Clean Coal Technologies Inc.
Form 10-K
March 16, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the year ended: December 31, 2017

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number: 000-53557

CLEAN COAL TECHNOLOGIES, INC.
(Exact name of small business issuer as specified in its charter)

NEVADA	26-1079442
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

295 Madison Avenue (12th Floor), New York, NY	10017
(Address of principal executive offices)	(Zip Code)

(646) 710-3549
(Issuer's telephone number)

Securities registered pursuant to Section 12(b) of the Exchange Act:

Title of each class	Name of each exchange on which registered
None	N/A

Securities registered pursuant to Section 12(g) of the Exchange Act:

Title of class
Common Stock

Indicate by check mark if the Registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. YES NO

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES NO

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	Accelerated filer	Non-accelerated filer	Smaller reporting company	Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected to not use the extended transition period for complying with any new or revisited financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. YES NO

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second quarter.

The market value of the voting and non-voting common stock is $12,257,662 based on 91,475,091 shares held by non-affiliates. The shares were valued at $0.134 per share, that being the closing price on June 30, 2017, the last business day of the registrant's most recently completed second quarter.

As of December 31, 2017 the total number of outstanding common shares was 148,972,419 and as of March 16, 2018 the total number was 148,972,419.

Documents Incorporated by Reference

None.

CLEAN COAL TECHNOLOGIES, INC.
2017 ANNUAL REPORT ON FORM 10-K

TABLE OF CONTENTS

		Page
PART I		
ITEM 1.	BUSINESS	1
ITEM 1A.	RISK FACTORS	9
ITEM 1B.	UNRESOLVED STAFF COMMENTS	12
ITEM 2.	PROPERTIES	12
ITEM 3.	LEGAL PROCEEDINGS	12
PART II		
ITEM 5.	MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES	13
ITEM 6.	SELECTED FINANCIAL DATA	13
ITEM 7.	MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	14
ITEM 7A.	QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	16
ITEM 8.	FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	17
ITEM 9.	CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	35
ITEM 9A.	CONTROLS AND PROCEDURES	35
PART III		
ITEM 10.	DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT	36
ITEM 11.	EXECUTIVE COMPENSATION	39
ITEM 12.	SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	42
ITEM 13.	CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE	42
ITEM 14.	PRINCIPAL ACCOUNTING FEES AND SERVICES	43
PART IV		
ITEM 15.	EXHIBITS AND FINANCIAL STATEMENT SCHEDULES	44

Table of Contents

PART I

ITEM 1. BUSINESS

Forward-Looking and Cautionary Statements

Except for statements of historical fact, certain information in this document contains “forward-looking statements” that involve substantial risks and uncertainties. You can identify these statements by forward-looking words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “should,” “would,” or similar words. The statements th these or similar words should be read carefully because these statements discuss our future expectations, contain projections of our future results of operations, or of our financial position, or state other “forward-looking” information. Clean Coal believes that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control. Further, we urge you to be cautious of the forward-looking statements that are contained in this Annual Report because they involve risks, uncertainties and other factors affecting our technology, planned operations, market growth, products and licenses. These factors may cause our actual results and achievements, whether expressed or implied, to differ materially from the expectations we describe in our forward-looking statements. The occurrence of any of these events could have a material adverse effect on our business, results of operations and financial position.

Overview

Over the past decade, Clean Coal Technologies, Inc. has developed processes that address what we believe are the key technology priorities of the global coal industry. We currently have three processes in our intellectual property portfolio:

The original process, called Pristine, is designed to remove moisture and volatile matter, rendering a high-efficiency, cleaner thermal coal. The process has been tested successfully on bituminous and subbituminous coals, and lignite from various parts of the United States and from numerous countries around the world.

Our second process, called Pristine-M, is a low-cost coal dehydration technology. In tests, this process has succeeded in drying coal economically and stabilizing it using volatile matter released by the feed coal. Construction of our coal testing plant was completed in December 2015 and was successfully tested through April 2016 at AES Coal Power Utility in Oklahoma. Additional tests commenced and were completed in Q4 2017. This test facility has been moved from AES to Wyoming where reassembly will commence and testing of international coal is expected in Q2-Q3 2018.

Our third process, called Pristine-SA, is designed to eliminate 100% of the volatile matter in the feed coal and to achieve stable combustion by co-firing it with biomass or natural gas. The process is expected to produce a cleaner fuel that eliminates the need for emissions scrubbers and the corollary production of toxic coal ash. We anticipate that treated coal that is co-fired with other energy resources will burn as clean as natural gas.

Anticipated Benefits of the Technology:

- Reduction of undesired emissions and greenhouse gases through the removal of compounds that are not required for combustion in conventional boilers.

- Cost savings and environmental impact reduction. Our pre-combustion solution is expected to be significantly less expensive than post-combustion solutions such as emissions scrubbers. Not only are the latter prohibitively expensive, they produce coal ash containing the “scrubbed” compounds, which is dumped in toxic waste disposal sites where it may pose continuing environmental risk. Coal treated using our processes may eliminate the need for post-combustion emissions scrubbers and the resulting toxic ash.

- Potential use of compounds removed from treated coal. Volatile matter captured in the Pristine process is removed in the form of hydrocarbon liquids that we believe will be easily blended with crude oil or used as feedstock for various products. For example, sulfur, which can be removed using the Pristine process, is a basic feedstock for fertilizer. The harvesting of hydrocarbon liquids from abundant, cheaper coal is a potentially lucrative side benefit of our processes.

