MANTRA VENTURE GROUP, LTD.

The Most Disruptive Technology in Energy in Years

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MANTRA VENTURE GROUP, LTD. (OTC:QB - MVTG - $0.099)	
Price Target: $0.50	Rating: Speculative Buy

COMPANY SNAPSHOT

Mantra Venture Group Ltd.'s primary operating business is Mantra Energy Alternatives Ltd, a wholly owned subsidiary. Mantra's mission is to become the world leader in the production of high value, carbon negative chemicals and fuels. Its ERC system will reduce the problem greenhouse gas carbon dioxide (CO2) and convert it into a series of valuable chemicals, a form of carbon capture and recycling (CCR). There are currently 27 billion metric tons of CO2 emitted annually from fossil fuel combustion, providing an inexhaustible supply of feedstock. Mantra's first product is formic acid (HCOOH), which commands a market of approximately $1 billion.

KEY STATISTICS

Price as of 6/22/12	$0.099
52 Wk High – Low	$0.12 – 0.0042
Est. Shares Outstanding	45.1M
Market Capitalization	$4.5M
3 Mo Avg Vol	63,000
Exchange	OTC:QB

COMPANY INFORMATION

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INVESTMENT HIGHLIGHTS

Mantra Venture Group Ltd.'s Mantra Energy Alternatives subsidiary is set to introduce what may be the most disruptive technology in the energy industry in years. While the MVTG's initial target market is $1 billion, the actual market size is in the tens of billions.

Mantra's patent-pending chemical processes that convert the problem greenhouse gas CO2 into actual feedstock is like the holy grail of renewable energy utilization. MVTG's first product/application is formic acid, but with 27 billion metric tons of CO2 emitted annually, the number of applications is huge.

Mantra's strategic relationships with some of the world's leading firms provide tremendous validation of the Company's approach and market opportunities. Mantra is set to begin production of its system for a field test with Lafarge, the largest provider of building materials in North America. Other major partners include BC Hydro subsidiary Powertech to assist in the test design, and Pacific Carbon Trust, a carbon offset entity.

Once commercialization commences, the Mantra business model should result in profitability almost right away. Rather than engage in the project implementation business like most renewable energy firms, Mantra plans to license its processes and systems to a wide variety of verticals and customers. Carbon offset revenue could be in the cards as well.

While the stock will be event-driven over the coming months, we believe that the current valuation reflects only a minimal value for the Firm's technology. Given the value of the current relationships and market opportunity, we believe MVTG is undervalued and could easily reach $0.50 as milestones occur. Thus, we rate MVTG Speculative Buy.

THE VIEW FROM 10,000 FEET

Unless you have been asleep for the past few decades, you are aware that carbon dioxide (CO2) is estimated to account for up to 85% of all emitted greenhouse gases each year. Estimates suggest that up to 27 billion tons of CO2 are emitted each year. In an effort to dramatically curb carbon dioxide emissions, a number of carbon emission management strategies have been enacted and explored.

The only currently viable option in wide use today is known as Carbon Capture and Storage (CSS). According the Carbon Capture and Storage Association, CCS is a technology that can capture up to 90% of the carbon dioxide (CO2) emissions produced from the use of fossil fuels in electricity generation and industrial processes, preventing the CO2 from entering the atmosphere.

The CCS chain consists of three parts: CO2 capture, CO2 transport and CO2 storage underground in depleted oil and gas fields or deep saline aquifer formations. Capture technologies enable the separation of CO2 from gases produced in electricity generation and industrial processes by one of three methods: pre-combustion capture, post-combustion capture and oxyfuel combustion.

CO2 is then transported by pipeline or by ship for safe storage. Millions of tons of CO2 are already transported annually for commercial purposes by road tanker, ship and pipelines. The CO2 is then stored in carefully selected geological rock formation that are typically located several miles below the earth's surface.

