



PyroGenesis Signs Binding Letter of Intent to Acquire AirScience Technologies Inc. for \$4.8MM

Enters Renewable Natural Gas Marketplace Expands GHG Reduction Portfolio

MONTREAL, QUEBEC (GlobeNewswire – April 27, 2021) -- PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (TSX: PYR) (NASDAQ: PYR) (FRA: 8PY), a high-tech Company (hereinafter referred to as the “Company” or “PyroGenesis”), that designs, develops, manufactures and commercializes plasma atomized metal powder, environmentally friendly plasma waste-to-energy systems and clean plasma torch products, is pleased to announce that it has signed a binding Letter of Intent (“LOI”), which outlines the terms and conditions pursuant to which PyroGenesis would acquire AirScience Technologies Inc (“AST”) for \$4.8MM (the “Purchase Price”). The LOI is binding on AST, but it is only binding on PyroGenesis if in its sole opinion, it is satisfied with the final due diligence currently in progress. The option to satisfy the Purchase Price in shares or cash is at the sole discretion of the buyer, and will only be made on, or about, final closing.

AST is a Montreal-based company that designs and builds (i) gas upgrading systems (specifically from biogas to renewable natural gas, or “RNG”), (ii) Pyrolysis-Gas Purification, (iii) Coke-Oven Gas (“COG”) Purification as well as providing (iv) Biogas & Landfill-Gas Flares and Thermal Oxidizers.

Mr. P. Peter Pascali, CEO and Chair of PyroGenesis, discusses this acquisition in the following Q&A format.

Q1. First, before we delve into the specifics of this acquisition, can you explain what RNG is, and how biogas upgrading relates to this?

A. For sure.

RNG, which is also called biomethane, is produced from organic waste in landfills, household waste, agricultural waste and wastewater sludge. The decomposition of this organic matter results in a biogas, which is then captured and purified to produce carbon neutral RNG. This upgrading/purifying of a biogas into an RNG is called the biogas upgrading process, and is typically done by cleaning, drying, and separating the methane in the biogas into an RNG.

Why is this done? Because this biogas emitted from a landfill (as an example), and which has been converted into an RNG, can now be sold into the natural gas pipeline network thereby reducing the need for conventional gas. This process has essentially repurposed damaging greenhouse gasses (“GHG”) emitted from a landfill into a valuable product.

What is even more interesting is that governments are now legislating gas distributors to incorporate minimum amounts of RNG into their pipelines. This has, in turn, created a huge need for biogas upgrading facilities worldwide, but particularly in North America, and it is this need that AST is targeting.

The movement to transition economies to net zero emissions is evidenced in the US’ commitment to cut GHG emissions in half by 2030, and to zero by no later than 2050.¹

In our own backyard, in Québec, we are already seeing this movement towards incorporating RNG into traditional gas pipelines. When the Québec government recently unveiled its ambitious plans for a green economy, they incorporated RNG and green hydrogen initiatives as a strategy to reduce GHG emissions. In their 2030 plan for a green economy, the Québec Government launched its first implementation plan, covering 2021-2026, and which was backed by a budget of no less than \$6.7 billion over the ensuing five years. More specifically, it earmarked over \$200 million for RNG projects in the form of investments in the financing of RNG production and distribution projects.²

PyroGenesis believes that AST’s experience in biogas upgrading, combined with PyroGenesis’ engineering and multidisciplinary skills, as well as its proven record of meeting the exacting demands of multibillion dollar companies and the US military, positions the combination well to address the opportunities arising from this growing need to clean biogas.

More precisely, PyroGenesis’ acquisition of AST will finally allow AST to realize its full potential by providing the skill set and assets which have been in need at AST, and the lack of which have been an impediment to their growth. Amongst these are access to PyroGenesis’ (i) solid quality management system, including ISO 9001 certification, (ii) multidisciplinary team of engineers (including process, mechanical and electrical engineering) and modeling capabilities (CFD, 3D mechanical, FEM analysis, process modeling), (iii) valorization of intellectual property through patenting of innovations, (iv) newly upgraded state-of-the art fabrication and warehousing facility allowing for quick turnaround of equipment and parts to customers, and (v) over 30 years history with a long list of high-profile customers.

¹ <https://www.nbcnews.com/politics/white-house/biden-will-commit-halving-u-s-emissions-2030-part-paris-n1264892>

² <https://www.bioenergy-news.com/news/rng-included-in-quebec-governments-green-economy-plans/>

Q2. Can you expand on this opportunity?

A. Sure.

Biogas production in North America is an industry on the verge of explosive growth and with significant potential for additional expansion and development.

The North American biogas market is vastly under-utilized when compared to other parts of the world; there are under 2,500 sites producing biogas in North America as compared to over 10,000 sites in Europe.³ According to the Canadian Biogas Association, the full potential of biogas development should lead to an additional 1,800 separate construction projects requiring a capital investment of approx. \$7 billion and with further economic spin-offs of over \$20 billion. The global biogas market size was US \$25.5 billion in 2019 and is projected to reach US \$31.69 billion by 2027, exhibiting a CAGR of 5.30% during the forecast period (2020-2027).⁴

It is important to note that this projected RNG growth is highly dependent on the biogas production industry reaching capacity, and it is this exact need that AST targets.