Successful testing of the Pristine M process resulted in an increase in BTU of the processed coal and a reduction in moisture content making it less expensive to transport (as moisture has been removed) with the end product being a dust free stabilized enhanced coal which we believe will address the issue of coal dust pollution during transportation.

- Energy Independence. To the extent that volatile matter is removed from coal, coal's use as an energy resource is greatly improved, enabling the United States and other coal-rich countries to move towards energy independence owing to coal's greater abundance.

Table of Contents

Development Status:

Pristine process. Pristine process successfully lab tested on small scale and through advanced computer modeling. As at February, 2018, various aspects of the Pristine process has been tested at our test facility at the AES coal Power plant in Oklahoma as part of the overall testing of Pristine M.

Pristine-M. Testing of the Pristine M process on Powder River Basin coal at the AES facility in Oklahoma was completed in December 2017. The Pristine M process was successfully tested and the process, engineering and science were independently proven. The test facility was moved from the AES location to Wyoming where reassembly will commence and testing of international coal is expected in Q2-Q3 2018..

Pristine-SA process. Pristine SA process analysis is at a very early stage. Further research and development is expected using the test facility at its permanent location in Wyoming.

Business Outlook

- Wyoming New Power, a related party company, has agreed to sign a two million ton per annum license agreement to use Pristine M at a location in Wyoming. They have paid a non-refundable $100,000 deposit on the license agreement. The definitive license agreement is expected to be signed within 30 days of their receipt of a commercial design that they are working on with their EPC contractor. The agreement is expected to be completed in Q2 – Q3 2018. Wyoming New Power is a Related Party because it is controlled by a party that also controls the entity, which is the major lender and significant stockholder of the Company.

- Jindal Steel & Power is expected to contract a commercial plant in Q2-Q3, 2018. Jindal is expected to send coal to be processed through our test facility immediately following its reassembly. The bespoke commercial facility design is expected after the testing.

- The Company entered into a partnership with the University of Wyoming with the sole focus of using our suite of technologies to increase the use of and value of Wyoming Powder River Basin coal. Primary focus is on utilizing our technology to extract valuable derivative products from coal.

- The Company has been engaged with AusTrade (The Australian Trade and Investment Commission) and through that relationship has partnered with three separate universities in Australia. Like the University of Wyoming these Universities have a focus on their local coal both from a beneficiation perspective and also extracting derivative by products from coal using our technology.

- The Company has engaged in discussions and met with the Minister for Coal in India and a number of the Energy governmental bodies in India in December 2017. As at March 2018 they are performing due diligence on our technology.

- The company has met with a number of the senior management of some of the largest Energy companies in India in December 2017. As at March 2018 we continue to advance commercial terms with these parties. Upon completion of the reassembly of the test facility in Wyoming arrangements are being made for these companies to send 500 tons of their coal to the facility for testing. This is expected in Q2 – Q3 2018.

- Discussions continue with the US DOE and Capitol Hill to further our technology to benefit US coal.

Technology

Our original Pristine coal treating process extracts the volatile matter (solidified gases or pollutant material) from a wide variety of coal types by heating the mineral as it transitions through several disparate heat chambers, causing the volatile matter to turn to gas and escape the coal, leaving behind a cleaner-burning fuel source. Historically, the primary technological challenge of extracting this volatile matter has been maintaining the structural and chemical integrity of the carbon, while achieving enough heat to turn the volatile matter into a gaseous state. Heating coal to temperatures well in excess of 700° Fahrenheit is necessary to quickly turn volatile matter gaseous. However, heating coal to these temperatures has generally caused the carbon in the coal to disintegrate into an unusable fine powder (coal dusting). Our patented flow process transitions the coal through several atmospherically independent heat chambers controlled at increasingly higher temperatures. These heat chambers are infused with inert gases, primarily carbon dioxide (CO2), preventing the carbon from combusting. We have identified the optimum combination of atmospheres, levels of inert gases, transport speed, and temperatures necessary to quickly extract and capture volatile matter, while maintaining the structural and chemical integrity of the coal. Using our technology, we are able to capture the volatile gases that escape the coal, and to utilize some of these gases to fuel the process, while others are captured in the form of usable byproducts, to potentially provide an ancillary revenue stream. Depending on the characteristics of the coal being cleaned, the flow processing time is expected to be in the range of 6 to 8 minutes.

Table of Contents

Our process derivatives are broadly characterized by the following three elements which vary according to the characteristics of the feed coal:

A first stream is predominantly water that is extracted from the coal. Although expected to be 100% pure (water removed from coal is condensed from its vapor state), it may contain some contaminants.

A second stream, produced in the de-volatizing stage of the process, is the condensed light hydrocarbons gases that we call “coal-derived liquids”, or CDLs. These could prove to be the most valuable component of the process. It is anticipated that the CDLs will resemble a crude oil (probably sweet crude if the sulfur content of the feed coal is low) resulting in a readily-marketable product. In the Pristine-M process, de-volatization is controlled and optimized to meet the needs of drying and stabilizing the coal, minimizing the production of gas or liquid byproducts.

The third stream is the heavy tar-like liquid potentially marketable to the asphalt and coal tar industry. This stream is entirely absent in the Pristine-M process which is focused only on the task of drying and stabilizing.

The Pristine technology has three distinct primary applications: the cleaning of coal for direct use as fuel for power stations and other industrial and commercial applications; the extraction of potentially valuable chemical by-products for commercial sale; and the use of processed coal as a feed stock for gasification and liquefaction (CTG & CTL) projects.