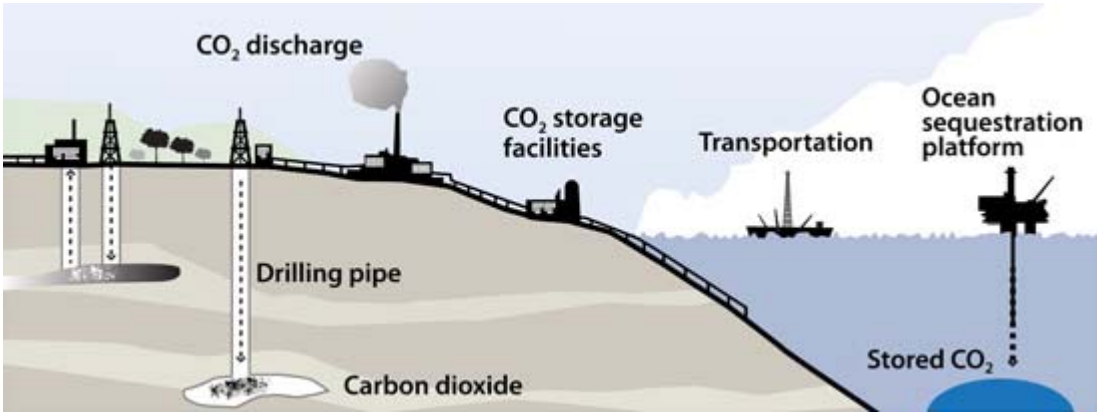

Image I. The Carbon Capture and Storage Process
Source: Mantra Energy Alternatives, Ltd.

While on the surface this method seems reasonable, it is actually fraught with serious issues. Ironically, the two primary factors that are actually driving this train are also the greatest problems; environmental concerns and economics.

Storage site leakage is a major risk to the environment which could result in major health problems, legal and regulatory issues. Plus, the cost of transportation and even the ability to scale this method is not cheap and has its limitations. As a result, the industry is screaming for an alternative that is truly carbon negative, has good economics, and does not potentially pass on one environmental problem for another.

MANTRA AND THE ERC

In November 2007, Mantra acquired the 100% outright ownership of a chemical processing technology developed by the University of British Columbia's Clean Energy Research Center, entitled the Electroreduction of Carbon Dioxide (ERC). Powered by renewable energy, ERC combines captured carbon dioxide with water to produce high value materials, including: formic acid, formate salts, oxalic acid, and methanol. As a result, Mantra's ERC is one of very few examples of true Carbon Capture and Recycling, versus Carbon Capture and Storage. Moreover, we believe that Mantra's ERC process may be the only viable, large-scale alternative. The Company has been awarded one patent for the process and others are pending.

An ERC Primer

One of the keys to the elegance of the proprietary process is the science itself. The ERC is based upon electrochemistry, an established and well understood branch of chemicals processing. Electrochemistry is developed first for a single cell, and each cell thereafter is identical to the others. Scale up is a matter of installing the number of cells needed to meet the production goal, not of developing and expanding a single chemical process. By introducing H2O and power to the captured CO2 the ERC engages in an Electroreduction of the CO2, thereby harnessing the chemical power and properties of the CO2 as a feedstock for other uses. Therefore, Mantra is truly able to generate byproducts worth billions in revenue from the massive fossil fuel emissions. Interestingly, not only can the process also be driven by renewable energy but there is potential for this technology to be applied in a closed-loop fuel cell cycle, whereby carbon dioxide is converted into a fuel that is then used in the cell to generate energy.

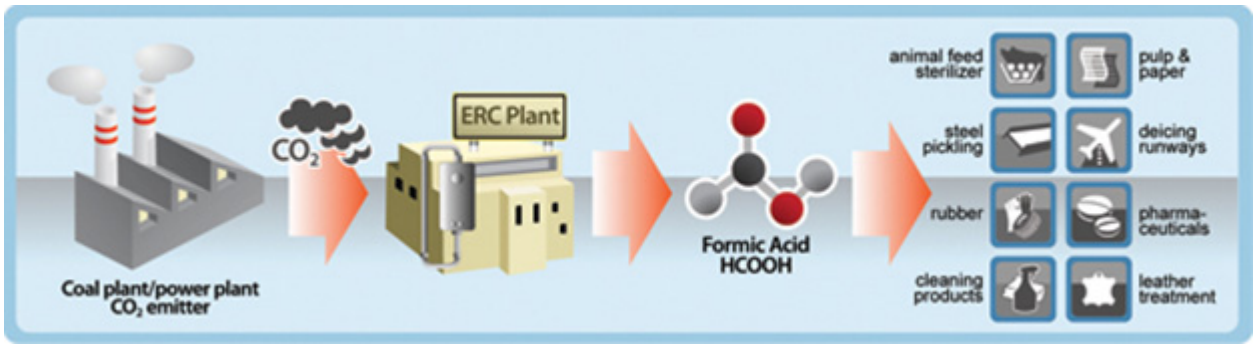

Image II. The Mantra ERC Process
Source: Mantra Energy Alternatives, Ltd.

