iron ore in our production process.”

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Baffinland Iron Mines Corporation is jointly owned by The Energy and Minerals Group and ArcelorMittal, and operates the Mary River high-grade iron ore mine located on Baffin Island, Nunavut, Canada. Nunavut's high-grade iron ore is among the richest iron ore deposits ever discovered. It can be crushed, and screened into marketable green products.

The Mary River Mine produces the highest grade direct shipping iron ore in the world. What sets this operation apart from many others in that the iron ore is crushed and screened on site, and then shipped directly to markets – no concentrating or processing is needed, and as a result no tailings are produced.

Baffinland is committed to operating in an environmentally and socially responsible manner that benefits Inuit, Nunavummiut and all other stakeholders.

Learn more at baffinland.com and follow us on Twitter, Facebook and LinkedIn.

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thyssenkrupp Steel Europe

thyssenkrupp Steel Europe AG is Germany's biggest steel manufacturer. The Duisburg-based company with around 26,000 employees is one of the world's leading suppliers of high-quality steel products for innovative and demanding applications, as well as for providing steel-related services. Steel production at thyssenkrupp Steel Europe is planned to be completely climate-neutral by 2045 at the latest. The decisive step in this direction is the construction of hydrogen-based direct reduction plants in conjunction with innovative melting units. The first plant is scheduled to go on stream in Duisburg in 2026. Production of five million metric tons of low-CO₂ steel is already planned for 2030.