Pristine-M de-watering Process. During the fourth quarter of 2011, the Company filed a provisional patent application for a new technology focused on the de-watering of coal. The new process, Pristine-M, is unique in that it retains elements of the original process but has discovered a technology that stabilizes the dried coal, rendering it impermeable and easy to transport with low to no risk of spontaneous combustion. The latter results have proved elusive for the majority of companies that have entered the market with coal de-watering technologies.

The Pristine-M process, sharing some of the scientific principles and engineering components that underpin the Pristine process, is also a modular design that includes a section where the coal is partially de-volatized and then coupled to as many drying and stabilization modules as may be required to achieve a client’s desired level of production. Each of the modules is designed to handle 30-tons/hr and, similar to the Pristine process, relies on components that are primarily available off-the-shelf and have already stood the test of time as to their reliability and durability.

Pristine-SA Process. In June 2013, we filed a provisional patent application for a new process to be called Pristine-SA. The new process is designed to produce a coal product that is devoid of all volatiles and comes together with a solution for ensuring efficient and clean combustion on a level with natural gas. Now that the application on the basic concept has been filed, we expect to continue further research and development to address Pristine-SA’s potential application in various fuel and non-fuel product areas.

Our technology has been tested and proven under laboratory and pilot scale conditions in Pittsburg, PA, and the results studied by LEIDOS (previously SAIC) as well as certain potential strategic partners as part of their due diligence on CCTI and the CCTI technology. To date, testing of about 40 coal types from all over the world has been completed. We have also benchmarked our technology against the Carnegie Mellon simulation model with excellent results. Testing has shown no evidence of coal dusting, self-combustion, moisture re-absorption, or other technical concerns that might hinder commercialization. As at December 2017 we have successfully tested Powder River Basin coal at out testing facility at AES Oklahoma.

While we believe that all of our Pristine technologies offer vast potential for commercialization, our market entry strategy right now is focused on the Pristine -M technology that we believe offers an immediate opportunity to monetize our intellectual property. The specific opportunity is in Asia that, at the moment, is focused almost entirely

on the need to produce a dry and stable coal to meet the growing need of coal-fired power plants. Indonesia is currently one of the largest suppliers of thermal coal to India and China, but Indonesian coal suffers from its high moisture content and low calorific content. Since January 2017 we have engaged in advanced discussions with the representatives from the US DOE and also key representatives from Wyoming. As we successfully tested PRB at our test facility at AES it has led to a unique opportunity to upgrade PRB coal and export it through several ports in the US and also from Canadian and Mexican ports. Since our successful tests at AES coal power utility we believe that the issues currently facing the upgrading of coal and its stabilization have been effectively addressed by the Pristine-M technology and we continue to work with both US government bodies and US producers along with key international energy providers.

SAIC, LEIDOS has produced designs for both the Pristine and the Pristine-M processes. The Pristine design provides for the deployment of standard operational modules, each with annual capacity of 166,000 metric tons, providing the flexibility to be configured in accordance with customers' individual production capacity requirements. The coal cleaning process will typically be energy self-sufficient, relying upon captured methane and other byproducts to fuel the coal cleaning process. Since Q1 2017 Kiewit Engineering group have been employed to further enhance the process and update the commercial designs that were previously produced.

Table of Contents

Business Activities and Strategy

The Company's business model at this stage is simple: to license our technology to third parties and exact a license fee, as well as a royalty fee, based on plant production. Over time, as the company builds up equity capital and cash reserves, opportunities to penetrate the coal business at different points of the value chain will be considered. Among these, direct investments in low-cost reserves, partnerships in mining or industrial projects, or trading may be contemplated.

Research and development will be a key focus going forward. The highest priority will be on the commercialization of our Pristine M process, but there are various other product areas including biomass where our technology may prove relevant.

Competitive Strengths

We believe our technology and designs represent the only process that can effectively separate and capture undesired chemical compounds prior to carbon combustion in a commercially viable manner. Our process differs from competing processes through its ability to maintain the structural integrity of coal during the heating process. This is achieved through a unique design that inserts inert gas into the heating chambers, and maintains the inert atmosphere in each chamber. By inserting an inert gas into the chambers, the process allows for rapid heating of the coal and prevents coal combustion and significant coal dusting. Competing technologies have used differing methods of preventing coal combustion and dusting, albeit with limited success. Some of the particular strengths of our process include:

Pollution reduction: By heating coal prior to combustion, we are able to extract volatile matter (pollutants in the form of solidified gases) from the coal in a controlled environment, transforming coal with high levels of impurities, contaminants and other polluting elements into a more efficient, cleaner source of high energy, lower polluting fuel. Testing has demonstrated that our process removes a substantial percentage of harmful pollutants, including mercury.

Lower cost of operation: We believe that our process will be a relatively low-cost solution to the reduction of pollution at coal-fired power facilities. Our engineering consulting firm, believes that our coal cleaning process will typically not require any external energy and can be fully fueled by the methane and other byproducts that the process captures from raw coal. This effective use of byproducts contrasts markedly with emissions scrubbers that generally use a portion of the generated power and have high initial capital and maintenance costs. In addition, our process may have certain advantages in terms of the pollutants removed that can be utilized in a complementary manner with other processes including scrubbers.

Increased flexibility in feedstock: Our process eliminates both the moisture and volatile matter in raw coal, increasing the heat capacity of standard sub-bituminous low-rank raw coal from approximately 8,800 BTUs to an average of 12,000 BTUs. We believe the process can increase heat capacity of lignite raw coal ranging from 4,000-7,000 BTUs to a range of 9,000-10,000 BTUs. As the worldwide supply of high-BTU bituminous coal dwindles, our technology may enable coal-fired plants to effectively utilize the abundance of low-rank coal. Results will differ depending on the coal being processed.

