Announcing the only Hydrocarbon-Free, Green Steel project in the U.S.

ThREE Consulting Announces Green-Steel Project in Missouri, USA

Nuclear Energy Powered Hydrogen Production at Scale, Incorporating Pumped Storage, to Enable Domestic Industrial Green Steel Production

ST. LOUIS, MO. (PRWEB) JUNE 10, 2021

ThREE Consulting LLC has announced it has applied for DoE FOA funding to generate integrated feasibility studies to validate the techno-economic assessment of its Mine to Metal, Green Steel project. ThREE has assembled an engineering team and 'Green Mandate' investors to collaborate on the development of this project. The overall goal is to produce superior green steel economically while not relying on carbon-capture credits, subsidies or inflated 'premium pricing' for Green Steel.

With the support of the DoE, under its 0001817 funding opportunity, the feasibility studies will demonstrate the economic benefits of utilizing green technologies. The mine is fully permitted and feasibility production will take less than 18 months. Assuming normal project development timelines and ready investors, the projected steel production start date can be competitive with the state-sponsored SSAB Green Steel project in Sweden.

Green steel is produced by replacing coal or natural gas with carbon-free hydrogen gas to convert the iron ore into steel via a process called Direct Reduction of Iron (DRI). This technology has been around for decades but only makes sense if the hydrogen can be made at cost-parity with carbon-based options. ThREE Consulting will overcome the existing cost disparity by acquiring underutilized nuclear energy from at-risk producers along with excess renewable capacity to produce economic hydrogen, in conjunction with other systems not outlined here (detailed in their DoE application process diagram).

Historically, the iron and steel industry have accounted for a large share of all CO_2 emissions through heavy reliance on fossil fuels in all aspects of production processes. The increased need for global

Pea Ridge Iron Mine Enters the Race for Green Steel

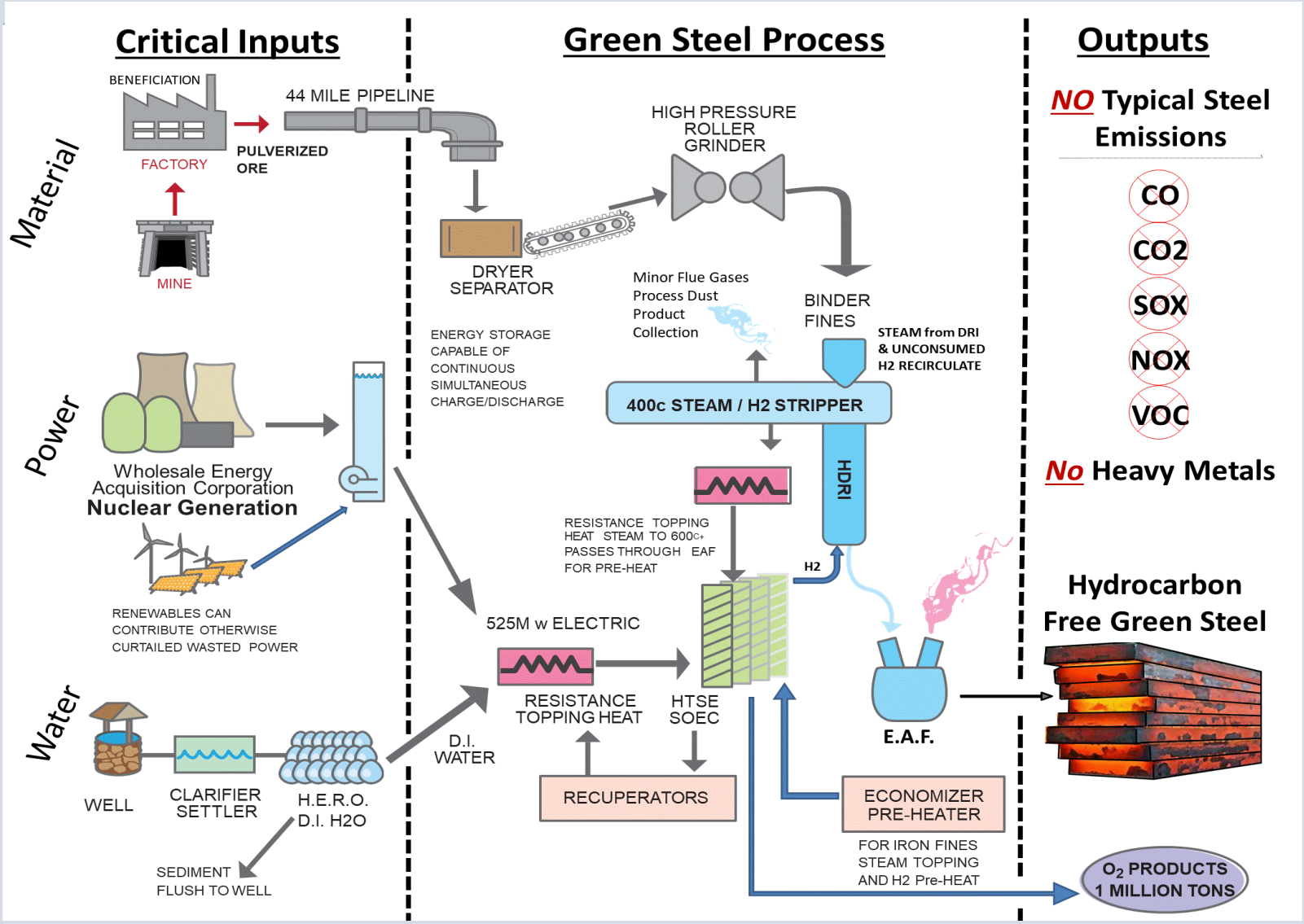
"This project will advance the U.S. steel industry and the decarbonization goals of the DoE and this Administration. This project will lead the way towards a new Green Industrial Revolution." said Kennedy.

This project integrates the historically proven and fully permitted iron ore resources of the Pea Ridge mine, in Washington County Missouri, with unutilized regional nuclear energy production capacity and hydro-electric storage, managed under a Wholesale Energy Acquisition Corporation, to reduce energy cost below industrial rates, for the production of hydrogen as the exclusive reduction agent.

The super-high value Fe concentrate (+70% Fe), transferred "at cost (~$50 per ton)", contributes nearly ~$200 per ton in savings to the finished steel product.

All employed technologies are "proven" at commercial scale.

Oxygen and Steel will be the only significant outputs at the steel production end of the process. The mine will also produce rare earths and other high value byproducts that will contribute an estimated $500 million to the projects economics.



Finished steel production costs are estimated to be below $300 per ton. This is achieved through reduced electric energy cost, “at cost” transfer pricing of Fe concentrates and the contribution of byproduct values.

If the DoE grant is successful full, feasibility could be completed in as little as 16 months (mostly updating past feasibility work). Assuming normal build-out timelines steel production could begin as early as 2025/26.

To learn more about this project contact James Kennedy, President of ThREE Consulting and Caldera Holding LLC at jkennedy@threeconsulting.com