



PyroGenesis Signs Initial Plasma Torch Contract with Major Iron Ore Producer

November 24, 2020

MONTREAL, Nov. 24, 2020 (GLOBE NEWSWIRE) -- PyroGenesis Canada Inc. (<http://www.pyrogenesis.com>) (TSX: PYR) (OTCQB: PYRNF) (FRA: 8PY), a high-tech company, (the "Company", the "Corporation" or "PyroGenesis") that designs, develops, manufactures and commercializes plasma atomized metal powder, plasma waste-to-energy systems and plasma torch products, is pleased to announce today that it has signed an initial plasma torch contract (the "Contract") to provide one high powered (approx. 1MW) plasma torch with ancillary equipment (the "Torch"), with Client A (the "Client"), a major iron ore producer, for approx. \$1.8MM. This does not include continued after-sale services, which was not the subject of these initial negotiations. It is expected that future sales with this Client will include a separate continued after-sale services agreement. The Client is a multi-billion-dollar international producer of iron ore pellets, one of the largest in the industry, whose name will remain confidential for competitive reasons. The Client, which has committed to reduce its greenhouse gas ("GHG") emissions, has over ten (10) plants, each possibly requiring up to 50 plasma torches.

"This is a major milestone for PyroGenesis as it is the first time we have sold a torch system to a major iron ore pelletizer. The first commercial sale is always the hardest in any industry. It is not a secret that the ultimate goal is to replace their fossil fuel burners with our plasma torches. Of note, the preamble to the Contract states '...whereas [Client's Name] has demonstrated a willingness to replace its fossil fuel burners with PyroGenesis' proprietary plasma torches with the goal of reducing greenhouse gases in a furtherance of its stated policy to do so...', which I believe sums up the significance of this announcement," said Mr. P. Peter Pascali, CEO and Chair of PyroGenesis. "We have indeed crossed a threshold. This was our preferred rollout strategy, as it now enables us to better quantify all outstanding aspects of replacing fossil fuel burners with plasma torches, and thus be better positioned to price any additional benefits into future orders. We cannot overemphasize the opportunity this presents. That is not to say that there are no risks moving forward, or that future contracts are guaranteed. That is definitely not true. There are no guarantees, however we can say with certainty that we are conservatively ticking the boxes one by one."

"With this announcement, PyroGenesis is on its way to assuming a leadership role in reducing greenhouse gas emissions using PyroGenesis' proprietary plasma torches," said Mr. Pierre Carabin, Chief Technology Officer and Chief Strategist of PyroGenesis. "We look forward to leveraging this success into other industries and becoming a premier environmental company geared toward reducing greenhouse gas emissions across all our business segments."

The Contract announced today is a direct result of our recent success in the previously disclosed modeling contract which confirmed, amongst other things, that replacing fossil fuel burners with PyroGenesis' proprietary plasma torches could potentially address the Client's GHG reduction strategy/policy. ([Press Release dated September 1st, 2020](#))

As previously disclosed, PyroGenesis has the process patent to replace fossil fuel burners with PyroGenesis' clean plasma torches in the iron ore pelletization industry, thereby reducing GHG emissions. ([Press Release dated September 1st, 2020](#))

Management has estimated internally that a typical pellet plant producing 10 million metric tonnes of pellets annually emits approximately one million metric tonnes of CO₂¹. The total world pellet production of 400 million metric tonnes of pellets represents a potential market for torch sales in excess of \$10B worldwide. The world pellet industry generates about 40 million metric tonnes of CO₂ every year. The use of plasma torches running off a clean electrical grid would reduce these emissions significantly. For reference, 40 million tonnes of CO₂ represent the combined yearly emissions of 8.7 million US passenger vehicles².

It is expected, with multiple orders, that PyroGenesis would source long lead items ahead of time, and as such, it is expected that the time from contract to final assembly/installation at a client's facility will be from a couple of weeks up to four (4) months.

Pelletization is the process in which iron ore is concentrated before shipment, thus significantly reducing the cost of transportation, and providing a required feedstock for blast furnaces. In conventional technologies, the process heat is provided by fuel oil or natural gas burners (both environmentally damaging). The combustion, in the burners, of fossil fuels results in the production of greenhouse gases ("GHG"), mainly CO₂. Plasma torches, by contrast, utilize renewable electricity and as such offer an environmentally attractive alternative to fossil fuel burners.

¹ M. Huerta, J. Bolen, M. Okrutny, I. Cameron and K. O'Leary, "Guidelines for Selecting Pellet Plant Technology", Iron Ore Conference 2015 Proceedings, Perth, WA, July 13-15, 2015

² <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>

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 products. The Company provides its engineering and manufacturing expertise and its turnkey process equipment packages to customers in the defense, metallurgical, mining, advanced materials (including 3D printing), and environmental industries. With a team of experienced engineers, scientists and technicians working out of its Montreal office and its 3,800 m² manufacturing facility, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The Company's core competencies allow PyroGenesis to provide innovative plasma torches, plasma waste processes, high-temperature metallurgical processes, and engineering services to the global marketplace. PyroGenesis' operations are ISO 9001:2015 and AS9100D certified. 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.otcmarkets.com. 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 (TSX), its Regulation Services Provider (as that term is defined in the policies of the TSX) nor the OTCQB accepts responsibility for the adequacy or accuracy of this press release.

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