Favorable price arbitrage: Low-rank coal in Asia with a heat content of 7,000 – 9,000 BTUs currently sells for at a significant discount to high-BTU bituminous coal with a heat capacity of 10,000+ BTUs, as can be observed in various international price indices, among them, the Baltic Dry Bulk Index. Our process essentially transforms low-grade coal into bituminous coal at a direct operating cost of an estimated $3.50 per ton, capturing the value of higher-grade coal prices.

Potential tax benefits: This will be clearer under the new US Administration and the new laws being passed

Competition

At this filing, the coal upgrade industry globally, excluding coking processes, remains in its infancy. The penetration rate of technologies focused on de-watering coal is well under 1% based on annual production of thermal coals measured in the billions of tons. There are numerous competitors in the pre-combustion, upgrade segment but many of these have failed, are inactive, or in pilot mode. The Company believes that given its successful testing of its Pristine M process it will be able to enjoy early-mover advantage in 2018.

The difficulties experienced by the Company's competitors fall into three categories: the technologies have failed to scale up; they are expensive and, therefore, challenge the economics of the process; or they have failed to produce a stable end product, that is, a product that does not reabsorb moisture and is safe to transport with minimal risk of spontaneous combustion. From a scale-up perspective, CCTI's Pristine M technology faces a much smaller challenge as it is a modular system built around well-known and proven components. From our 2-ton per hour prototype to our 30-ton per hour standard commercial module, initial scale-up is a 1:15 proposition that is considered very modest from an engineering perspective. Scalability issues are mitigated by the modular nature of the industrial design that, once the basic module is operational, further scale up is achieved by adding identical modules. We consider it a major competitive advantage that our clients who build large capacity, single-unit plants based on what are likely to be new and untested components.

Table of Contents

From a plant reliability and maintenance perspective, our modular design brings many advantages that the Company believes enhance the competitiveness of its offering. The major benefits are the ability to carry on maintenance on one module while the other modules continue to operate. Down-time can be minimized. Similarly, if a component breaks down, it does not incapacitate the entire plant. It is localized to a single module.

From a planning perspective, mine operators would be able to expand their capacity piecemeal rather than in step-wise fashion by large-scale increments. This mitigates much of the financial risk normally attendant on large-scale plant expansions and, over time, our modular design may prove to be one of the most significant competitive advantages of our process.

Another significant competitive advantage of either of the Company's processes is that these do not require crushing of the coal, thereby minimizing if not entirely eliminating the need for costly briquetting. CCTI's plant economics are compelling as they derive much of the process heat from the feed coal itself, rendering the processes very energy efficient. The processes require a modest amount of electric power and a small number of operatives. Consequently, our operating costs are very competitive.

The Pristine process not only removes the moisture, but also removes undesired volatiles which we capture as a chemical "soup" that may be further refined by us, or sold directly to chemical manufacturers, or refineries as a complementary revenue source. The Pristine process addresses a very different market need than the Pristine M Technology and therefore enables CCTI to offer a more diverse product slate to our potential customers than most, if not all, our existing competitor base.

We consider our most direct competition in the reduction of coal emissions comes from companies offering pre-combustion cleaning designed to remove impurities. However, post-combustion filtering or "scrubbers" designed to filter released gases are a clear alternative for coal-fired power producers. We are not in competition with suppliers of emissions scrubbers, except to the extent that that burning a cleaner fuel is more economical than post-combustion solutions.

The best known present and past competitors in the pre-combustion area include Evergreen Energy, Inc. ("Evergreen"), Kobe Steel ("Kobe"), GTL Energy ("GTL") and White Energy ("White Energy"), both the latter of which are Australian companies. Neither Encoal or SynCoal are currently operational having experienced serious problem in the area of product stability. There are operators that utilize older, less efficient technologies such as the Fleissner process, but these are not as effective the newer technologies. Evergreen, based in Denver, Colorado, developed a technology primarily focused on reducing the moisture in raw coal to increase its heating capacity. The company declared bankruptcy in 2012 after suffering problems having to do with the stability of the end product. CoalTek, based in Tucker, Georgia, claims its patent-pending process uses electromagnetic energy to reduce contaminants and moisture in coal prior to combustion. While public information is limited, we believe the amount of energy necessary to run the electromagnetic process may offset any economic benefits of the upgraded coal. The Australian processes use a combination of heat and compaction to remove moisture from coal. The company is not in commercial mode. White Energy claims that compaction generates close bonding between the dried coal particles to form a high density, higher energy content briquette. Energy requirements for heating coal an operating a pelletizer are typically large but no basis or explanation is provided for the favorable cost numbers published by White Energy. During 2012, White Energy was forced to abandon further investment in its flagship 1 million ton facility in Indonesia that suffered serious operational problems. The Kobe process is proven. However, the plant is complex and, consequently, very expensive. This was indicated by the fact a one significant plant in Indonesia shuttered a Kobe plant during 2012 owing to unfavorable process economics.

Indirect competition comes from alternative low-pollution energy sources, including: wind, bio-fuels and solar; all of which need additional technological advancements, cost reduction and universal acceptance to be able to produce power at the scale of coal-fueled plants, which today produce over 40% of world's electricity according to U.S.

Department of Energy.