There are many potential industrial applications for the byproducts produced by the ERC which represent markets in the tens of billions, if not hundreds of billions of dollars annually. These include the uses in the production of cement, coal power, natural gas, iron and steel, petrochemicals, aluminum, oil sands and others. Thus, the prospective end user list of the ERC-byproduct product offering includes utilities, especially those burning coal to generate electric energy, portland cement producers (which emit approximately 1 metric ton of CO2 for every ton of product, as well as the steel, oil and gas, and chemical industries. Mantra is initially focused on the production of formic acid, or formate. Formic acid serves as a building block chemical to such industry applications as pharmaceuticals, textiles, rubber, pulp and paper, transportation, and plastics.

In fact, sodium formate and formic acid, two of the main by-products of ERC, currently have an average market value of $1,200/ton, with more than 600,000 tons of formic acid produced annually. Their applications are diverse, including feedstock preservatives, de-icing solutions, cleaning solutions and baking soda and others. In addition, Mantra has identified several potential applications for formic acid that would lead to a prolific expansion in market demand, such as steel pickling, fuel cell development and fuel additives.

While the Company has successfully executed comprehensive testing of the ERC under laboratory conditions, the next stage is to initiate a field trial on a major industrial site.

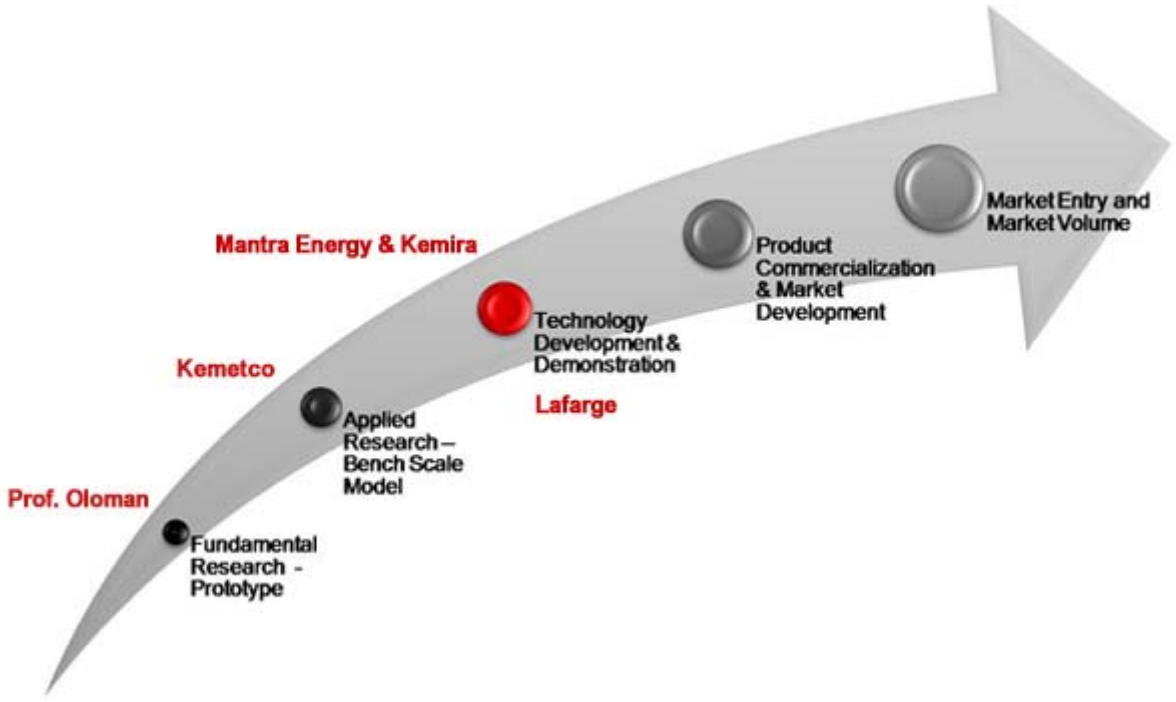

Image II. The Evolution of the Mantra ERC
Source: Mantra Energy Alternatives, Ltd.