There are only 130 plants currently producing RNG in North America, with a potential need for an additional 100 over the next two (2) years, and an additional one thousand in the two (2) to ten (10) year time horizon.⁵ It is this explosive growth that PyroGenesis seeks to address with this acquisition.

Q3. Who is AirScience and what role do they play in this RNG process and reduction of GHG emissions, and are there any additional synergies with PyroGenesis' traditional offerings?

A. AST is a Canadian company formed in 1993 from the merger of two companies, one Canadian and one American. AST offers technologies, equipment, and expertise in the area of biogas upgrading as well as air pollution controls.

AST is known for its line of landfill gas flares which reduce GHG emissions specifically from landfills. AST complements these offerings with technologies geared towards the desulfurization, dehumidification, and purification of biogas, as well as the production of RNG through the removal of carbon dioxide.

Separately, AST is also active in the purification of coke-oven gas (a by-product in the primary steel industry arising from the conversion of coal into coke), into high purity hydrogen, which is

³ <https://biogasassociation.ca/> and <https://americanbiogascouncil.org/biogas-market-snapshot/>

⁴ <https://www.fortunebusinessinsights.com/industry-reports/biogas-market-100910>

⁵ Biogas World Due Diligence report

very sought after in the industry.

PyroGenesis has known AST for over 10 years, and we have been actively engaged in a due diligence process since last September. We have found that AST is well known in the marketplace and is uniquely positioned to take advantage of the need to upgrade biogas into RNG, thus reducing GHG emissions globally. They are a lean RNG developer with several projects in execution.

With thousands of sites flaring low-quality biogas across North America, there is an enormous opportunity to curb emissions and simultaneously generate revenues. Reducing carbon emissions while transforming biogas into RNG fits well with PyroGenesis' stated strategy to become a world leader in reducing GHG emissions. Specifically,

- (i) the syngas produced by PyroGenesis in, for example, its PRRS offering (the land-based offering) is very similar to the COG that is cleaned and upgraded by AST. In PyroGenesis' case, the syngas is converted into electricity and heat (both low value). In AST's case, the COG is purified, and hydrogen, which has a much higher value, is extracted from it. As such, there is an opportunity to repurpose the syngas generated by PyroGenesis' PRRS offering by leveraging off of AST's technology, and thereby create higher value products such as hydrogen, methanol and ethanol, and
- (ii) PyroGenesis' and AST's client base are unique in that they are not totally independent of each other but overlap and, to some degree, are both driven to reduce GHGs. As such, they are ideal candidates for cross selling. There is an opportunity to both cross sell PyroGenesis' clients on AST's offerings and AST's offerings to PyroGenesis' clients.

Q4. *Could you describe the transaction in more detail?*

A. Structurally, this LOI is binding on AST, but only on PyroGenesis if the Company, in its sole discretion, are satisfied with the final due diligence currently in progress.

AST currently has approximately \$10-12MM in backlog all of which is expected to be completed within 18 months, \$12-14MM in pipeline, and has posted an average gross margin over the last four years (2016-2019) in excess of 40%. The company was profitable in 2019 on approx. \$4.7MM in revenues. Projections are cash flow positive over the foreseeable future (Note: all these figures must be further verified during the final due diligence currently underway).

The transaction is for \$4.8MM payable at the Company's option, in cash or shares, at the final closing. At the closing, the full payment will be put in escrow and only released upon certain milestones being accomplished, a sample of which are:

- 1) 20% upon payment of US\$4MM (approx. Can\$5MM) under an existing letter of credit from AST's client X,
- 2) 25% upon conversion of \$4MM in pipeline to signed contracts,
- 3) 25% upon final acceptance report for client Y, and
- 4) 20% upon final acceptance test from client Z.

Q5. *In closing, you stated in your last financials that the Company will pursue a synergistic merger and acquisitions (M&A) growth strategy to augment organic growth. So, should we expect more acquisitions in the near future?*

A. As previously disclosed, the Company is implementing a conservative synergistic M&A strategy to augment its organic growth.

We have described leveraging off of our "Golden Ticket" advantage (that advantage that occurs as a result of selling directly, or being engaged directly, with the end user and, as a result, are now "inside the fence"). A Golden Ticket affords us the opportunity to either, (i) cross sell other products or, ideally, (ii) identify new areas of concern that can be uniquely addressed by PyroGenesis. We call the latter our Coffee and Donuts strategy (if you are selling coffee, you can generate additional revenues, with little additional effort, by selling donuts as well)

Our acquisition strategy has, to date, been focused exclusively on private companies which (i) leverage off of the Company's Golden Ticket advantage/Coffee & Donuts strategy and/or (ii) could uniquely benefit from the Company's engineering advantage and/or international relationships.

To answer your question, we may do one more acquisition, but our attention at this time is not to pursue any more than that. With the acquisition announced today, combined with the previously disclosed potential joint venture to convert dross residues into valuable chemicals, we feel anything more would be distracting.

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 and 2,940 m² manufacturing facilities,

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.

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