Patents

Our technology is the subject of U.S. patent #6,447,559, “Treatment of Coal” which was filed on November 3, 2000 based on provisional application 60/163,566 filed November 5, 1999, and issued in 2002. The patent expires in 2020. We also filed PCT international patent application PCT/US00/41772 based on this U.S. patent on November 2, 2000, and, in accordance with this, patents have been applied for in all countries where we believe our technology has application. On February 1, 2011 CCTI was awarded a continuation patent US #7,879,117.

On April 15, 2008, the Company filed a PCT International application PCT/US2008/060364based on our revised design, and national patent applications based on this PCT International application have been filed in India, China, Indonesia, Australia, South Africa, Colombia, Brazil, Chile, and the Republic of Mongolia. These were filed by our patent attorneys Nixon &Vanderhye P.C. at a cost of $33,000. On October 15, 2010, the Company filed the PCT US national phase application for its revised design as contained in PCT/US2008/060364.

Table of Contents

The April 15, 2008 application details the process of using byproducts to power the process, and details a simpler, vertical factory design with proprietary seals that help preserve the atmosphere of each chamber, compared to a horizontal design in the original filing. This application goes into great detail regarding the byproducts of the coal and their capture.

The patent details a process wherein coal is heated to different temperatures in various chambers with controlled low-oxygen atmospheres. There are seals between these chambers, serving to maintain the heat and gas content in each chamber. The invention notes the controlled de-volatilization and removal of moisture and organic volatiles, while maintaining the structural integrity of the coal and reducing the level of disintegration into powder form. The invention also notes the significantly decreased time in treating coal as compared to alternative approaches, most of which focus on moisture removal as a means of increasing calorific or BTU value.

In September, 2011, the Company filed provisional patent application Serial No. 61/531,791 that seeks to protect a new invention for the reduction of moisture inherent in coal, and stabilization of the final product. A corresponding PCT International application PCT/US2012/054160 was filed in September, 2012 and counterpart national patent applications have been filed in US, EP, Eurasia, Australia, Canada, India, Philippines, South Africa, Colombia, Mexico, Panama, Japan, South Korea, Indonesia Mongolia, Malaysia, Sri Lanka. Testing to date indicates that our stabilized product will be resistant to moisture re-absorption and safe to handle, even over long distances. The new invention draws from the scientific knowledge embedded in our existing patent, but it is an entirely new concept that is easily differentiated from the offerings of our competitors. The most novel aspect relates to the stabilization of the end product and to the ability to enhance the heat content of the coal beyond what would be normally achieved by moisture removal alone. The product is banded Pristine–M.

From a commercial perspective, Pristine-M is proving to be attractive to clients not only because of its characteristics, but because the industrial design is simple, elegant and inexpensive. We estimate that operating costs will fall between $3.50 and $4.00 per ton, including $2.00 per ton on-going maintenance. The cost of the commercial plant is expected to be highly competitive, based on preliminary estimates.

A new provisional patent application Serial No. 61/829,006 was filed by the Company in May, 2013 directed to the treatment of coal. Counterpart foreign patents has been filed based on that technology. In Q2 2013, we filed a provisional patent application for a new process to be called Pristine-SA. The new process is designed to produce a coal product that is devoid of all volatiles and comes together with a solution for ensuring efficient and clean combustion on a level with natural gas. Now that the application on the basic concept has been filed, we expect to continue further research and development to address Pristine-SA’s potential application in various fuel and non-fuel product areas.

We expect to file for additional patents as we continue the commercialization of our technology and factory design. We intend to continue to seek worldwide protection for all our technology. The following table provides a summary of our technology to date.

COUNTRY	APPLN NO	APPLN DATE	GRANT DATE	STATUS
CHIN - (China P.R.)	00818174.8	11/02/2000	02/03/2016	G - (Granted)
USA - (United States)	09/704,738	11/03/2000	09/10/2002	G - (Granted)
CANA - (Canada)	2,389,970	11/02/2000	03/27/2012	G - (Granted)
EPC - (European Patent Convention)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
TURK - (Turkey)	2002/01914	11/02/2000	06/21/2005	I - (Inactive)
PCT - (Patent Cooperation Treaty)	PCT/US2008/060364	04/15/2008		I - (Inactive)
INDO - (Indonesia)	W-00200201274	11/02/2000		F - (Pending)
USA - (United States)	11/344,179	02/01/2006	02/01/2011	G - (Granted)

HONG - (Hong Kong)	03107833.3	10/30/2003		I - (Inactive)
USA - (United States)	12/926,944	12/20/2010		I - (Inactive)
INDI - (India)	7426/DELNP/2010	04/15/2008	02/15/2016	G - (Granted)
CHIN - (China P.R.)	200880129212.2	04/15/2008	12/25/2013	G - (Granted)
INDO - (Indonesia)	W00201003932	04/15/2008		F - (Pending)
ASTL - (Australia)	2008354703	04/15/2008		I - (Inactive)
SAFR - (South Africa)	2010/07455	04/15/2008	04/25/2012	G - (Granted)
COLO - (Colombia)	10-142509	04/15/2008	11/24/2017	G - (Granted)
BRAZ - (Brazil)	PI0822577-0	04/15/2008	08/15/2017	G - (Granted)

