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## **Partnership With Pyrogenesis Puts Uragold In Position To Turn Quartz Projects Into Highest Purity, Lowest Cost Supplier To Solar Industry**

**Uragold (TSX Venture: UBR)**, is pleased to announce that it has entered into a *Memorandum of Understanding (“MOU”)* with, PyroGenesis Canada Inc. (<http://pyrogenesis.com>) (TSX-V: PYR), a TSX Venture 50<sup>®</sup> clean-tech company ("PyroGenesis") that designs, develops, manufactures and commercializes plasma torch products. Under the terms of a Memorandum of Understanding (“MOU”), PyroGenesis has granted Uragold a worldwide exclusive right to the usage of the *PUREVAP™ Quartz Vaporization Reactor* technology, in return for 10% of sales, with set minimums, as royalty payments. The exclusivity is limited to the transformation of quartz covered by the provisional patent.

PyroGenesis has filed a provisional patent for a new and novel process for the One Step Production of Metallurgical Grade Silicon Metal (mg Si), Solar Grade Silicon Metal (UMG Si) and Polysilicon from Quartz. The *“PUREVAP™ Quartz Vaporization Reactor* is a proprietary process that uses a plasma arc within a vacuum furnace. This unique technology should allow Uragold to convert its world-class Quartz Projects into the highest purity, lowest cost supplier of Solar Grade Silicon Metal and Polysilicon to the solar industry.

Bernard Tourillon, Chairman and CEO of Uragold stated: *“The “PUREVAP™ Quartz Vaporization Reactor is based on strong scientific basis. The literature is very clear; A Plasma arc base process can transform High Purity Quartz into Metallurgical Grade Silicon Metal. In addition, the literature also validates the fact that Plasma arc base process can be used to purify Metallurgical Grade Silicon Metal into higher value materials such as Solar Grade Silicon Metal. What is unique and ground breaking about the PyroGenesis approach is the combination of these two proven processes into one step.”*

Metallurgical testing and validation, which has already been funded and scheduled, are expected to be completed by Q1 2016.

### **GLOBAL COMPETITIVE ADVANTAGE FOR URAGOLD, QUANTUM LEAP FOR SOLAR INDUSTRY**

Bernard Tourillon, Chairman and CEO of Uragold further stated, *“The filing of the provisional patent combined with our Memorandum of Understanding (“MOU”) with PyroGenesis gives Uragold a unique competitive advantage versus all others quartz exploration ventures and will allow Uragold to go much higher in the High Purity Quartz value chain by becoming a vertically integrated silicon metal, solar grade silicon metal and polysilicon producer and becoming a major participant in the global solar industry. There is no other way to say it; this technology represents a potential quantum leap forward for the solar panel industry becoming a more competitive source of renewable energy.”*



**USD 12 BILLION ANNUAL INDUSTRY, GROWING BY 6%+ PER YEAR**

The Silicon Metal, Solar Grade Silicon Metal and Polysilicon markets are a USD 12 billion a year industry. Metallurgical Grade Silicon Metal world consumption topped 2.25Mt in 2014, exceeding US 6 billion in sales<sup>1</sup>. About 10% of 2014 global Metallurgical Grade Silicon Metal production was further refined into Solar Grade Silicon Metal and Polysilicon, worth another US 6 billion. Propelled by increased demand for Solar Grade Silicon Metal and Polysilicon for photovoltaic solar panels, global Silicon Metal demand is expected to grow by 6%+ per Annum.

**A DISRUPTIVE TECHNOLOGY – FOR MAKING SILICON METAL**

Quartz may well be the second most abundant element in the earth’s crust, High Purity Quartz deposits that can be used to make Metallurgical Grade Silicon Metal using the traditional arc furnace approach are rare, since in addition to being resistant to thermal shocks, the quartz must meet the following minimum SiO<sub>2</sub> quality and maximum impurity levels:

Min (wt.%)	Max (wt.%)		
SiO <sub>2</sub>	Al <sub>2</sub> O <sub>2</sub>	FE <sub>2</sub> O <sub>2</sub>	TiO <sub>2</sub>
99.5	0.12	0.035	0.014

The PUREVAP™ quartz vaporization reactor should allow manufacturing of Metallurgical Grade Silicon Metal using raw Quartz, from either Quartzsite and Quartz veins type deposits, with lower SiO<sub>2</sub>, higher impurity levels and lower resistance to thermal shock than the maximum threshold allowed by traditional manufacturing process, thereby allowing the transformation of material presently only good to manufacture either Frac sand, quartz counter tops or Ferrosilicium into Metallurgical Grade Silicon Metal and, potentially, Solar Grade Silicon Metal and Polysilicon.

Presently, Metallurgical Grade Silicon Metal at 98.5% purity sells for USD 2,750 per Mt<sup>2</sup>. However, costs to manufacture it range between USD 1,750 – 2,250 per Mt due to intensive capital and energy costs<sup>3</sup>. After Q2 2016, Uragold will provide the marketplace with its cash costs estimates under our new process.

