PyroGenesis Announces Completion of Coke-Oven Gas Valorization and Hydrogen Production Project for Tata Steel

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Successfully introduces coke-oven gas cleaning and valorization solutions to steel industry

MONTREAL, July 15, 2025 (GLOBE NEWSWIRE) -- PyroGenesis Inc. (“PyroGenesis”) (http://pyrogenesis.com) (TSX: PYR) (OTCQX: PYRGF) (FRA: 8PY1), a high-tech company that designs, develops, manufactures and commercializes advanced all-electric plasma processes and sustainable solutions to support heavy industry in their energy transition, emission reduction, commodity security, and waste remediation efforts, announces that its subsidiary, Pyro Green-Gas Inc., has completed the previously announced $9.3 million coke-oven gas valorization (via purification, desulphurization, and heavy hydrocarbon removal) and hydrogen production project for Tata Steel, one of the world’s largest diversified steel producers.

As outlined in a news release dated May 3, 2023, Pyro Green-Gas was contracted to supply (i) coke-oven gas purification solutions and (ii) hydrogen production processes, to extract hydrogen and other toxic gases from the blast furnace process, then separate, clean, and process the gases to render hydrogen to a 99.999% purity level. With today’s announcement, the project has been completed, and the systems developed by Pyro Green-Gas are in continuous 24 hr./day operation at the Tata steel facility in Kalinganagar India. The newly reformed hydrogen produced by the system is being reused by other applications at the facility, improving production efficiency and environmental outcomes. The project contributes to Tata’s circular production goals, as well as to their cost reduction programs.

Image 1:

PyroGenesis' Coke Oven Gas and Hydrogen Extraction System at Tata Steel, Kalinganagar, India

Image 2:

Water-Injected Compressor Units in Use at Tata Steel, Kalinganagar, India

Image 1: PyroGenesis’ Coke Oven Gas and Hydrogen Extraction System at Tata Steel, Kalinganagar, India

“This is a tremendous achievement for our team. The success of this project, which in its totality covers an area the size of a football field and is more than five storeys tall, has led to a number of new initiatives currently under discussion with Tata Steel,” said Mr. P. Peter Pascali, President and CEO of PyroGenesis. “Our engineers worked closely with Tata Steel to develop a solution to meet the needs of one of the largest steel facilities in the world, including the integration of advanced solutions (such as water-injected compressors that eliminate the potential for oil contamination during the processing of hydrogen) further contributing to sustainability in steelmaking.”

Image 2: Water-Injected Compressor Units in Use at Tata Steel, Kalinganagar, India

Blast furnaces utilize coking coal, or “coke”, as part of the process to transform iron ore into steel. Coke acts as both a fuel to generate the intense heat required for smelting and as a reducing agent to remove oxygen from the iron ore. The gas released during the coke production process, known as coke-oven gas or “COG”, is a toxic mix of human carcinogens comprised of approximately 54% hydrogen with the balance consisting of methane, carbon monoxide, carbon dioxide, tar, naphthalene, and other hydrocarbons which must be separated and removed before the hydrogen can be cleaned, reformed, and reused.[i] PyroGenesis’ subsidiary Pyro Green-Gas has decades of experience designing and installing technology solutions for these purposes.

“With more than 1400 blast furnaces in existence across 477 plants in 55 countries[ii], and with (as of September 2023) 70% of planned new global steel projects intending to use blast furnaces[iii], the need for effective COG cleaning and valorization solutions in the steel industry is likely to continue for decades,” noted Mr. Pascal. “The systems that we have installed at the Tata Steel Kalinganagar facility are purifying 32,000 cubic meters of coke-oven gas per hour while extracting 620 cubic meters of ready-to-use hydrogen per hour. This represents just a fraction of the potential impact our technologies can have as more steel plants embrace the concept of COG valorization.”

PyroGenesis development of coke oven gas cleaning solutions are part of the Company’s three-columned solution ecosystem that aligns with economic drivers that are key to global heavy industry. Coke oven gas cleaning solutions are part of the Company’s **Energy Transition & Emissions Reduction** vertical, where gas cleaning and conversion technologies, and fuel switching to PyroGenesis’ electric-powered plasma torches, helps heavy industry reduce energy costs, fossil fuel use, and emissions. The other verticals are **Waste Remediation** and **Commodity Security and Optimization**.

