

CLEARSIGN COMBUSTION CORP
Form 424B5
February 28, 2014

Filed pursuant to Rule 424(b)(5)

Registration No. 333-188381

PROSPECTUS SUPPLEMENT

(To the Prospectus Dated May 30, 2013)

812,500 Shares of Common Stock

We are offering up to 812,500 shares of our common stock.

Our common stock is currently traded on the NASDAQ Capital Market under the symbol "CLIR". On February 27, 2014, the closing price of our common stock was \$8.77 per share.

We are an "emerging growth company" within the meaning of the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and are subject to reduced public company reporting requirements. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in our common stock involves significant risks. Before buying any shares, you should read the discussion of material risks of investing in our common stock in "Risk Factors" beginning on page S-7 of this prospectus supplement and page 6 of the accompanying prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the prospectus to which it relates. Any representation to the contrary is a criminal offense.

Brean Capital, LLC is acting as the sole placement agent in connection with this offering. We have agreed to pay the placement agent the fees set forth in the table below, which assumes that we sell all the 812,500 shares of common stock we are offering. We have also agreed to reimburse the placement agent for certain of their expenses as described under “Plan of Distribution” in this prospectus supplement. The placement agents are not required to arrange for the sale of any specific number or dollar amount of shares of common stock, but will use reasonable efforts to arrange for the sale of all of the shares of common stock offered hereby.

| | Per Share | Total |
|---|--------------|-------------|
| Public offering price | \$ 8.00 | \$6,500,000 |
| Placement agent’s fees | \$ 0.60 | \$487,500 |
| Proceeds to ClearSign Combustion Corporation (before expenses) | \$ 7.40 | \$6,012,500 |

We expect the total offering expenses, excluding placement agent fees, to be approximately \$250,000 for all sales pursuant to the prospectus supplement. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual total offering amount, placement agent fees, and proceeds before expenses, to us are not presently determinable and may be substantially less than the maximum amounts set forth above.

Delivery of the shares will be made on or about March 5, 2014.

BREAN CAPITAL, LLC

This prospectus supplement is dated February 28, 2014

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Prospectus

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, including the documents incorporated by reference, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined together and incorporated by reference. We urge you to carefully read this prospectus supplement and the accompanying prospectus, and the documents incorporated herein and therein, before buying any of the securities being offered under this prospectus supplement. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

You should rely only on the information contained or incorporated herein by reference in this prospectus supplement and contained or incorporated therein by reference in the accompanying prospectus. We have not authorized anyone to provide you with different or additional information. If anyone provides you with different, additional or inconsistent information, you should not rely on it.

We are offering to sell, and are seeking offers to buy, the shares only in jurisdictions where such offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the shares in certain jurisdictions or to certain persons within such jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about and observe any restrictions relating to the offering of the shares and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

You should assume that the information in this prospectus supplement and the accompanying prospectus is accurate only as of the date on the front of the applicable document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement or the accompanying prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in this prospectus supplement and the accompanying prospectus when making your investment decision. You should also read and consider the information in the documents we have referred you to in the section of the accompanying prospectus entitled “Where You Can Find More Information” and “Incorporation of Certain Documents by Reference.”

This prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

In this prospectus, unless otherwise specified or the context requires otherwise, we use the terms “ClearSign,” the “Company,” “we,” “us” and “our” to refer to ClearSign Combustion Corporation.

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements.

Forward-looking statements include, without limitation, statements related to our plans, strategies, objectives, expectations, intentions and adequacy of resources. Investors are cautioned that such forward-looking statements involve risks and uncertainties. Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to:

- our limited cash and our history of losses;
- our ability to achieve profitability;
- our limited operating history;
- emerging competition and rapidly advancing technology in our industry that may outpace our technology;
- customer demand for the products and services we develop;
- the impact of competitive or alternative products, technologies and pricing;
- our ability to manufacture any products we develop;
- general economic conditions and events and the impact they may have on us and our potential customers;
- our ability to obtain adequate financing in the future;
- our ability to continue as a going concern;
- our success at managing the risks involved in the foregoing items; and
- other factors discussed in this prospectus.

In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “could,” “expect,” “plans,” “intends,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” or “continue” or the negative of such

comparable terminology. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. We do not undertake any obligation to publicly update or review any forward-looking statement.

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PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information that you should consider before investing in our securities. To fully understand this offering and its consequences to you, you should read this entire prospectus supplement and the accompanying prospectus carefully, including the information referred to under the heading “Risk Factors” in this prospectus supplement beginning on page S-7, the financial statements and other information incorporated by reference in this prospectus supplement and the accompanying prospectus when making an investment decision.

OUR BUSINESS

This is only a summary and may not contain all the information that is important to you. You should carefully read both this prospectus supplement and the accompanying prospectus carefully, including the section entitled “Risk Factors,” and our consolidated financial statements together with the additional information described under the heading “Where You Can Find More Information” in this prospectus supplement.

About ClearSign Combustion Corporation

We are a development stage company that designs and develops technologies for combustion and emissions control with the aim of improving both the operating economics and environmental performance of combustion systems. Our solutions are designed to be adapted into designs for both retrofit applications and new designs. Our core technologies currently include Electrodynamic Combustion Control™ (ECC™) and Duplex™ burner technologies. Our ECC technology introduces a computer-controlled electric field into a combustion system in order to better control gas-phase chemical reactions and improve system performance and cost-effectiveness. Our Duplex burner technology uses a unique two-tier refractory tile configuration to reduce nitrogen oxide gas (NOx) emissions without the need for external flue gas recirculation, selective catalytic reduction, or higher excess air operation. To date, our operations have been funded primarily through sales of our common stock. We have earned no significant revenue since inception on January 23, 2008.

We believe that our technology may allow prospective customers to benefit from substantially reduced costs associated with the construction (including refurbishment and upgrade), operation and maintenance of these combustion systems, as compared to combustion systems that use no or alternative technology to enhance combustion and control emissions through control of the flame. We also believe that our technology could improve emissions control performance to meet regulatory standards while yielding a significant increase in energy efficiency and a

decrease in the cost of compliance with those standards. We believe these features enable our technology to minimize harmful emissions while maximizing system efficiency.

