PyroGenesis Converts Plasma Gas to Battery-Grade Carbon Black and Hydrogen

April21, 2026

First-ever process to eliminate secondary hydrocarbon feedstocks and additives

MONTREAL, April 21, 2026 (GLOBE NEWSWIRE) -- PyroGenesis Inc. (“PyroGenesis” or “the Company”) (TSX: PYR) (OTCQX: PYRGF) (FRA: 8PY1), a leader in ultra-high temperature processes and engineering innovation, and a plasma-based technology provider to heavy industry & defense, announces today the successful production of battery-grade carbon black and hydrogen (“H_2”) from a proprietary PyroGenesis plasma torch system. The result was achieved with both a natural gas- and a methane-powered plasma torch as the primary hydrocarbon feedstock, which is then directly converted into carbon black and H_2 without the need for a secondary raw material feedstock and additives. The resulting carbon black met quality levels well above battery grade requirements, as determined by an independent testing lab. Additionally, with this achievement PyroGenesis is the first company to successfully use hydrocarbon (methane/natural gas) as both the plasma-forming gas and the primary feedstock in a DC plasma torch to produce solid carbon and H_2 without any additives. The system was designed by PyroGenesis on behalf of its client, a Canadian company exploring alternative use of carbons for commercial applications.

As previously announced (press release dated September 3, 2024), this project began with a first phase contract valued at $1 million for the design and delivery of a customized pilot-scale plasma reactor and associated testing infrastructure. The successful results announced today confirm that (i) the PyroGenesis plasma-based process produces carbon black at exceptionally high grades, meeting key battery-grade levels for ash content, metallic purity, surface area, and tapped density, and (ii) methane and natural gas can be used as both plasma gas and feedstock to produce carbon black and clean hydrogen.

“This achievement where plasma is the primary and sole feedstock, paves the way to a more efficient and environmentally friendly production process for two extremely in-demand materials at high quality levels,” said Mr. P. Peter Pascali, President and CEO of PyroGenesis. “Carbon black is one of the most important commodities worldwide and is in the top 50 industrial chemicals manufactured worldwide based on annual tonnage. It comprises 25-30% of vehicle tires. While its use in rubber represents its largest use, carbon black of the quality required for use in batteries is difficult to produce. We have achieved this level with our innovative process, which is also cleaner and simpler. Compared to the conventional ‘furnace black’ or ‘thermal black’ production processes, which rely on the combustion or thermal decomposition of heavy hydrocarbon residues such as petroleum oils or coal tar, the approach developed by PyroGenesis is combustion free, emission-free, additive-free and, most importantly, secondary feedstock-free. It also provides unique optionality, allowing for the use of plasma torches powered by either methane or natural gas, the latter of which is generally considered more challenging in the production of carbon black due to its more complex and variable composition.”

The simplified DC plasma-based platform developed by PyroGenesis offers a more practical path to industrial production of carbon black and hydrogen compared to both conventional processes and to processes that use other plasma technologies, including AC, RF, microwave systems, and even other forms of DC plasma. This simplified design and architecture would be expected to lower capital and construction costs and streamlined logistics related to the storage and use of raw materials.

Next Steps: The Company is working with the client on further developments related to this novel approach, with a focus on (i) the output of additional materials, (ii) developing steps towards commercial-scale production, and (iii) targeting integration of the hydrogen produced by the process into the gas grid.

INDUSTRY AND MARKET CONTEXT

Carbon black serves large and growing industrial markets. Carbon black is used primarily in tires and other rubber products, while also serving important roles in plastics, coatings, printing inks, and conductive applications. A vehicle tire contains on average 25-30% carbon black. [1] It is used in tires as a reinforcing filler to increase durability, lifespan, and strength, conducting heat away from the tread to prevent overheating while also protecting the tire from deterioration from ultraviolet rays and ozone. For batteries, carbon black is used as a conductive filler to help boost energy density and dissipate heat, particularly in lithium-ion batteries for electric vehicles and electronics. [2]According to Grand View Research, the global carbon black market was valued at approximately US$24.5 billion in 2025 and is projected to reach approximately US$36.1 billion by 2033. [3]

About PyroGenesis Inc.

PyroGenesis leverages 35 years of plasma technology leadership to deliver advanced engineering solutions to energy, propulsion, destruction, process heating, emissions, and materials development challenges across heavy industry and defense. Its customers include global leaders in aluminum, aerospace, steel, iron ore, utilities, environmental services, military, and government. From its Montreal headquarters and local manufacturing facilities, PyroGenesis’ engineers, scientists, and technicians drive innovation and commercialization of energy transition and ultra-high temperature technology. PyroGenesis’ operations are ISO 9001:2015 and AS9100D certified, with ISO certification maintained since 1997. PyroGenesis’ shares trade on the TSX (PYR), OTCQX (PYRGF), and Frankfurt (8PY1) stock exchanges.

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.

For further information contact ir@pyrogenesis.com or visit http://www.pyrogenesis.com

---

[1] https://4spepublications.onlinelibrary.wiley.com/doi/10.1002/pc.28585

[2] https://www.batterytechonline.com/materials/the-crucial-role-of-carbon-black-in-li-ion-batteries

[3] https://www.grandviewresearch.com/industry-analysis/carbon-black-market