

November 16, 2021

**Response to Kerrisdale Capital’s (KC) Report Mentioning**

**ESG Clean Energy (ESG) and Scuderi Group (SG) Technology**

Kerrisdale Capital issued a research report on Camber Energy Inc. (CEI). It is not an independent and disinterested report. Kerrisdale Capital is a short seller that held and may still hold positions in the stock of CEI. This report includes misinformation on Scuderi Group technology and a licensing arrangement between ESG Clean Energy and Camber/Viking. We welcome this opportunity to correct this information.

**SG History**

KC suggests that SG is not an established and viable firm. That is not correct. Carmelo J. Scuderi invented the Scuderi Split-Cycle Engine and, in 2002, started the Scuderi Group, Inc. The Scuderi Group is presently a research and development company with a large and growing patent portfolio. To date, the Scuderi Group has been issued, and maintains, over 200 domestic and foreign patents covering all aspects of internal combustion engine technology, energy storage, power generation, and carbon capture. The Scuderi Group owns all the patents, and its business model is the licensing of its technology.

The Scuderi Group and the SEC entered into a settlement regarding events that took place over ten years ago. Scuderi Group neither admits nor denies the allegations in the settlement. The settlement has nothing to do with the technology or the license agreement with ESG Clean Energy or the Camber license agreement.

A review of the Scuderi Group’s response to the Wells Notice from the SEC provides much more detailed information. The entire response to the Wells notice can be downloaded from the Scuderi Group website by following the link provided [here](https://scuderigroupresponse.com/).

**The Technology and its Impact**

To assess the technology and the value of the license requires a basic understanding of the technology, licensing, the power industry, and thermodynamics - the science behind the technology. Without at least a basic understanding of these critical areas, it is impossible to accurately assess the validity of the technology or the impact of the license. KC does not understand the technology.

Kerrisdale describes the technology as “in essence, the concept of collecting the exhaust gases emitted by a natural-gas-fueled electric generator, cooling it down to distill out the water vapor, and isolating the remaining carbon dioxide”. This is not correct. The removal of the water from the exhaust is not done by simply cooling the exhaust. Condensation of water vapor is dependent on numerous psychrometric properties of air and water vapor including relative humidity, temperature, pressure, enthalpy, and the thermodynamics of energy required to accomplish the condensation. Simply trying to cool the exhaust will not work because it requires too much energy, and cooling alone will not achieve an exhaust dry enough to enable effective and efficient carbon capture utilizing solid adsorbers. One of the biggest advantages of the SG carbon capture system is the use of waste heat energy to drive the water condensation and its ability to generate carbon-free electricity utilizing its patented inverted Brayton cycle.

KC states that the Company mentions selling the captured CO2 to cannabis growers and then states that this would only cause additional CO2 to enter the atmosphere. Their conclusion claims to be based upon a study they cited in *Nature Sustainability*. This is not correct.

The study cited in *Nature Sustainability* actually states that the major contributor of greenhouse gas (GHG) emissions from cannabis growers is from the CO2 produced by the electricity generated by the main grid in whatever city the growers operate. Cannabis growers have exceptionally large energy requirements because of the high intensity lights needed for the plants and the HVAC energy needed to control the heat and humidity of the indoor facility. The study also states that cannabis growers utilize CO2 to enhance the growth cycle of the plants. The study further states that the GHGs escaping into the atmosphere come from the electricity used to bottle the CO2 and the emissions from transportation of the bottled CO2 to the facility. However, the CO2 pumped into the facility to improve the grow cycle is absorbed by the plants and in fact is counted as a reduction in overall GHG emissions.

The SG technology addresses all the GHG emissions concerns for cannabis growers. All electricity, both for lights and HVAC requirements, which is produced by the SG system, is CO2 free. In addition, the CO2 captured during the production of the electricity is supplied to the cannabis grower, essentially closing the loop on power production, CO2 capture and CO2 utilization. Furthermore, since SG is a distributed power system, it is located very close to the growers and therefore has little to no GHG emissions due to transportation. Also, because clean excess power generated by the SG inverted Brayton cycle is used for the bottling of the CO2, there is no GHG emissions from the bottling operation. Accounting for the fact that the plants consume CO2, the result is a net reduction in GHG emissions.

**The Markets**

KC seeks to downplay the size of the potential market for the technology, but Canada’s carbon tax at $40 per metric ton is the highest in the western hemisphere, and it is expected to increase to $170 per ton by 2030.[[1]](#footnote-1), [[2]](#footnote-2) This tax will have a significant negative impact on any company that emits carbon dioxide, and almost every company that consumes power will emit carbon dioxide. This is especially true for industries requiring copious amounts of energy such as all indoor growers (not just cannabis growers), data centers, and crypto mining operations.

Another primary market for the SG technology is stranded gas wells in Canada and the United States. There are thousands of stranded gas wells across the United States that are non-producing assets.[[3]](#footnote-3) By utilizing the SG technology, these stranded wells can be made into distributed clean energy power centers that produce CO2-free commodities. It is not only the technology’s ability to capture carbon that makes it attractive, but also its ability to utilize waste heat energy to produce various commodities.

**The License**

The KC report mistakenly implies that there is something unusual about the licensing agreement. This is not correct. Most technology license agreements have an upfront fee paid at the closing of the license agreement and a running royalty usually based on a percentage of revenue. (In ESG’s license with Camber part of the upfront fee will be paid in Viking stock. This furthermore underscores ESG’s belief in the technology). Higher upfront fees result in lower running royalties, and lower upfront fees result in higher running royalties. A license can have a zero upfront fee and still be very valuable to both the licensee and the licensor. The amounts are a negotiated compromise between the parties. Typically, a higher upfront fee means the licensee is assuming more risk of the technology being successful, and a lower upfront fee and a higher royalty shifts more of the risk to the licensor. A license agreement with an upfront fee of $5 million and a running royalty of 15% reflects the risk each party is willing to take. The structure of the deal does not determine its economic benefit.

A licensee is paying for the exclusive right to make, use, or sell the technology in a particular geographic area or market. Here, the licensee is paying to receive a legal monopoly in the power generation field for a technology that will potentially give them a significant advantage over every other competitor. The exclusive use of the technology enables the licensee to charge more for its products and services. It enables them to grow market share and to expand into new markets, and it enables them to take advantage of a market created by government regulations and taxes. In addition, the license includes any additional or new technology that is developed by the licensor such as compressed air energy storage, hydrogen-based CO2 recycling systems, and others.

1. https://www.futurelearn.com/info/futurelearn-international/canada-carbon-tax [↑](#footnote-ref-1)
2. https://www.statista.com/statistics/483590/prices-of-implemented-carbon-pricing-instruments-worldwide-by-select-country/ [↑](#footnote-ref-2)
3. https://netl.doe.gov/sites/default/files/2020-12/Stranded-Natural-Gas-Roadmap-04142020.pdf [↑](#footnote-ref-3)