Other Players Must Have "Partner Envy"

For a company of Mantra's size to have the type of strategic partners in its arsenal is nothing short of remarkable. In our view, larger firms in the energy space should have "partner envy", as these relationships are a tremendous validation of the Company's approach. Mantra is partnered with a $12B market cap company, Lafarge (OTC – LFRGY), the largest building materials provider in North America and Powertech Labs Inc., a subsidiary of Canadian utility BC Hydro that specializes in the design and testing of clean energy systems.

Following construction of the larger ERC system, the Company's first pilot project being developed by Powertech will be sited at the Lafarge Canada Richmond, B.C. plant. The pilot project aims to develop a plant that is capable of converting up to 100 kilograms of CO_2 per day to formate salts or formic acid, and that can operate 24 hours per day. This project will enable Mantra and its partner to gather data, performance and economic analysis and even execute technology improvements to the ERC process. Recent tests have already shown a compelling 20-25% return on investment (ROI) and it is expected that this trial will illustrate similar results.

This on-site demonstration will likely begin in 2013 and not only result in future pilot projects but product commercialization as well. As a result, we anticipate that the Company could quickly generate tens of millions in license and royalty revenue through partnerships with major industrial greenhouse gas emitters and users of formic acid alone. Interestingly, the Company's relationship with Pacific Carbon Trust, a carbon offset entity, could be a major wild card in terms of additional revenue through carbon credits as well. Carbon credits create a market for reducing greenhouse emissions by giving a monetary value to the cost of polluting the air.

COMPETITIVE ADVANTAGES

Although we have only addressed the CCS method of reducing carbon CO2 emissions, there are competing companies and methods that should be noted. Calera, a U.S. development stage company using an ERC methodology similar to that of Mantra has received tens of millions of dollars of major VC investment, does not appear to be knocking on the field test door yet, as its work has seemed to strictly remain in the lab. Nor does it have the type of partners as Mantra, at this stage. Another competitor based in Iceland is focused on the geothermal input versus electricity, which has significant limitations, including the requirement that sites must be in close proximity to geothermal power facilities. Therefore, we maintain that Mantra is at the head of the class in the alternative carbon emission reduction arena.

THE MANTRA TEAM

Larry Kristof – Founder
Larry Kristof has over 15 years of experience in business development and corporate leadership. In 2003, Mr. Kristof co-founded Lexington Energy – a company engaged in manufacturing and leasing oilfield service equipment to oil and gas, and other oil field service companies. Under Mr. Kristof's direction, Lexington introduced the first nitrogen-on-demand system to Alberta oil markets. The technology represented a significant advancement in the application of nitrogen technology, with purification capabilities of 98-99.5%. Lexington later became the first manufacturer of drilling systems specifically designed for oil sands exploration coring. Through the successful introduction of these technologies, the company transitioned from concept through to a revenue generating company with assets of over $7 Million during Kristof's time with the company. After recording corporate revenues of $2 Million in the first two quarters of 2007, Mr. Kristof resigned from Lexington Energy to focus full-time on the Green Tech sector as Founder of Mantra Venture Group Ltd.

Tom Unger, Vice-President, Corporate Finance
Mr. Tom Unger as the company's vice president of corporate finance. Mr. Unger has been a member of Mantra's board of directors since February 20, 2012. He joins Mantra with a background in sales and capital raising, having worked most recently with the Fast Track Group, a financial consulting firm, and Vision Investment Properties, a Vancouver based real estate investment advisory firm.

Jonathan Michael Boughen, Director
From May of 2000 to January of 2006, Mr. Boughen was a sales manager at Ropak Corporation, a company that specializes in plastic packaging, container and film technologies worldwide. His responsibilities and duties included managing the sales team and key distributors and sharing the profit and loss responsibility with the Regional Plant Manager.

Since June of 2006, Mr. Boughen has been a general manager at Scientek Technology Corporation, a company that specializes in building hospital and laboratory products such as washers and dryers for the processing of surgical instruments and utensils, O. R. carts, and laboratory glassware. His responsibilities and duties includes leading the company with full profit and loss responsibility and managing the sales and growth profit through major changes in technology and currency value in a highly competitive market. Mr. Boughen was appointed as a member to our board of directors due to his success with business enterprises.

Kemetco Research Inc.:

Norman Chow, P.Eng
President, Director, Industrial Process, Kemetco Research Inc.