Table of Contents

CHIL - (Chile)	01145-2010	10/19/2010	01/05/2017	G - (Granted)
MONG - (Mongolia)	4510	04/15/2008	10/25/2010	G - (Granted)
USA - (United States)	12/736,535	04/15/2008		I - (Inactive)
CHIN - (China P.R.)	201110142494.3	11/02/2000	10/14/2015	G - (Granted)
USA - (United States)	61/531,791	09/07/2011		I - (Inactive)
HONG - (Hong Kong)	11110274.3	09/29/2011	08/15/2014	G - (Granted)
HONG - (Hong Kong)	12102379.3	03/08/2012	10/21/2016	G - (Granted)
PCT - (Patent Cooperation Treaty)	PCT/US2012/054160	09/07/2012		I - (Inactive)
EPC - (European Patent Convention)	13153292.1	01/30/2013		F - (Pending)
USA - (United States)	61/829,006	05/30/2013		I - (Inactive)
USA - (United States)	13/940,026	07/11/2013		I - (Inactive)
ALBA - (Albania)	AL//P/2013/0342	11/02/2000	10/02/2013	G - (Granted)
ATRA - (Austria)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
CYPR - (Cyprus)	CY20131101169	11/02/2000	10/02/2013	G - (Granted)
GERM - (Germany)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
SPAI - (Spain)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
GBRI - (Great Britain)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
GREC - (Greece)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
IREL - (Ireland)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
ITAL - (Italy)	502013902221416	11/02/2000	10/02/2013	G - (Granted)
LATV - (Latvia)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
MACE - (Macedonia)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
PORT - (Portugal)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
ROMA - (Romania)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
SWED - (Sweden)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
SLOV - (Slovenia)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
TURK - (Turkey)	00992027.3	11/02/2000	10/02/2013	G - (Granted)
USA - (United States)	14/282,558	05/20/2014	10/25/2016	G - (Granted)
EPC - (European Patent Convention)	12845210.9	09/07/2012		F - (Pending)
EURA - (Eurasian Patent Convention)	201490565	09/07/2012	07/31/2017	G - (Granted)
ASTL - (Australia)	2012333101	09/07/2012	10/27/2016	G - (Granted)
CANA - (Canada)	2,848,068	09/07/2012		F - (Pending)
INDI - (India)	1722/DELNP/2014	09/07/2012		F - (Pending)
PHIL - (Philippines)	1-2014-500512	09/07/2012		F - (Pending)
USA - (United States)	14/343,568	09/07/2011		F - (Pending)
SAFR - (South Africa)	2014/02154	09/07/2012		F - (Pending)
COLO - (Colombia)	14068729	09/07/2012	11/23/2015	G - (Granted)
MEXI - (Mexico)	MX/a/2014/002717	09/07/2012		F - (Pending)
PANA - (Panama)	90134-01	09/07/2012		F - (Pending)
JAPA - (Japan)	2014-529896	09/07/2012	12/05/2017	G - (Granted)
KORS - (Republic of Korea)	10-2014-7008281	09/07/2012		F - (Pending)
INDO - (Indonesia)	P00201401962	09/07/2012		F - (Pending)
MONG - (Mongolia)	5304	03/25/2014	04/09/2015	G - (Granted)
MAYS - (Malaysia)	PI2014000646	09/07/2012		F - (Pending)
SRIL - (Sri Lanka)	17613	09/07/2012	02/26/2015	G - (Granted)
PCT - (Patent Cooperation Treaty)	PCT/US2014/040256	05/30/2014		I - (Inactive)
HONG - (Hong Kong)	15100135.9	01/07/2015		F - (Pending)
ASTL - (Australia)	2015202493	05/08/2015	09/14/2017	G - (Granted)
USA - (United States)	14/891,893	05/30/2014		F - (Pending)
ASTL - (Australia)	2014273996	05/30/2014		F - (Pending)

7

Table of Contents

CANA - (Canada)	2,912,824	05/30/2014	F - (Pending)
CHIN - (China P.R.)	201480030985.0	05/30/2014	F - (Pending)
COLO - (Colombia)	15-304594	05/30/2014	F - (Pending)
EPC - (European Patent Convention)	14803703.9	05/30/2014	F - (Pending)
HONG - (Hong Kong)	16112584.9	11/02/2016	F - (Pending)
INDI - (India)	11109/DELNP/2015	05/30/2014	F - (Pending)
INDO - (Indonesia)	P00201508659	05/30/2014	F - (Pending)
JAPA - (Japan)	2016-517043	05/30/2014	F - (Pending)
NEWZ - (New Zealand)	714208	05/30/2014	F - (Pending)
RUSS - (Russian Federation)	2015155730	05/30/2014	F - (Pending)
SAFR - (South Africa)	2015/08515	05/30/2014	F - (Pending)
KORS - (Republic of Korea)	10-2015-7037018	05/30/2014	F - (Pending)
CHIN - (China P.R.)	201610015312.9	01/11/2016	F - (Pending)
INDI - (India)	201618002729	01/25/2016	F - (Pending)
USA - (United States)	15/297,210	10/19/2016	F - (Pending)
HONG - (Hong Kong)	16113567.8	11/29/2016	F - (Pending)

Governmental Regulations

Environmental Regulation Affecting our Potential Market

We believe that under the Obama administration legislation and regulations had a negative impact on fossil fuel-fired, and specifically coal-fired, power generating facilities nationally and internationally. According to the U.S. Environmental Protection Agency, or EPA, power generation emits substantial levels of sulfur dioxide, nitrogen oxides, mercury and carbon dioxide into the environment. Regulation of these emissions affected the potential market for coal processed using our technology by imposing limits and caps on fossil fuel emissions. The most significant, existing national legislation and regulations affecting our potential market include the Clean Air Act, the Clean Air Interstate Rule and the Clean Air Mercury Rule, which are described further below. However, since January 20, 2017 and the current Trump administration all previous regulations implemented by the EPA continue to be under review and it is widely expected that most of them will be repealed.