Our Industry

The combustion and emissions control markets are significant, both in the wide array of industries in which the systems are used and in the amount of money spent in installing and upgrading systems. Nearly two-thirds of the world's total energy consumption is accounted for by combustion of hydrocarbon and other fuels in boilers, furnaces, kilns and turbines. These are used to generate electrical power, to provide heat for all manner of industrial processes and for building heat and produce more than 50 quadrillion British thermal units (BTUs) of energy annually in the U.S. In order to maximize energy efficiency while keeping pace with regulatory guidelines for air pollution emissions, operators of these systems are continually installing, maintaining and upgrading a variety of costly process control, air pollution control and monitoring systems. In its November 2013 analysis, The McIlvaine Company projected that \$44 billion will be invested globally in 2014 in equipment, instrumentation, and consumables to reduce air pollution. In April 2013, Filtration+Separation magazine estimated the 2014 NOx control technology market, a sub-market of the pollution control market, to be \$11 billion of which \$2 billion related to non-utility (e.g. commercial and industrial boiler) applications. Our current target market segments involve petroleum refining and petrochemical processing, packaged boilers, and industrial solid fuel combustors.

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Our Technology

Overview. While we have not yet commercially deployed our technology and our technology has not been tested or verified by any independent third party, we believe that if the results we have observed in our laboratory testing can be replicated on a commercial scale, our proprietary technology platform may improve energy efficiency, fuel flexibility and environmental performance for most types of industrial and commercial combustion systems. Based on the results of our laboratory testing, we believe our technology compares favorably with current industry-standard air pollution control and efficiency technologies, such as electrostatic precipitators, fabric filters, selective catalytic reduction devices, low- and ultra-low NO_x burners (which address nitrogen oxides), excess air systems and other similar technologies. Such systems account for the majority of combustion energy utilization globally, and are used in:

- electrical power generation,
- hydrocarbon and chemical processing industries,
- petroleum refining,
- gas utility turbines, and
- all manner of industrial and commercial steam generation and industrial process heat.

Technical requirements. Our ECC technology consists, in its simplest form, of four major components: (a) a computer, (b) standard software delivering proprietary algorithms to (c) a power amplifier (resident outside the combustion chamber) and (d) electrode(s) (inside the combustion chamber). The electrodes are optimized in material and shape to best suit the specific geometry of a given installation. We have also demonstrated a technique to apply ECC to a combustion system without requiring an electrode to have physical contact with the flame.

Our Duplex burner technology consists of a lower-story tile, an upper-story tile, and fuel nozzles. When the fuel is directed to the lower story tile, the resulting hot gas recirculating there anchors the flame. Once the furnace reaches its operating temperature, the fuel is anchored to the upper-story tile. This dramatically reduces NO_x by greatly increasing the amount of entrained flue gas to dilute NO_x-forming species without any external fans or power. The greater entrainment also provides more thorough mixing of fuel and air and shorter flames. More thorough mixing of gases homogenizes the combustion zone and reduces peak flame temperatures which cause NO_x formation. A shorter flame allows for improved heat transfer and operation at a higher capacity since it reduces the possibility of flame impingement and coking in a combustion chamber.

Because the basic components of both systems are available ‘off the shelf’, or require manufacturing techniques that are well within the current state of the art, we do not depend on technology external to the Company that has not yet been developed.

We believe our technology can be retrofitted to existing combustion systems to improve their performance and has the potential to provide substantial savings in both capital and operating costs, or, for new-builds, can serve as the basis for fundamental improvements in the design, cost and operation of combustion systems. We believe the economic gain realized by an operator could be significant in both reduced capital expenditures and savings in annual operating and maintenance costs (including reductions in those costs associated with fuel consumption and emissions).

The gain in energy efficiency that we expect our technology to provide in boilers, solid fuel burners, refinery heaters, and other combustion systems stems in part from our ability to precisely control the flow of hot gases within a gas volume. In most cases, efficiency is increased by increasing heat flux onto targeted surfaces and reducing heat loss from other surfaces. Additionally, because the formation of pollutants is greatly reduced at the source, the 'load' placed on downstream pollution control equipment is also reduced, which we believe could reduce both capital and operating expenses and improve financial return on investment for system operators.

Research and Development Plan. We have tested aspects of our technology on our 5,000 BTU/h and 25,000 BTU/h bench top scale prototypes, our 1 million and 5 million BTU/h research furnaces, our 1 million BTU/h boiler simulator, and our 1 million BTU/h solid fuel furnace. Our technology has not been tested or verified by any independent third party. Our research and development efforts are now focused on the following sequence of activities:

Scale up to commercially relevant sizes. We have finalized designs and built furnaces and burners at what we believe to be a commercially relevant scale. We have assembled a group of technical advisors comprised of subject matter experts in the areas of combustion, pollution control, physics, aeronautics, electrodynamics and chemistry. We have identified key potential development partners and customers with whom we are engaged in discussions to apply our technology to their particular uses at commercially relevant scales, which can be 1 million BTUs or greater.

Site demonstration at full scale. We plan to demonstrate our technology at one or more selected commercial sites. If achieved, these early site demonstrations will be aimed at retrofitting or replacing one or two burners in multi-burner systems with an eye toward evaluation of our technology at full scale in one or more operating systems.

First installation. Assuming we can successfully demonstrate our technology by retrofitting or replacing one or two burners in multi-burner systems, we plan to retrofit an entire furnace with our technology applied to all burners. We believe that such a demonstration would provide the impetus for commercial adoption within the applicable industry.

Enhancement of our intellectual property portfolio. We have generated inventions that we believe to be patentable subject matter and for which we have been seeking protection through patent application filings. As of December 31, 2013, we have filed 145 patent applications. We cannot predict when our patent applications may result in issued patents, if at all. Further, we may modify a patent application in the future as we develop additional information. As a result, we may create additional patent applications from an existing application, consolidate existing patent applications, abandon applications, or otherwise modify applications based upon our judgment in order to protect our intellectual property in a reasonably cost beneficial manner. No patents have yet been issued to us.

The Combustion Markets

Overview. We are seeking to enter the combustion and emissions control markets and to establish ourselves in highly competitive industries against companies that have both substantially greater financial resources than we do and established products. However, we believe that our technology could offer a unique and powerful ability to improve energy efficiency and enhance operation while reducing many pollutants at the source. We intend to target the following segments of the combustion market:

- process heaters for petroleum refining and petrochemical processing,

- heating systems in packaged boilers, and

- industrial solid fuel combustors

In each segment, we plan to market solutions that we believe could simultaneously improve both energy efficiency and pollution control characteristics through (a) cost-effective retrofitting of our technology onto existing standard system designs, and (b) new system designs.

Partnership Strategy. We believe that our technology has the potential to transform industries that rely upon combustion, and is broadly applicable in large, scalable, global markets.

We intend to form research and development partnerships to develop our technology within targeted segments. Among the types of potential partners we will seek to establish relationships with both in the U.S. and globally, will be:

- Large original equipment manufacturers (OEMs) interested in our technology;
- End users of OEM products and services interested in advancing the development of our technology in order to address their operational needs;
- Industry research groups, whose mission is the development and testing of new technologies for the eventual benefit of their member companies; and
- Government entities such as the U.S. Department of Energy, who are chartered with the development of longer-range and potentially disruptive energy technologies.

