



PyroGenesis Receives New U.S. Patent for the Destruction of Ozone Depleting Substances

MONTREAL, QUEBEC (GlobeNewswire – September 27, 2021) - PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (NASDAQ: PYR) (TSX: PYR) (FRA: 8PY), a high-tech Company (hereinafter referred to as the “Company” or “PyroGenesis”), that designs, develops, manufactures and commercializes advanced plasma processes and sustainable solutions to reduce greenhouse gases (GHGs), is pleased to announce today that the United States Patent and Trademark Office has issued a Notice of Allowance for U.S. Patent No. 11116069, entitled, “High power DC non transferred steam plasma torch system”. This new patent covers the Company’s high power DC steam plasma torch system, and relates to a steam plasma torch assembly wherein superheated steam is used as the main plasma forming gas, thereby resulting in a highly reactive steam plasma plume. The system is then used to destroy ozone depleting substances.

This high-power steam torch system is used in PyroGenesis’ SPARC™ technology, a patented PyroGenesis process designed to destroy ozone depleting substances such as end-of-life (“EOL”) refrigerants like CFCs, HCFs, and HFCs, which have high global warming potential (“GWP”). EOL refrigerants are potent greenhouse gases with a GWP that can be thousands of times greater than carbon dioxide (CO₂).

Research suggests that the management, and disposal, of HFC refrigerants is the best strategy to address climate change globally. Quickly phasing down HFC use has the potential to lower the effect of global warming by 0.5° C by 2100.¹ In addition, the Environmental Protection Agency estimates supermarkets in the U.S. alone leak an average of 25% of their refrigerants annually², which is equivalent to the emissions from 12.5 million passenger vehicles for one year.³

“Plasma torches that use steam as the main plasma forming gas produce a plasma plume with a high concentration of H⁺ and OH⁻ ions,” said Mr. Pierre Carrabin, CTO and Chief Strategist of PyroGenesis. “The steam plasma plume rich in these chemically and highly reactive ions can be used in a wide range of applications ranging from coal gasification to hazardous waste treatment. Steam plasma torches have been used very successfully in achieving difficult chemical conversion in other applications. We are proud to have been awarded a patent to utilize a steam plasma torch to destroy ozone-depleting substances as we believe there is a huge untapped need for such a torch.”

¹ <https://www.kqed.org/science/1973205/refrigerants-are-the-worst-greenhouse-gas-youve-never-heard-of-heres-what-you-can-do>

² https://www.epa.gov/sites/default/files/documents/gc_averagestoreprofile_final_june_2011_revised_1.pdf

³ <https://www.kqed.org/science/1973205/refrigerants-are-the-worst-greenhouse-gas-youve-never-heard-of-heres-what-you-can-do>

“This patent represents a key milestone as we roll out our SPARC™ technology; a technology which is specifically geared to reducing ozone depleting substances,” said Mr. P. Peter Pascali, CEO and Chair of PyroGenesis. “Our system has the potential to reduce EOL refrigerants in a significant and efficient manner while at the same time generating a very low carbon footprint. This patent will provide intellectual property coverage and help us secure a leading position as we move forward in commercializing our SPARC™ technology worldwide.”

About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a 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 m² and 2,940 m² 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. For more information, please visit: www.pyrogenesis.com.

This press release contains certain forward-looking statements, including, without limitation, statements containing the words "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "in the process" and other similar expressions which constitute "forward-looking information" within the meaning of applicable securities laws. Forward-looking statements reflect the Corporation's current expectation and assumptions and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated. These forward-looking statements involve risks and uncertainties including, but not limited to, our expectations regarding the acceptance of our products by the market, our strategy to develop new products and enhance the capabilities of existing products, our strategy with respect to research and development, the impact of competitive products and pricing, new product development, and uncertainties related to the regulatory approval process. Such statements reflect the current views of the Corporation with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Corporation's ongoing filings with the securities regulatory authorities, which filings can be found at www.sedar.com, or at www.sec.gov. Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Corporation undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, except as required by applicable securities laws. Neither the Toronto Stock Exchange, its Regulation Services Provider (as that term is defined

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