Environmental Regulation Affecting the Construction and Operation of Plants Using our Technology

In the United States, future production plants using our technology will require numerous permits, approvals and certificates from appropriate federal, state and local governmental agencies before construction of each facility can begin and will be required to comply with applicable environmental laws and regulations (including obtaining operating permits) once facilities begin production. The most significant types of permits that are typically required for commercial production facilities include an operating and construction permit under the Clean Air Act, a wastewater discharge permit under the Clean Water Act, and a treatment, storage and disposal permit under the Resource Conservation and Recovery Act. Some federal programs have delegated regulatory authority to the states and, as a result, facilities may be required to secure state permits. Finally, the construction of new facilities may require review under the National Environmental Policy Act, or a state equivalent, which requires analysis of environmental impacts and, potentially, the implementation of measures to avoid or minimize these environmental impacts. We are working closely with Wyoming to assess all permitting requirements.

Any international plants will also be subject to various permitting and operational regulations specific to each country. International initiatives, such as the Kyoto Protocol/Copenhagen Accord, are expected to create increasing pressures on the electric power generation industry on a world-wide basis to reduce emissions of various pollutants, which management expects will create additional demand for our technology.

Research and Development

In association with our engineering consultants, we are continually looking to upgrade our technology and to study and define the next generation of clean coal technology. While our budget does not currently allow us to allocate a specific funding for R and D, we are continuing to work on developing new technology and upgrades to our existing technology. During 2011 we invented the new Pristine M technology which following its successful testing in 2016 and 2017 we believe has already put us at the forefront of the global moisture removal technologies. This was developed on a limited budget. Our recent partnership with the University of Wyoming is providing valuable research resources.

In the future, we anticipate a growing R&D budget that seeks to fully develop the potential of our three main processes. We will continue to evaluate our progress in new and existing technologies and will seek to fund additional needs as they arise.

Table of Contents

Employees

As of December 31, 2017, we had two full-time executives, President and CEO Robin Eves, Chief Operations Officer and Chief Financial Officer, Aiden Neary have written employment agreements. Messrs. Eves and Neary received no compensation for their participation on the Board of Directors.

The terms of the agreements described above were negotiated by and between the individuals and our Board of Directors based on the qualifications and requirements of each individual and the needs of the company; however, the negotiations may not be deemed to have been at arm's length.

ITEM 1A. RISK FACTORS

We have limited licensing revenues to date and we have made no provision for any contingency, unexpected expenses or increases in costs that may arise.

We have received only limited licensing revenues from operations to date. We have generated operational funding in fiscal 2017 from private debt and equity offerings to use for operating expenses or research and development. Since inception, we have been able to cover our operating losses from debt and equity financing. These sources of funds may not be available to cover future operating losses. If we are not able to obtain adequate sources of funds to operate our business we may not be able to continue as a going concern.

Our business strategy and plans could be adversely affected in the event we need additional financing and are unable to obtain such funding when needed. It is possible that our available funds may not be sufficient to meet our operating expenses, development plans, and capital expenditures for the next twelve months. Insufficient funds may prevent us from implementing our business strategy or may require us to delay, scale back or eliminate certain opportunities for the commercialization of our technology. If we cannot obtain necessary funding, then we may be forced to cease operations.

We may experience delays in resolving unexpected technical issues arising from the design of commercial units that will increase development costs and make the economics unattractive.

As we develop, refine and implement our technology on a commercial basis, we may have to solve technical, manufacturing and/or equipment-related issues. Some of these issues are ones that we cannot anticipate because the technology we are developing is new. If we must revise existing manufacturing processes or order specialized equipment to address a particular issue, we may not meet our projected timetable for bringing commercial operations on line. Such delays may interfere with our projected operating schedules, delay our receipt of licensing and royalty revenues from operations and decrease royalties from operations. Enhanced commercial designs are underway.

The market in which we are attempting to sell our technology is highly competitive and may attract significant additional research and development in coming years.

The market for our technology may become highly competitive on a global basis, with a number of competitors gaining significantly greater resources and greater market share than us. Because of greater resources and more widely accepted brand names, many of our competitors may be able to adapt more quickly to changes in the markets we have targeted or devote greater resources to the development and sale of new technology products. Our ability to compete is dependent on our emerging technology that may take some time to develop market acceptance. To improve our competitive position, we may need to make significant ongoing investments in service and support, marketing, sales, research and development and intellectual property protection. We may not have sufficient resources to continue to make such investments or to secure a competitive position within the market we target.

Our business depends on the protection of our patents and other intellectual property and may suffer if we are unable to adequately protect such intellectual property.

Our success and ability to compete are substantially dependent upon our intellectual property. We rely on patent laws, trade secret protection and confidentiality or license agreements with our employees, consultants, strategic partners and others to protect our intellectual property rights. However, the steps we take to protect our intellectual property rights may be inadequate. There are events that are outside of our control that pose a threat to our intellectual property rights as well as to our products and services. For example, effective intellectual property protection may not be available in every country in which we license our technology. Also, the efforts we have taken to protect our proprietary rights may not be sufficient or effective. Any impairment of our intellectual property rights could harm our business and our ability to compete. Also, protecting our intellectual property rights is costly and time consuming. Any increase in the unauthorized use of our intellectual property could make it more expensive to do business and harm our operating results. In addition, other parties may independently develop similar or competing technologies designed around any patents that may be issued to us.

Table of Contents

We have been granted several global patents and have several patents applications pending as noted in the table above. Our ability to license our technology is substantially dependent on the validity and enforcement of these patents and patents pending. We cannot assure you that our patents will not be invalidated, circumvented or challenged, that patents will be issued for our patents pending, that the rights granted under the patents will provide us competitive advantages or that our current and future patent applications will be granted.