We currently are pursuing a broad development program with the cooperation of two companies involved in solid fuel combustion. Further, we are seeking other solid fuel dependent companies to participate in this project. Through September 30, 2013, we have received \$50,000 in co-development revenue from Covanta Energy Corporation, a waste-to-energy service company and subsidiary of Covanta Holdings Corporation, and a commercial wood pellet boiler unit from Grandeg, a privately-owned original equipment manufacturer based in Riga, Latvia.

Implications of Being an Emerging Growth Company

We are an “emerging growth company” as defined in the JOBS Act. As an emerging growth company, we can take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- requirement to provide only two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;
- reduced disclosure about our executive compensation arrangements;
- no non-binding advisory votes on executive compensation or golden parachute arrangements; and
- exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We have elected to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(1) of the JOBS Act. This election allows us to delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. As a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

We may take advantage of these provisions for up to five years from the date of our initial public offering which we consummated in 2012 or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more; (ii) the last day of our fiscal year ending December 31, 2017; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a “large accelerated filer” under the rules of the Securities and Exchange Commission.

To the extent that we continue to qualify as a “smaller reporting company,” as such term is defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, after we cease to qualify as an emerging growth company, certain

of the exemptions available to us as an emerging growth company may continue to be available to us as a smaller reporting company, including: (1) not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes Oxley Act; (2) scaled executive compensation disclosures; and (3) the requirement to provide only two years of audited financial statements, instead of three years.

Corporate Information

We were incorporated in Washington on January 23, 2008 under the name “ClearSign Combustion Corporation.” Our facilities and executive offices are located at 12870 Interurban Avenue South, Seattle, Washington 98168, and our telephone number is (206) 673-4848. We were incorporated in Washington on January 23, 2008. Additional information about us is available on our website at www.clearsign.com. The information contained on or that may be obtained from our website is not, and shall not be deemed to be, a part of this prospectus. Our common stock, par value \$0.0001 per share, is currently traded on The NASDAQ Capital Market under the ticker symbol “CLIR.”

For a description of our business, financial condition, results of operations and other important information regarding us, we refer you to our filings with the SEC incorporated by reference in this prospectus. For instructions on how to find copies of these documents, see “*Where You Can Find More Information.*”

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The Offering

Common stock offered
by us pursuant to this 812,500 Shares
prospectus supplement

Common stock to be
outstanding immediately 9,648,134 Shares
after the offering

Use of proceeds We currently intend to use the net proceeds from this offering as follows: approximately \$2 million for research and development, \$1 million for protection of intellectual property, \$1 million for business development and marketing, and the balance for working capital and general corporate purposes. See "Use of Proceeds" on page S-9 of this prospectus supplement.

Market and Trading
Symbol CLIR

Risk factors Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page S-7 of this prospectus supplement and page 6 of the accompanying base prospectus.

Placement agent's
common stock purchase
warrant In connection with this offering, we have also agreed to sell to the placement agents warrants to purchase up to 20,313 shares of common stock sold in this offering commencing on March 5, 2014 and expiring on March 5, 2019. If these warrants are exercised, each share may be purchased at \$10.00 per share (125% of the price of the shares sold in this offering).

The number of shares of common stock to be outstanding immediately after this offering as shown above is based on 9,648,134 shares of common stock outstanding as of February 27, 2014. The number of outstanding shares excludes, as of February 27, 2014:

- 685,310 shares of common stock reserved for issuance upon the exercise of outstanding stock options granted pursuant to various employee and consultant incentive plans, including our 2011 Equity Incentive Plan, at exercise prices ranging from \$2.20 to \$9.90;
- 543,959 shares of common stock reserved for issuance pursuant to our warrant purchase agreements at exercise prices ranging from \$1.80 to \$5.00, which have not yet been issued; and

- 20,313 shares of common stock underlying the warrants issued to the placement agent in connection with this offering at an exercise price of \$10.00 per share.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. Please see the risk factors set forth in Part I, Item 1A of our Annual Report on Form 10-K, which are incorporated by reference in this prospectus, and those additional risk factors set forth below. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us may also affect our business operations. These risks could materially affect our business, results of operations or financial condition and cause the value of our securities to decline.

Risks Related to Our Business

We cannot guarantee that any research and development partnership we enter into will be successful.

We intend to form research and development partnerships to develop our technology within targeted segments. Collaborative arrangements involve risks that participating parties may disagree on business decisions and strategies. These disagreements could result in delays, additional costs, risks of litigation, and failure of the development of our technology within the partnership's combustion market segment. Success of any collaborative arrangements we enter into will depend in part on whether our partners fulfill their contractual obligations satisfactorily. If our partners fail to perform their contractual obligations satisfactorily, we may be unable to make the additional investments or provide the added services that would be required to compensate for that failure. If we are unable to adequately address any such performance issues, our reputation may be materially adversely affected and the customer may exercise its right to terminate a joint project, exposing us to legal liability. Our inability to successfully maintain collaborative relationships, once we enter into them, or to enter into new collaborative arrangements, could have a material adverse effect on our results of operations.

Changes to environmental regulations could make our technology less desirable.

The negative environmental impacts of industrial activity have given rise to significant environmental regulation in industrialized countries. These regulations are important incentives in the adoption of technologies like ours. To the extent that environmental regulations in the United States and in other industrialized countries are modified in the future, or even relaxed, our technology may not produce the results required, or may even be unnecessary, to comply with the modified regulations. In that case, our business and results of operations would be materially adversely affected.

Risks Related to This Offering

We may allocate the net proceeds from this offering in ways which differ from our estimates based on our current plans and assumptions discussed in the section titled "Use of Proceeds" and with which you may not agree.

The allocation of net proceeds of the offering set forth in the "Use of Proceeds" section below represents our estimates based upon our current plans and assumptions regarding industry and general economic conditions, our future revenues and expenditures. The amounts and timing of our actual expenditures will depend on numerous factors, including market conditions, cash generated by our operations, business developments and related rate of growth. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes. Circumstances that may give rise to a change in the use of proceeds and the alternate purposes for which the proceeds may be used are discussed in the section entitled "Use of Proceeds" below. You may not have an opportunity to evaluate the economic, financial or other information on which we base our decisions on how to use our proceeds. As a result, you and other shareholders may not agree with our decisions. See "Use of Proceeds" for additional information.