About Pyro Green-Gas Inc.

Pyro Green-Gas offers technologies, equipment, and expertise in biogas upgrading, as well as air pollution controls. Pyro Green-Gas designs and builds: (i) gas upgrading systems to convert biogas to renewable natural gas (RNG); (ii) pyrolysis-gas purification; (iii) biogas & landfill-gas flares and thermal oxidizers; and (iv) purification of coke-oven gas (COG) (a by-product in the primary steel industry arising from the conversion of coal into coke) into high purity hydrogen, which is in high demand across the industry. In addition, Pyro Green-Gas produces a line of landfill gas flares which reduce greenhouse gas emissions from landfills, and is actively involved in gas purification and separation, and reforming and synthesis of hydrocarbon gases, as well as waste gas and solid waste valorization systems.

About PyroGenesis Inc.

PyroGenesis Inc., a high-tech company, is a proud leader in the design, development, manufacture and commercialization of advanced plasma processes and sustainable solutions which reduce greenhouse gases (GHG) and are economically attractive alternatives to conventional “dirty” processes. PyroGenesis has created proprietary, patented and advanced plasma technologies that are being vetted and adopted by multiple multibillion dollar industry leaders in four massive markets: iron ore pelletization, aluminum, waste management, and additive manufacturing. With a team of experienced engineers, scientists and technicians working out of its Montreal office, and its 3,800 m^2 and 2,940 m^2 manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The operations are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. PyroGenesis’ shares are publicly traded on the TSX in Canada (TSX: PYR), the OTCQX in the US (OTCQX: PYRGF), and the Frankfurt Stock Exchange in Germany (FRA: 8PY1).

Cautionary and Forward-Looking Statements

This press release contains “forward-looking information” and “forward-looking statements” (collectively, “forward-looking statements”) within the meaning of applicable securities laws. In some cases, but not necessarily in all cases, forward-looking statements can be identified by the use of forward-looking terminology such as “plans”, “targets”, “expects” or “does not expect”, “is expected”, “an opportunity exists”, “is positioned”, “estimates”, “intends”, “assumes”, “anticipates” or “does not anticipate” or “believes”, or variations of such words and phrases or state that certain actions, events or results “may”, “could”, “would”, “might”, “will” or “will be taken”, “occur” or “be achieved”. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances contain forward-looking statements. Forward-looking statements are not historical facts, nor guarantees or assurances of future performance but instead represent management’s current beliefs, expectations, estimates and projections regarding future events and operating performance.

Forward-looking statements are necessarily based on a number of opinions, assumptions and estimates that, while considered reasonable by PyroGenesis as of the date of this release, are subject to inherent uncertainties, risks and changes in circumstances that may differ materially from

those contemplated by the forward-looking statements. Important factors that could cause actual results to differ, possibly materially, from those indicated by the forward-looking statements include, but are not limited to, the risk factors identified under "Risk Factors" in PyroGenesis' latest annual information form, and in other periodic filings that it has made and may make in the future with the securities commissions or similar regulatory authorities, all of which are available under PyroGenesis' profile on SEDAR+ at www.sedarplus.ca. These factors are not intended to represent a complete list of the factors that could affect PyroGenesis. However, such risk factors should be considered carefully. There can be no assurance that such estimates and assumptions will prove to be correct. You should not place undue reliance on forward-looking statements, which speak only as of the date of this release. PyroGenesis undertakes no obligation to publicly update or revise any forward-looking statement, except as required by applicable securities laws.

Neither the Toronto Stock Exchange, its Regulation Services Provider (as that term is defined in the policies of the Toronto Stock Exchange) nor the OTCQX Best Market accepts responsibility for the adequacy or accuracy of this press release.

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[i] https://www.ncbi.nlm.nih.gov/books/NBK590934/

[ii] https://www.steeltimesint.com/news/blast-furnace-tracker-offers-first-free-global-coverage-of-blast-furnaces

[iii] https://www.energymonitor.ai/sectors/industry/weekly-data-70-of-planned-steel-production-projects-are-dirty-blast-furnaces/?cf-view

Photos accompanying this announcement are available at:
https://www.globenewswire.com/NewsRoom/AttachmentNg/c6212b9d-723d-4273-8ffc-294e1dfed406
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