Third parties may invalidate our patents.

Third parties may seek to challenge, invalidate, circumvent or render unenforceable any patents or proprietary rights owned by or licensed to us based on, among other things:

- subsequently discovered prior art;
- lack of entitlement to the priority of an earlier, related application; or
- failure to comply with the written description, best mode, enablement or other applicable requirements.

United States patent law requires that a patent must disclose the "best mode" of creating and using the invention covered by a patent. If the inventor of a patent knows of a better way, or "best mode," to create the invention and fails to disclose it, that failure could result in the loss of patent rights. Our decision to protect certain elements of our proprietary technologies as trade secrets and to not disclose such technologies in patent applications, may serve as a basis for third parties to challenge and ultimately invalidate certain of our related patents based on a failure to disclose the best mode of creating and using the invention claimed in the applicable patent. If a third party is successful in challenging the validity of our patents, our inability to enforce our intellectual property rights could seriously harm our business.

We may be liable for infringing the intellectual property rights of others.

Our technology may be the subject of claims of intellectual property infringement in the future. Our technology may not be able to withstand any third-party claims or rights against their use. Any intellectual property claims, with or without merit, could be time-consuming, expensive to litigate or settle, could divert resources and attention and could require us to obtain a license to use the intellectual property of third parties. We may be unable to obtain licenses from these third parties on favorable terms, if at all. Even if a license is available, we may have to pay substantial royalties to obtain it. If we cannot defend such claims or obtain necessary licenses on reasonable terms, we may be precluded from offering most or all of technology and our business and results of operations will be adversely affected.

Our ability to execute our business plan would be harmed if we are unable to retain or attract key personnel.

Our technology is being marketed by a small number of the members of our management. Our technology is being developed and refined by a small number of technical consultants. Our future success depends, to a significant extent, upon our ability to retain and attract the services of these and other key personnel. The loss of the services of one or more members of our management team or our technical consultants could hinder our ability to effectively manage our business and implement our growth strategies. Finding suitable replacements could be difficult, and competition for such personnel of similar experience is intense. We do not carry key person insurance for our officers.

Overseas development of our business is subject to international risks, which could adversely affect our ability to license profitable overseas plants.

We believe a significant portion of the growth opportunity for our business lies outside the United States. Doing business in foreign countries may expose us to many risks that are not present domestically. We lack significant

experience in dealing with such risks, including political, military, privatization, technology piracy, currency exchange and repatriation risks, and higher credit risks associated with customers. In addition, it may be more difficult for us to enforce legal obligations in foreign countries, and we may be at a disadvantage in any legal proceeding within the local jurisdiction. Local laws may also limit our ability to hold a majority interest in the projects that we develop. The Company has yet to establish any representation offices outside the United States.

Table of Contents

We do not know if coal processed using our technology is commercially viable.

We do not yet know whether coal processed using our technology can be produced and sold on a commercial basis in a cost effective manner after taking into account the cost of the feedstock, processing costs, license and royalty fees and the costs of transportation. Because we have not experienced any full scale commercial operations, we have not yet developed a guaranteed efficient cost structure. We are currently using the estimates for anticipated pricing and costs, as well as the qualities of the coal processed in the laboratory and our test facility at AES setting to make such estimates. We may experience technical problems that could make the processed coal more expensive than anticipated. Failure to address both known and unforeseen technical challenges may materially and adversely affect our business, results of operations and financial condition. Initial indications based on actual test results show a positive impact on the quality of the processed coal and based on current prices appear economically attractive.

We have experienced large net losses, have little liquidity and need to obtain funds for operations or we may not be able to continue.

We have incurred net losses since inception. The net losses to date include large non-cash expenses recorded for share-based compensation for consultants and officer compensation. However, in addition to the non-cash expenses, we had other operating expenses, funded in large part through loans from existing shareholders. In order to meet our current operating budget and anticipated contractual obligations, we estimate that we will need an additional $5,000,000 for 2017, based on our current contractual obligations. At December 31, 2017, we had total liabilities of $13,100,550 and cash of $11,773. If we cannot obtain adequate financing from new funding sources, we will be unable to continue operations or meet our contractual obligations.

Our use of equity as an alternative to cash compensation may cause excessive dilution for our current shareholders.

Due to shortage of operating funds and low liquidity, we have issued shares as compensation for services, including board and officer compensation as well as compensation for outside consultants and other services. This form of compensation has enabled us to obtain services that would not otherwise have been available to us but it has resulted in dilution to our shareholders. Unless we are able to obtain adequate financing in the immediate future, we may be forced to continue to obtain services through the issuance of shares and warrants, resulting in additional dilution to shareholders and potentially adversely affecting any return on investment.

Due to the uncertain commercial acceptance of coal processed using our technology we may not be able to realize significant licensing revenues.

While we strongly believe that a commercial market is developing both domestically and internationally for cleaner coal products such as coal processed using our technology, we may face the following risks due to the developing market for cleaner coal technology:

- limited pricing information;
- changes in the price differential between low- and high-BTU coal;
- unknown costs and methods of transportation to bring processed coal to market;
- alternative fuel supplies available at a lower price;
- the cost and availability of emissions-reducing equipment or competing technologies; failure of governments to implement and enforce new environmental standards; and
- a decline in energy prices which could make processed coal less price competitive.

If we are unable to develop markets for our processed coal, our ability to generate revenues and profits will be negatively impacted.

If we are unable to successfully construct and commercialize production plants, our ability to generate profits from our technology will be impaired.