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You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer immediate dilution in the net tangible book value of the common stock you purchase in this offering. After giving effect to the sale of 812,500 shares of our common stock in this offering at the offering price of \$8.00 per share, and after deducting the placement agents fees and estimated offering expenses payable by us, you will experience immediate dilution of \$7.03 per share, representing the difference between our as adjusted net tangible book value per share as of September 30, 2013 after giving effect to this offering and the offering price. See the section entitled “Dilution” for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

Sales of additional shares of our common stock, including by us or our directors and officers following expiration or early release of the two month lock-up, could cause the price of our common stock to decline.

Sales of substantial amounts of our common stock in the public market, or the availability of such shares for sale, by us or others, including the issuance of common stock upon exercise of outstanding options, could adversely affect the price of our common stock. In connection with this offering and with certain exceptions, we and our directors and officers have entered into lock-up agreements for a period of two months following this offering (which period may be extended under certain circumstances). Under the terms of the lock-up agreement, we may close any offering or offerings of our securities if (i) the gross proceeds of all offerings during the lock-up period do not exceed the gross proceeds of this offering and (ii) the price per share equals or exceeds 115% of the price at which the securities offered hereunder are sold. Further, we and our directors and officers may be released from lock-up prior to the expiration of the lock-up period at the sole discretion of Brean Capital, LLC. See “Plan of Distribution”. Upon expiration or earlier release of the lock-up, we and our directors and officers may sell shares into the market, which could adversely affect the market price of shares of our common stock.

PRICE RANGE OF OUR COMMON STOCK

Our common stock is traded under the symbol CLIR on the NASDAQ Capital Market. Trading of our common stock on the NASDAQ Capital Market began on April 25, 2012. Table 1 presents the range of high and low sales prices of our common stock since April 25, 2012.

| | High | Low |
|---|---------|--------|
| <u>2014</u> | | |
| First quarter through February 27, 2014 | \$11.75 | \$8.58 |
| <u>2013</u> | | |
| Fourth quarter ended December 31, 2013 | \$11.45 | \$5.92 |
| Third quarter ended September 30, 2013 | \$9.67 | \$6.95 |
| Second quarter ended June 30, 2013 | \$10.78 | \$6.80 |
| First quarter ended March 31, 2013 | \$7.13 | \$4.29 |
| <u>2012</u> | | |
| Fourth quarter ended December 31, 2012 | \$8.75 | \$4.01 |
| Third quarter ended September 30, 2012 | \$7.79 | \$5.50 |
| Second quarter ended June 30, 2012 | \$9.75 | \$4.00 |
| First quarter ended March 31, 2012 | N/A | N/A |

The last reported sale price of our common stock on the NASDAQ Capital Market on February 27, 2014 was \$8.77 per share.

 Holders

As of February 27, 2014, there were approximately 249 holders of record of our common stock. Additionally, shares of common stock are held by financial institutions as nominees for beneficial owners that are deposited into participant accounts at DTC, which are considered to be held of record by Cede & Co. and are included in the holders of record as one stockholder. Our stock transfer agent is VStock Transfer, LLC, 77 Spruce Street, Suite 201, Cedarhurst, NY 11516 and their phone number is 212-828-8436.

Dividends

We have not paid any cash dividends on our common stock since our inception and do not anticipate paying any cash dividends in the foreseeable future. We plan to retain our earnings, if any, to provide funds for the expansion of our business.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of the shares of common stock that we are offering hereby will be approximately \$5,763,000, after deducting the estimated placement agent fees and estimated offering expenses payable by us. We do not expect that a change in the offering price or the number of shares by these amounts would have a material effect on our use of the proceeds from this offering, although it may impact the amount of time prior to which we will need to seek additional capital.

We currently intend to use the net proceeds from this offering as follows: approximately \$2 million for research and development including capital expenditures, \$1 million for protection of intellectual property, \$1 million for business development and marketing, and the balance for working capital and general corporate purposes.

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The amounts and timing of our actual expenditures will depend on numerous factors, including market conditions, results from our research and development efforts, business developments and opportunities and related rate of growth, sales and marketing activities and competition. Accordingly, our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management with regard to the use of these net proceeds. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes. Circumstances that may give rise to a change in the use of proceeds and the alternate purposes for which the proceeds may be used include:

- the existence of unforeseen or other opportunities or the need to take advantage of changes in timing of our existing activities;

- the need or desire on our part to accelerate, increase, reduce or eliminate one or more existing initiatives due to, among other things, changing market conditions and competitive developments or interim results of research and development efforts;

- results from our business development and marketing efforts, including co-development and pilot site installation opportunities that may materialize;

- the effect of federal, state, and local regulation, including those governing emissions, of potential customers in our identified industries;

- our ability to attract development funding or to license or sell our technology to industry sponsors or other interested organizations; and/or

- strategic opportunities of which we are not currently aware present themselves (including acquisitions, joint ventures, licensing and other similar transactions).

From time to time, we evaluate these and other factors and we anticipate continuing to make such evaluations to determine if the existing allocation of resources, including the proceeds of this offering, is being optimized.

Pending the use of the net proceeds from this offering as described above, we intend to invest in investment-grade, interest-bearing instruments.

CAPITALIZATION

The following table sets forth our capitalization as of September 30, 2013 on an actual basis and on an as-adjusted basis after giving effect to the completion of this offering with a sale by us of 812,500 shares of common stock and net proceeds of \$5,763,000.

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This table should be read in conjunction with our audited and unaudited financial statements.

| | September 30, 2013 | |
|---|----------------------------|----------------------------|
| | As reported (unaudited) | As adjusted (unaudited) |
| Cash and cash equivalents | \$3,989,000 | \$9,752,000 |
| Stockholders' Equity: | | |
| Common stock, \$0.0001 par value, 62,500,000 shares authorized, 8,810,674 shares issued and outstanding, actual; 9,623,174 shares issued and outstanding, as adjusted | \$1,000 | \$1,000 |
| Additional paid-in capital | 17,715,000 | 23,478,000 |
| Deficit accumulated in the development stage | (12,804,000) | (12,804,000) |
| Total stockholders' equity | \$4,912,000 | \$10,675,000 |

DILUTION

Our net tangible book value as of September 30, 2013 was approximately \$3,588,000, or \$0.41 per share of our common stock. Our net tangible book value per share represents our total tangible assets less total liabilities divided by the number of shares of our common stock outstanding on September 30, 2013. Assuming that we issue all of the shares of our common stock offered by us at the offering price of \$8.00 per share, and after deducting the placement agents' fees and estimated offering expenses payable by us, our net tangible book value as of September 30, 2013 would have been approximately \$9.35 million, or \$0.97 per share of our common stock. This amount represents an immediate increase in net tangible book value of \$0.56 per share to our existing shareholders and an immediate dilution in net tangible book value of \$7.03 per share to new investors purchasing shares of our common stock in this offering.