**A DISRUPTIVE TECHNOLOGY FOR SOLAR GRADE Si AND POLYSILICON MANUFACTURING**

Metallurgical Grade Silicon Metals (98.5% purity) is the raw material used to make Solar Grade Silicon Metal (6N to 8N purity) and Polysilicon (9N Purity). Under current methods, refining Metallurgical Grade Silicon Metal to Solar Grade Silicon Metal and Polysilicon is a capital intensive, environmentally unfriendly and very energy demanding process, with best in class cash cost ranging between USD 10,000 to 13,000 per Mt<sup>4</sup>.

<sup>1</sup> Roskill: Silicon and Ferrosilicon: Global Industry Markets & Outlook report (2014)

<sup>2</sup> <http://www.metalprices.com/p/SiliconFreeChart>

<sup>3</sup> Globe Specialty Metals Investor\_Presentation\_June\_2012

<sup>4</sup> Polysilicon 2012-2016: Supply, Demand & Implications for the Global PV Industry GTMResearch.com



The average Capital investment required to build a new 16,000 MT per year plant to make Solar Grade Silicon Metal and Polysilicon is between \$USD 900M and \$USD 1B<sup>5</sup>. After Q2 2016, Uragold will provide the marketplace with its capital costs estimates for our new process.

Solar Grade Silicon (6N to 8N purity) presently sells for \$USD 12.81 per Kg (\$USD 12,810 per Mt), while Polysilicon (9N Purity) sells for \$USD 14.86 per Kg (\$USD 14,860 per Mt)<sup>6</sup>. After Q2 2016, Uragold will provide the marketplace with its cash costs estimates under our new process.

The *PUREVAP™ quartz vaporization reactor* distributive potential advantages is its one step direct transformation of Quartz into Solar Grade Silicon and/or Polysilicon, thereby potentially allowing Uragold to manufacture high value material (Solar Grade Silicon and Polysilicon) for the same operating cost presently being paid by traditional producers to make Metallurgical Grade Silicon using the traditional arc furnace approach.

Patrick Levasseur, President and COO of Uragold concluded, *“The interest we are receiving from global silicon metal producers for our quartz demonstrates the exceptional quality of the Roncevaux quartz and the lack of supply of High Purity Quartz. When combining our technology partnership and our properties portfolio, we are well positioned to determining the full potential of our industry leading quartz.”*

#### **MOU BETWEEN PYROGENESIS AND URAGOLD**

Salient points of the MOU, Including final terms agreed on September 28, 2015 are:

- Uragold paid \$207,000 to PyroGenesis for a series of metallurgical test of our quartz, including material not suitable to produce Silicon metal using the traditional approach.
- PyroGenesis has granted Uragold a worldwide exclusive right to the usage of the PUREVAP™ Quartz Vaporization Reactor technology in return for 10% of sales royalty payments
  - In order to maintain its Exclusive Global Right, Uragold will need to make the following minimal payments to PyroGenesis:
    - For 2016, the greater of 10% of Uragold sales of Si or \$50,000 CAD;
    - For 2017, the greater of 10% of Uragold sales of Si or \$100,000 CAD;
    - For 2018, the greater of 10% of Uragold sales of Si or \$150,000 CAD;
    - For 2019 and beyond, the greater of 10% of Uragold sales of Si or \$200,000 CAD per annum;
  - The Parties have agreed that the 2016 payment will be made immediately through the issuance of 1,000,000 Unit of Uragold Capital. Each Unit will be comprised of one (1) common share and one (1) common share purchase warrant (“Warrant”) of Uragold. Each Warrant will entitle the holder thereof to purchase one common share of the capital stock of Uragold at an exercise price of \$ 0.07 during a period of

<sup>5</sup> <http://fortune.com/2015/09/16/solar-startup-iceland-factory/>

<sup>6</sup> <http://pvinsights.com/>



36 months from the date of the issuance of the Units. Each Unit issued pursuant to this agreement will have a mandatory four (4) month holding period from the date of the issuance of the Units. The Unit issuance is subject to standard regulatory approvals.

### **About Uragold**

Uragold, with its world wide exclusive usage of the *PUREVAP™ quartz vaporization reactor*, is endeavouring to become a vertically integrated Silicon Metal, Solar Grade Silicon Metal and Polysilicon producer.

Uragold is also the largest holder of High Purity Quartz properties in Quebec, with over 3,500 Ha under claims. Despite the abundance of quartz, very few deposits are suitable for high purity applications. High Purity Quartz supplies are tightening, prices are rising, and exponential growth is forecasted. Quartz from the Roncevaux property successfully passed rigorous testing protocols of a major silicon metal producer confirming that our material is highly suited for their silicon metal production.

### **About PyroGenesis Canada Inc.**

PyroGenesis is a publicly traded Canadian company on the TSX Venture Exchange (Ticker Symbol: PYR). For more information, please visit [www.pyrogenesis.com](http://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 Company'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 Company with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Company's on-going filings with the securities regulatory authorities, which filings can be found at [www.sedar.com](http://www.sedar.com). Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company 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.*

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