



Project News

thyssenkrupp Uhde signs Agreement with Ma'aden and Metso on Phosphogypsum Recycling

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Dortmund, Germany -

thyssenkrupp Uhde has signed a master agreement with Ma'aden (Saudi Arabian Mining Company) for the development, engineering and licensing of a calcination plant for phosphogypsum processing. The purpose of the proposed plant, to be located at Ma'aden's Ras al Khair site in Saudi Arabia, will be to recycle phosphogypsum and enable the capture of CO₂ emissions. The joint research and development will be carried out together with thyssenkrupp Polysius and Metso Outotec.



Signing of the Master Agreement with Dr. Hannes Storch (VP Metals and Chemical Processing Metso), Piia Karhu (President Metals Metso), Robert Wilt (CEO Ma'aden), Hassan Al Ali (EVP Phosphate Ma'aden), Lucretia Löscher (COO thyssenkrupp Uhde) and Michael Petzinna (Head

of Coke Plant & Inorganic Acids thyssenkrupp Uhde).

Hassan Al-Ali, Executive Vice President, Ma'aden Phosphate: "We look forward to working with our partners to develop this unique solution, utilizing our new patented technology to reduce carbon emissions and recycle phosphogypsum into a useful resource. With this ambitious project, we will contribute significantly to the Saudi Green Initiative and create lasting impact in line with our Kingdom's Vision 2030."

"We are honored to be chosen by our esteemed customer to provide our technology and expertise," said Lucretia Löscher, COO thyssenkrupp Uhde. "We are providing the innovative process to turn the phosphate industry into a circular economy. This project will be another important milestone for thyssenkrupp Uhde in enabling the green transformation of our customers."

Currently, significant amounts of phosphogypsum are produced as a by-product of phosphoric acid production, which is essential for producing phosphate fertilizers. The options for using phosphogypsum directly are very limited due to impurities and the general properties of this material. The innovative phosphogypsum treatment process will have three major benefits: First, it converts phosphogypsum into quicklime (calcium oxide, CaO). By using alternative fuels such as hydrogen or sulfur, this calcination step is low in CO₂ emissions. Additional know-how for this process is provided by thyssenkrupp Polysius, a full range-supplier of the cement and lime industry. Secondly, it enables the recovery of sulphuric acid, which can be recycled and reused as feedstock for phosphoric acid production. And thirdly, the quicklime binds CO₂ through a carbonization process to form limestone. The limestone can then be used, for example, in the construction industry or for cement production.