

HPQ Rocks the Silicon Boat

As the world pushes ever onward with its sustainable energy goals, the demand for precursor materials continues to climb. Government incentive programs around the world are driving up the installation of photovoltaic (PV) cells every day, and high-purity polysilicon is the requisite material that makes it all possible. Already, massive quantities of the highest-grade polysilicon are used in the manufacture of silicon-based microprocessors, but the sheer surface area required for a solar-powered world means that the material will likely go into drastic undersupply as the market peaks. The last time this occurred, the spot price rose from \$60/kg in 2005 to around \$450/kg by 2008.

The fact that HPQ is also the largest holder of high-purity quartz properties in Quebec is no accident; the ability to feed their own pilot plant means that they will be better-placed than anyone to pump out polysilicon in time for the PV explosion. In fact, their pilot plant is expected to produce 200 metric tons each year, and is a mere months away from completion. Management reports that the project is on schedule and on budget, and the completed furnace is expected to be delivered at the end of summer. Refining silicon dioxide into industry standard stuff is normally an extremely costly process, but HPQ Silicon Resources Inc. (TSXV: HPQ) ("HPQ") have been developing a vertically integrated production model that should be capable of delivering a market-ready product in a single step. The guys at HPQ teamed up with renowned plasma technologists Pyrogenesis to bring into existence a quartz vaporization reactor that can create solar-grade silicon metal from a relatively poor feedstock, and at crazy-low prices.

Additionally, the company owns two gold properties in the Beauce region of Quebec that should be able to support small surface-mining operations. A memorandum of understanding was recently signed with the aim of advancing one of the projects

towards production. Once achieved, this will have the effect of supplementing the silicon operations, reducing CapEx, OpEx, as well as risk, and creating an all-round attractive proposition.

Over the last twelve months, lab tests of the plasma reactor have been entirely positive, and all payments are completely up to date. Just last month, Pyrogenesis successfully demonstrated single-stage production of PV-grade silicon metal from HPQ's feedstock, and all we are waiting for is the final results to tell us if the plant can produce the highest-purity material at volumes sufficient for the industry.

The company also wins-out on environmental impact, as its process produces 75% lower greenhouse gas emissions than the current industry standard process. The overall efficiency savings that the project entails results in a CapEx of around 5% of what would normally be expected, and less than 20% of the normal cash cost.

This summer is the final window of opportunity before full commercialization brings the cash through the doors. Once conveyor belts begin rolling and material begins to ship out, value is added daily. The solar-power market can be difficult to break into, but HPQ's technology will give them the lowest production costs I have ever seen, giving them a serious edge with which to slice into the supply chain. This process will be the only one in existence that can turn low quality quartz into high purity silicon metal in a single step, so HPQ et al are certainly worth your attention.