We determine dilution by subtracting the adjusted net tangible book value per share after this offering from the offering price per share of our common stock. The following table illustrates the dilution in net tangible book value per share to new investors:

| | |
|--|--------|
| Public offering price per share | \$8.00 |
| Net tangible book value per share as of September 30, 2013 | \$0.41 |
| Increase per share attributable to new investors | \$0.56 |
| Adjusted net book value per share after this offering | \$0.97 |
| Dilution in net tangible book value per share to new investors | \$7.03 |

The following shares were not included in the above calculation:

563,365 shares of our common stock issuable upon exercise of stock options under our 2011 Equity Incentive Plan at a weighted average exercise price of \$3.17 per share;

543,959 shares of our common stock reserved for issuance under various outstanding warrant agreements at a weighted exercise price of \$3.92 per share;

250,395 shares of our common stock reserved for future issuance under our 2011 Equity Incentive Plan and 63,863 shares of our common stock reserved for future issuance under our 2013 Consultant Stock Plan; and

20,313 shares of our common stock issuable upon exercise of the placement agent's warrants at an exercise price of \$10.00 per share.

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Unless otherwise specifically stated, information throughout this prospectus assumes that none of our outstanding warrants to purchase shares of our common stock are exercised. To the extent that the above issued options and warrants were exercised, the pro forma net tangible book value per share of our common stock after giving effect to this offering would be \$0.35 per share, and the dilution in net tangible book value per share to investors in this offering would be \$7.15 per share.

To the extent that outstanding options or warrants are exercised, investors purchasing our common stock in this offering will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

PLAN OF DISTRIBUTION

Brean Capital, LLC is acting as the sole placement agent in connection with this offering. The placement agent may engage selected dealers to assist in the placement of the shares of common stock. The placement agent is not purchasing or selling any of the shares of common stock offered by this prospectus supplement and the accompanying prospectus, nor are they required to arrange the purchase or sale of any specific number or dollar amount of shares of common stock. The placement agent has agreed to use its commercially reasonable efforts to arrange for the sale of all of the shares of common stock offered hereby.

The placement agency agreement provides that the obligations of the placement agent is subject to certain conditions precedent, including, among other things, the absence of any material adverse change in our business and the receipt of customary opinions and closing certificates.

The placement agent proposes to arrange for the sale of the securities we are offering pursuant to this prospectus supplement to one or more investors through securities purchase agreements directly between the purchasers and us. All of the securities will be sold at the same price and, we expect, at a single closing. We established the price following negotiations with prospective investors and with reference to the prevailing market price of our common stock, recent trends in such price and other factors. It is possible that not all of the securities we are offering pursuant to this prospectus supplement will be sold at the closing, in which case our net proceeds would be reduced.

Commissions and Expenses

We have agreed to pay the placement agent an aggregate cash placement fee equal to seven and one-half percent (7.5%) of the gross proceeds in this offering. Subject to compliance with FINRA Rule 5110(f)(2)(D), we have also agreed to pay the placement agent for out-of-pocket expenses related to the offering, not to exceed \$75,000.

The following table shows the per share and total cash placement agent's fees we will pay to the placement agent in connection with the sale of the shares of our common stock offered pursuant to this prospectus supplement and the accompanying base prospectus assuming the purchase of all of the shares offered hereby:

| | |
|-----------|-----------|
| Per Share | \$0.60 |
| Total | \$487,500 |

Because there is no minimum offering amount required as a condition to closing in this offering, the actual total offering commissions, if any, are not presently determinable and may be substantially less than the maximum amount set forth above.

Our obligation to issue and sell shares of our common stock to the purchasers is subject to the conditions set forth in the securities purchase agreements, which may be waived by us at our discretion. The purchasers' obligation to purchase shares of our common stock is subject to the conditions set forth in the securities purchase agreements as well, which may also be waived.

We negotiated the price for the shares of common stock offered in this offering with the purchasers. The factors considered in determining the price included the recent market price of our common stock, the general condition of the securities market at the time of this offering, the history of, and the prospects, for the industry in which we compete, our past and present operations, and our prospects for future revenues.

We currently anticipate that the sale of the shares of our common stock will be completed on or about March 5, 2014. We estimate the total offering expenses of this offering that will be payable by us, excluding the placement agents' fee, will be approximately \$250,000, which includes legal and printing costs, various other fees and reimbursement of the placements agent's expenses. At the closing, The Depository Trust Company will credit the shares of common stock to the respective accounts of the investors.

Placement Agent Warrants

In addition, we agreed to grant compensation warrants to the placement agent to purchase a number of our common shares equal to two and one-half percent (2.5%) of the number of shares of common stock sold by us in the offering. The shares issuable upon exercise of these warrants are identical to those offered by this prospectus. We are registering hereby the warrants and the shares of common stock issuable upon exercise of the warrants. The warrants are exercisable for cash or on a cashless basis at per share exercise price equal to \$10.00 (125% of the offering price per share in this offering) commencing on a date which is six months from the date of effectiveness and expiring on a date which is no more than five years from the date of effectiveness in compliance with FINRA Rule 5110(f)(2)(H)(i). The warrants and the shares of common stock underlying the warrants have been deemed compensation by FINRA and are, therefore, subject to a 180-day lock-up pursuant to Rule 5110(g)(1) of FINRA. Brean (or permitted assignees under the Rule) will not sell, transfer, assign, pledge or hypothecate these warrants or the securities underlying these warrants, nor will it engage in any hedging, short sale, derivative, put or call transaction that would result in the effective economic disposition of these warrants or the underlying securities for a period of 180 days after the effective date. In addition, the warrants provide for registration rights upon request, in certain cases. The demand registration right provided will not be greater than five years from the date of effectiveness in compliance with FINRA Rule 5110(f)(2)(H)(iv). The piggyback registration right provided will not be greater than seven years from the effective date of the offering in compliance with FINRA Rule 5110(f)(2)(H)(v). We will bear all fees and expenses attendant to registering the securities issuable on exercise of the warrants, other than underwriting commissions incurred and payable by the holders. The exercise price and number of shares issuable upon exercise of the warrants may be adjusted in certain circumstances including in the event of a stock dividend, extraordinary cash dividend or our recapitalization, reorganization, merger or consolidation. However, the warrant exercise price or underlying shares will not be adjusted for issuances of common stock at a price below the warrant exercise price.

Indemnification

We have agreed to indemnify Brean against liabilities under the Securities Act of 1933, as amended. We have also agreed to contribute to payments Brean may be required to make in respect of such liabilities.

