BEST and FLEX Forge a New Era for U.S. Steel: Negative Carbon Index and On-Site Power Poised to Outperform Tariffs

By pairing carbon-negative H□ and on-site clean power, BEST and FLEX aim to reshape U.S. steelmaking with an edge no tariff can match.

Powering the Future of American Steel—Clean, Carbon-Negative, and Built to Compete

DEERFIELD BEACH, FL, UNITED STATES, April 2, 2025 /EINPresswire.com/ -- Brown Energy Solutions, Inc. (BEST) and Flexible Energy Solutions (FLEX) today announced a joint initiative to bring carbon-negative, high-efficiency hydrogen and power systems to the heart of America's steel industry. With the support of advanced partners including Golu-H2 Technologies, SBI BioEnergy, and TO Viridi, this coalition is positioned to deliver the most advanced energy platform ever applied to steel manufacturing in the United States.

> This is how we future-proof steel. By turning waste into power, and power into progress. With partners like BEST, we're not just building cleaner plants—we're building smarter ones."
>
> *Gordon Olson, FLEX President & CEO*

By integrating BEST's carbon-negative HyEn+ powered by Golu-H2 hydrogen production and on-site power systems with FLEX's energy optimization strategies, the companies are directly addressing one of the world's most carbon-intensive sectors. The goal: a revolution in how steel is made—stronger, cleaner, cheaper, and domestically powered.

"Steel production accounts for more than 2.7 billion tons of CO□ emissions globally, with demand projected to rise over 30% by 2050," said Gordon Olson, President & CEO of FLEX. "The coal-fired model that dominates today is obsolete. Hydrogen-powered DRI and Electric Arc Furnace systems are the path forward. BEST's negative CI hydrogen and their ability to generate clean power on-site unlocks something the industry has never had before—a way to compete globally without relying on protective tariffs."

BEST's HyEn+ System, verified by Argonne National Laboratory and CARB via the GREET Model, operates with a carbon intensity of -37gCO□eq/MJ. Housed in 40-foot modular systems, the Golu-H2 unit reformers produce 99.999% pure hydrogen from ethanol and water, generating clean electricity and capturing biogenic CO□ for downstream use or sale.

"Our systems don't just reduce emissions—they reverse them," said Dean Steiger, co-founder of Brown Energy Solutions. "This is about more than clean hydrogen. This is about total-site power generation, heat recovery, CO□ capture, and local job creation in one compact, deployable package. We're not just proposing upgrades. We're proposing reinvention."

The BEST + FLEX alliance is already mapping deployment plans across key steel-producing regions, with Missouri leading early project discussions. Together with their technology collaborators—Golu-H2 Technologies, SBI BioEnergy, and TO Viridi—the team is delivering real solutions that balance capital and operational cost with measurable reductions in carbon impact.

FLEX brings deep industry expertise in energy recovery, hydrogen integration, and transition strategies—like converting legacy coal operations to natural gas, blending with hydrogen, and ultimately transitioning to low-carbon sources such as geothermal or next-generation nuclear.

Key components of the initiative include:

- Carbon-negative hydrogen fuel for use in DRI and EAF steelmaking
- On-site power generation to reduce grid demand and costs
- Waste heat recovery to drive efficiency and lower emissions
- Carbon capture and utilization or storage (CCUS) integrated from day one

As the global steel industry seeks ways to decarbonize without sacrificing performance or profit, BEST and FLEX offer a solution that's scalable, modular, and U.S.-built. Instead of relying on government-imposed tariffs to protect American steel, this approach enables domestic producers to lead on merit—with better product, lower emissions, and a future-proof foundation.

"This is how we future-proof steel," said Olson. "By turning waste into power, and power into progress. With partners like BEST, we're not just building cleaner plants—we're building smarter ones."

Key Participant: Flexible Energy Solutions (FLEX) is revolutionizing the energy landscape through sustainable innovation. They bring together deep expertise and creative thinking to build partnerships that deliver real impact. Committed to environmental responsibility, economic advancement, and social equity, FLEX is forging a cleaner, smarter energy future—one project at a time.

 https://FlexEnergyInc.ca/

About Us: The Brown Energy Solutions Team (BEST) delivers advanced energy solutions backed by patented technologies in fuel efficiency and emissions reduction. In partnership with leading innovators, BEST is deploying scalable industrial systems to meet today’s energy demands—while advancing the future of mobility through hydrogen-powered platforms.

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