Norman Chow earned a B.A.Sc. in Metals and Materials Engineering from the University of British Columbia, graduating top of his class. Continuing his education, he received a Masters of Applied Science Degree and then became a Registered Professional Engineer (P. Eng.) in British Columbia. Mr. Chow has over 10 years of technology development experience and contract research experience. His background includes technology development, business management, international sales, project management and manufacturing.

Mr. Chow co-invented a patented electrochemical metal cleaning process that is currently used in approximately 50 systems spanning 12 countries. In addition, Mr. Chow has taken two companies from concept to commercialization and has built over 20 demonstration and commercial projects around the globe. He has been the winner of several prestigious awards that recognize his skills in engineering and business. In 1996, his patented metal cleaning technology won the Financial Post Gold Award for being the Top Environmental Technology in Canada, and then in 2004 he was named the winner of the Business in Vancouver Top Forty under 40 Award.

Joey Jung, MA.Sc, P.Eng
Research Engineer, Kemetco Research Inc.

Joey Jung earned his Masters of Applied Science Degree from the University of British Columbia in Chemical Engineering and subsequently became a Registered Professional Engineer (P. Eng.) in British Columbia. He has had a successful career in electrochemical engineering and battery research, formerly serving as Vice President and Chief Technology Officer of a battery development company.

Advisory:

Professor Emeritus Colin Oloman
P.Eng, Scientific Advisory Board Member and Consulting Scientist.

Professor Emeritus Colin Oloman has achieved many notable milestones throughout his career, including: designing, engineering, installing and operating Canada's first pilot plant for scrubbing hydrogen sulphide from pulp mill recovery furnace flue gas (1965 - 1967); co inventing the Electro-Luber™ system and taking it from conception in 1976 to start-up in 1982 (http://www.atselectrolube.com/index. php); and designing, engineering, installing and operating a 1000 Amp (20 kW), 10 cell perforated bipole electrochemical reactor for production of alkaline peroxide (1984). he also shared the responsibility for the design, engineering, start-up and operation of two key projects: Australia's first installation of oil, coal and oxygen injection to an iron blast furnace (1962-1964), and a pilot plant for the electrosynthesis of tetrahydroanthraquinone (1983-85).

Professor Oloman has acted as a consultant in the research and development of various electrochemical processes, including: the electrosynthesis of sodium chlorite, electrocoagulation for purification of bilge waters,

and electrosynthesis of hydrogen peroxide. He has authored or co-authored three books and has authored or co-authored over 45 proprietary reports and publications in technical journals. He is the inventor or co-inventor of some twenty US and international patents, including MRFC (inventor) and ERC (co-inventor).

Prof. Emeritus Oloman has been a member of Mantra's Scientific Advisory Board since November 2, 2007.

RISK FACTORS

In our view, MVTG's biggest risk is the timing of the start of field trials and the length of the trial, versus the results. A secondary concern would be the typical delays associated with long-term project financing for prospective customers, which could result in commercialization delays, even in a license model. Execution risks could push meaningful revenue generation out to a later date, or in a smaller initial ramp, thus impacting the Company's revenue ramp or time to profitability. Competition from larger firms or even from newer entrants is a typical concern and is also consistent with firms of Mantra's size and standing.

VALUATION AND CONCLUSION

Given its status as a disruptive force in the potentially huge alternative carbon emission reduction space, and the validation of the approach by its major league partners, we believe that Mantra is a great way to play the renewable energy space. With an enviable signature demonstration site with Lafarge in the coming months, we expect additional pilot projects and partners could come on line, which could result in a number of licensing opportunities. While the stock will be event-driven over the coming months, we believe that the current valuation reflects only a minimal value for the Firm's technology and essentially zero value for its current relationships and market opportunity. As a result, we believe MVTG is undervalued and could easily reach $0.50 as milestones occur. We rate MVTG Speculative Buy.

Recent Trading History For MVTG

(Source: Stockta.com)

Analyst: Robert Goldman

Rob Goldman has over 20 years of investment and company research experience as a senior research analyst and as a portfolio and mutual fund manager. During his tenure as a sell side analyst, Rob was a senior member of Piper Jaffray's Technology and Communications teams. Prior to joining Piper, Rob led Josephthal & Co.'s Washington-based Emerging Growth Research Group. In addition to his sell-side experience Rob served as Chief Investment Officer of a boutique investment management firm and Blue and White Investment Management, where he managed Small Cap Growth portfolios and *The Blue and White Fund*.

Analyst Certification

I, Robert Goldman, hereby certify that the view expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the recommendations or views expressed in this research report.

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