Lock-up Agreements

We, our officers and directors have agreed to that for a period of two months from the date of this prospectus supplement we and they will not, without the prior written consent of Brean Capital LLC, dispose of or hedge any shares of our common stock or any securities convertible into or exchangeable for our common stock. Brean Capital LLC. in its sole discretion may release any of the securities subject to these lock-up agreements at any time without notice, subject to certain exceptions. Notwithstanding the foregoing, if (i) during the last 17 days of the 2 month restricted period (i) we issue an earnings release or material news or a material event relating to our company occurs; or (ii) prior to the expiration of the two month restricted period, we announce that we will release earnings results during the 16-day period beginning on the last day of the two month restricted period, the restrictions described above shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the announcement of the material news or material event. Notwithstanding the foregoing, we may close any offering or offerings of our securities if (i) the gross proceeds of all offerings during the lock-up period do not exceed the gross proceeds of this offering and (ii) the price per share equals or exceeds 115% of the price at which the securities offered hereunder are sold.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol "CLIR."

Electronic Distribution

This prospectus supplement and the accompanying prospectus may be made available in electronic format on websites or through other online services maintained by either placement agent, or by an affiliate. Other than this prospectus supplement and the accompanying prospectus in electronic format, the information on any placement agent's website and any information contained in any other website maintained by any placement agent is not part of this prospectus supplement and the accompanying prospectus or the registration statement of which this prospectus supplement and the accompanying prospectus form a part, has not been approved and/or endorsed by us or the placement agent, and should not be relied upon by

The foregoing does not purport to be a complete statement of the terms and conditions of the placement agency agreement and the securities purchase agreements, copies of which are included as exhibits to our current report on Form 8-K that will be filed with the SEC and incorporated by reference into the Registration Statement of which this prospectus supplement forms a part. See "Where You Can Find More Information" on page S-16.

Regulation M Restrictions

The placement agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by them and any profit realized on the resale of the units sold by them while acting as a principal might be deemed to be underwriting discounts or commissions under the Securities Act. As underwriters, the placement agent would be required to comply with the requirements of the Securities Act and the Securities Exchange Act of 1934, as amended, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of units offered hereby by any placement agent acting as a principal. Under these rules and regulations, each placement agent:

- must not engage in any stabilization activity in connection with our securities; and

- must not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

Passive Market Making

In connection with this offering, the placement agent and any selling group members may engage in passive market making transactions in our common stock on the NASDAQ Stock Market in accordance with Rule 103 of Regulation M under the Securities Exchange Act of 1934, as amended, during a period before the commencement of offers or sales of common stock and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

Other

From time to time, the placement agent and its affiliates have provided, and may in the future provide, various investment banking, financial advisory and other services to us and our affiliates for which services they have received, and may in the future receive, customary fees. In the course of their businesses, the placement agent and its affiliates may actively trade our securities or loans for their own account or for the accounts of customers, and, accordingly, the placement agent and its affiliates may at any time hold long or short positions in such securities or loans.

Brean provided us with investment banking services during the 180-day period preceding the date of this prospectus supplement. We are obligated to pay Brean \$60,000 for the services that have been rendered and such fees are included in the placement agent fee equal to 7.5% of the gross proceeds in this offering. As of the date of this prospectus, no payment has been made.

We do not expect to retain the placement agent to perform any additional investment banking or other financial services for at least 90 days after the date of this prospectus supplement.

LEGAL MATTERS

Richardson & Patel, LLP, with an office at The Chrysler Building, 405 Lexington Avenue, 49th Floor, New York, New York 10174, will pass upon the validity of the securities offered in this prospectus. As of December 31, 2013, the principals of Richardson & Patel, LLP or entities controlled by its principals own 10,665 shares of our common stock. Although Richardson & Patel, LLP is not under any obligation to accept shares of our common stock in payment for services, it has done so in the past and may do so in the future. Certain legal matters relating to the offering will be passed upon for the placement agents by Sichenzia Ross Friedman Ference LLP, New York, New York.

EXPERTS

Gumbiner Savett Inc., independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2012, as set forth in their report, which is incorporated by reference in the prospectus and elsewhere in this registration statement. Our financial statements are incorporated by reference in reliance on the report of Gumbiner Savett Inc., given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933, as amended (“Securities Act”), with respect to the securities covered by this prospectus. This prospectus, which is a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information with respect to us and the securities covered by this prospectus, please see the registration statement and the exhibits filed with the registration statement. A copy of the registration statement and the exhibits filed with the registration statement may be inspected without charge at the Public Reference Room maintained by the SEC, located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC also maintains an Internet website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the website is <http://www.sec.gov>.

We are subject to the information and periodic reporting requirements of the Exchange Act and, in accordance therewith, we file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available for inspection and copying at the Public Reference Room and website of the SEC referred to above. We maintain a website at <http://www.unipixel.com>. You may access our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed pursuant to Sections 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC and applicable law permits us to “incorporate by reference” into this prospectus information that we have or may in the future file with or furnish to the SEC. This means that we can disclose important information by referring you to those documents. You should read carefully the information incorporated herein by reference because it is an important part of this prospectus. We hereby incorporate by reference the following documents into this prospectus:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2012, as filed with the SEC on February 22, 2013;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013, as filed with the SEC on May 6, 2013;
- Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2013, as filed with the SEC on August 14, 2013;
- Our Quarterly Report on Form 10-Q for the quarter ended September 30, 2013, as filed with the SEC on November 12, 2013;
- All information in our proxy statement filed with the SEC on March 27, 2013 to the extent incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2012; and
- Our Current Reports on Form 8-K filed with the SEC on January 18, 2013, January 22, 2013 and February 28, 2014; and
- The description of our common stock included in our Form 8-A filed with the SEC on April 23, 2012.

Additionally, all documents filed by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of this prospectus and before the termination or completion of this offering shall be deemed to be incorporated by reference into this prospectus from the respective dates of filing of such documents. Any information that we subsequently file with the SEC that is incorporated by reference as described above will automatically update and supersede any previous information that is part of this prospectus.

Upon written or oral request, we will provide you without charge, a copy of any or all of the documents incorporated by reference, other than exhibits to those documents unless the exhibits are specifically incorporated by reference in the documents. Please send requests to ClearSign Combustion Corporation, 12870 Interurban Avenue South, Seattle, Washington 98168, Attn: Chief Financial Officer, Telephone: (206) 673-4848.

Disclosure of Commission Position on Indemnification

for Securities Act Liabilities

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the company, we have been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is therefore unenforceable.

PROSPECTUS

\$30,000,000

Common Stock, Preferred Stock and Warrants Offered

by ClearSign Combustion Corporation

and

147,618 Shares of Common Stock Offered by Selling Shareholders

By this prospectus and an accompanying prospectus supplement, we may from time to time offer and sell, in one or more offerings, up to \$30,000,000 in any combination of common stock, preferred stock and warrants. Also, the selling shareholders identified in this prospectus may, from time to time, offer and sell up to 147,618 shares of common stock. See the section of this prospectus titled "Selling Shareholders."

We will provide you with more specific terms of these securities in one or more supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest.

We or any selling stockholder may offer these securities from time to time in amounts, at prices and on other terms to be determined at the time of offering. We or any selling stockholder may offer and sell these securities to or through underwriters, dealers or agents, or directly to investors, on a continuous or delayed basis. The supplements to this prospectus will provide the specific terms of the plan of distribution. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement. We will not receive any proceeds from the sale of our common stock by the selling shareholders.

Our common stock is listed on the NASDAQ Capital Market under the symbol "CLIR". On May 3, 2013, the closing price of our common stock as reported by the NASDAQ Capital Market was \$8.81 per share. The aggregate market value of our outstanding voting common stock held by non-affiliates, based upon a closing sale price of our common stock on May 3, 2013 was \$60,417,000. During the 12 calendar month period that ends on, and includes, the date of this prospectus, we have not offered any securities pursuant to General Instruction I.B.6. of Form S-3.

We are an "emerging growth company" under the federal securities laws and will be subject to reduced public company reporting requirements. An investment in our securities may be considered speculative and involves a high degree of risk, including the risk of a substantial loss of your investment. See "Risk Factors" on page 6 for more information on the risks you should consider before buying our securities. An investment in our securities is

not suitable for all investors. We intend to continue to issue our securities in this offering and, as a result, your ownership in us is subject to dilution.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 30, 2013.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement filed with the Securities and Exchange Commission (the “SEC”) using a “shelf” registration process. Under this shelf process, we may sell the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities which may be offered. Each time we offer securities for sale, we will provide a prospectus supplement that contains specific information about the terms of that offering. Any prospectus supplement may also add or update information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described below under “Where You Can Find More Information” and “Information Incorporated by Reference.”

The registration statement that contains this prospectus (including the exhibits thereto) contains additional important information about us and the securities we may offer under this prospectus. Specifically, we have filed certain legal documents that establish the terms of the securities offered by this prospectus as exhibits to the registration statement. We will file certain other legal documents that establish the terms of the securities offered by this prospectus as exhibits to reports we file with the SEC. You may obtain copies of that registration statement and the other reports and documents referenced herein as described below under the heading “Where You Can Find More Information.”

You should rely only on the information contained or incorporated by reference in this prospectus and in any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making offers to sell or solicitations to buy the securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation. You should not assume that the information in this prospectus or any prospectus supplement, as well as the information we file or previously filed with the SEC that we incorporate by reference in this prospectus or any prospectus supplement, is accurate as of any date other than its respective date. Our business, financial condition, results of operations and prospects may have changed since those dates.

In this prospectus, unless the context otherwise requires, references to “ClearSign,” “we,” “us,” “our” or the “Company” refer to ClearSign Combustion Corporation.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement, including the documents that we incorporate by reference, may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

Forward-looking statements in this prospectus and any accompanying prospectus supplement include, without limitation, statements related to our plans, strategies, objectives, expectations, intentions and adequacy of resources. Investors are cautioned that such forward-looking statements involve risks and uncertainties. Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to:

- our limited cash and our history of losses;
- our ability to achieve profitability;
- our limited operating history;
- emerging competition and rapidly advancing technology in our industry that may outpace our technology;
- customer demand for the products and services we develop;
- the impact of competitive or alternative products, technologies and pricing;
- our ability to manufacture any products we develop;
- general economic conditions and events and the impact they may have on us and our potential customers;
- our ability to obtain adequate financing in the future;
- our ability to continue as a going concern;
- our success at managing the risks involved in the foregoing items; and
- other factors discussed in this prospectus.

In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “could,” “expect,” “plans,” “intends,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” or “continue” or the negative of such comparable terminology. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. We do not undertake any obligation to publicly update or review any forward-looking statement.

OUR BUSINESS

This is only a summary and may not contain all the information that is important to you. You should carefully read both this prospectus and any accompanying prospectus supplement and any other offering materials, together with the additional information described under the heading “Where You Can Find More Information.”

About ClearSign Combustion Corporation

We are a development stage company that designs and develops technologies that aim to improve key performance characteristics of combustion systems including energy efficiency, emissions control, fuel flexibility and overall cost effectiveness.

We believe that our Electrodynamic Combustion Control™ (ECC™) technology could allow customers to benefit from substantially reduced costs associated with the construction (including refurbishment and upgrade), operation and maintenance of these systems, as compared to combustion systems that use currently available technology. We also believe that our technology could improve emissions control performance and meet regulatory standards while at the same time yielding a significant increase in energy efficiency, thereby substantially reducing the cost of compliance with air quality regulations. Our technology introduces a computer-controlled electric field into the combustion zone to allow for more precise control of flame shape and heat transfer. This same technique can also be used to modify the complex chemical reactions that occur during combustion in order to minimize harmful emissions while maximizing system efficiency. We believe our technology can be adapted to various fuel types and multiple system sizes and configurations, and can be deployed on both a retrofit and new-build basis.

Our Industry

Nearly two-thirds of the world's total energy consumption is accounted for by combustion of hydrocarbon and other fuels in boilers, furnaces, kilns and turbines. These are used to generate electrical power, to provide heat for all manner of industrial processes and for building heat and produce more than 50 quadrillion British thermal units (BTUs) of energy annually in the U.S. In order to maximize energy efficiency while keeping pace with regulatory guidelines for air pollution emissions, operators of these systems are continually installing, maintaining and upgrading a variety of costly process control, air pollution control and monitoring systems. In its December 2012 analysis, The McIlvaine Company projected that \$44 billion will be invested globally in 2013 in equipment, instrumentation, and consumables to reduce air pollution, representing a 26% increase over the 2012 total of \$35 billion.

Our Technology

Overview. While our technology has not been deployed commercially, nor has it been tested or verified by any independent third party, if the results we have observed in our laboratory testing can be replicated on a commercial scale, we believe our proprietary technology platform may increase energy efficiency and improve fuel flexibility and environmental performance for most types of industrial and commercial combustion systems. We believe our technology could compare favorably with current industry-standard air pollution control and efficiency technologies including electrostatic precipitators, fabric filters, selective catalytic reduction devices, low- and ultra-low NO_x burners (which address nitrogen oxides), excess air systems and other such technologies. Such systems account for the majority of combustion energy utilization globally. These include:

- electrical power generation,

- hydrocarbon and chemical processing industries,

- petroleum refining,

- gas utility turbines and turbines used in commercial and military aviation, and

- all manner of industrial and commercial steam generation and industrial process heat.

Technical requirements. Our technology consists, in its simplest form, of four major components: (a) a computer, (b) standard software delivering proprietary algorithms to (c) a power amplifier (resident outside the combustion chamber) and (d) electrode(s) (inside the combustion chamber). The electrodes are optimized in material and shape to best suit the specific geometry of a given installation. We have also demonstrated a technique to apply ECC to a combustion system without requiring an electrode to have physical contact with the flame. Because the system's basic components are available 'off the shelf', or require manufacturing techniques that are well within the current state of the art, we do not depend on technology external to the Company that has not yet been developed.

We believe our technology can be retrofitted to existing combustion systems to improve their performance and has the potential to provide substantial savings in both capital and operating costs, or, for new-builds, can serve as the basis for fundamental improvements in the design, cost and operation of combustion systems. We believe the economic gain realized by an operator could be significant in both reduced capital expenditures and savings in annual operating and maintenance costs (including reductions in those costs associated with fuel consumption and emissions).

The gain in energy efficiency provided by our technology in boilers, kilns, furnaces and turbines stems in part from our ability to precisely control the flow of hot gases within a gas volume. In most cases, efficiency is increased by increasing heat flux onto targeted surfaces and reducing heat loss from other surfaces. Additionally, because the formation of pollutants is greatly reduced at the source, the 'load' placed on downstream pollution control equipment is also reduced, lowering both capital and operating expense and yielding a positive return on investment for system operators.

Research and Development Plan. We have tested aspects of our technology on our 5,000 BTU and 25,000 BTU bench top scale prototypes and our 1 million BTU research furnace. Our technology has not been tested or verified by any independent third party. Our research and development efforts are now focused on the following sequence of activities:

Scale up to commercially relevant sizes. We have finalized designs and built what we believe to be a commercially relevant furnace and burners. We have assembled a group of technical advisors comprised of subject matter experts in the areas of combustion, pollution control, physics, aeronautics and chemistry. We have identified key potential development partners and customers with whom we are engaged in discussions to apply our technology to their particular use at commercially relevant scale, which can be 1 million BTUs or greater.

Site demonstration at full scale. We plan to demonstrate our technology at one or more selected commercial sites. If achieved, these early site demonstrations will be aimed at retrofitting or replacing one or two burners in multi-burner systems with an eye toward evaluation of our technology at full scale in one or more operating systems.

First installation. Assuming the successful demonstration of small numbers of burners in multi-burner systems, we plan to retrofit an entire furnace with our technology applied to all burners. We believe that such a demonstration

would provide the impetus for commercial adoption within the applicable industry.

Enhancement of our intellectual property portfolio. We have generated more than 150 inventions that we believe to be patentable subject matter which we have been and will continue to protect through patent application filings. As of March 31, 2013, we have filed 104 patent applications.

The Combustion Markets

Overview. We are seeking to enter the combustion and emissions control market and to establish ourselves in a highly competitive industry against companies that have both substantially greater financial resources than we do and established products. However, we believe that our technology could offer a unique and powerful ability to improve energy efficiency and enhance operation while reducing many pollutants at the source. We view our market as divided into two broad segments:

- *Industrial combustion* includes both solid fuel systems, such as cement kilns, wood and biomass furnaces, and industrial coal systems as well as gas-fired systems, such as down-fired petrochemical reformers and natural gas-fired boilers.

- *Power generation* includes electric power plants fueled by pulverized coal and those utilizing gas-turbines.

In each market segment and sub-segment, we plan to initially market solutions that we believe could be cost-effective retrofitting of our technology onto existing, standard system designs to simultaneously improve both their energy efficiency and pollution control characteristics.

Partnership Strategy. We believe that our Electrodynamic Combustion Control technology has the potential to transform industries that rely upon combustion, and is broadly applicable in large, scalable, global markets.

We intend to form research and development partnerships to develop our technology within the industrial combustion and power generation segments. Among the types of potential partners we will seek to establish relationships with will be:

- Large OEMs interested in ECC technology;
- Engineering and construction companies interested in differentiating their offerings while increasing profitability;
- Industry research groups, whose mission is the development and testing of new technologies for the eventual benefit of their member companies; and
- Government entities such as the U.S. Department of Energy, who are chartered with the development of longer-range and potentially disruptive energy technologies.

In April 2013, we announced our intention to enter into a development agreement with Grandeg, a European manufacturer of commercial wood pellet boiler systems. Under the agreement, we will develop solutions based on our ECC technology for both retrofit into existing Grandeg biomass boilers as well as for integration into new product designs. Grandeg has indicated its intent to provide up to \$500,000 in funding to support a phased initial project that is expected to begin upon execution of a definitive agreement, with the goal of releasing a first commercial solution to the market during 2014. While a definitive agreement is expected to be executed by June 2013, there is no assurance that terms will be reached or a final agreement executed.

Corporate Information

Our facilities and executive offices are located at 12870 Interurban Avenue South, Seattle, Washington 98168, and our telephone number is (206) 673-4848. We were incorporated in Washington on January 23, 2008. Additional information about us is available on our website at www.clearsign.com. The information contained on or that may be obtained from our website is not, and shall not be deemed to be, a part of this prospectus. Our common stock, par value \$0.0001 per share, is currently traded on The NASDAQ Capital Market under the ticker symbol "CLIR."

For a description of our business, financial condition, results of operations and other important information regarding us, we refer you to our filings with the SEC incorporated by reference in this prospectus. For instructions on how to find copies of these documents, see "Where You Can Find More Information."

RISK FACTORS

Investing in our common stock involves a high degree of risk. Please see the risk factors set forth in Part I, Item 1A of our Annual Report on Form 10-K and other filings we make with the SEC, which are incorporated by reference in this prospectus. Additional risk factors may be included in a prospectus supplement relating to a particular offering of securities. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations. These risks could materially affect our business, results of operations or financial condition and cause the value of our securities to decline.

USE OF PROCEEDS

Unless we state otherwise in an accompanying prospectus supplement, we intend to use the net proceeds from the sale of the securities offered by us under this prospectus and any related prospectus supplement for general corporate purposes. These purposes may include capital expenditures and additions to working capital. When a particular offering of securities is made, the prospectus supplement relating to that offering will set forth our intended use of the net proceeds we receive from the sale of the securities. Pending the application of the net proceeds, we may invest the proceeds in short-term, interest-bearing instruments or other investment-grade securities. We will not receive any proceeds from the sales, if any, of the shares of common stock being offered and sold by the selling shareholders or their pledgees, donees, transferees or other successors in interest.

DILUTION

We will set forth in a prospectus supplement the following information regarding any material dilution of the equity interests of investors purchasing securities sold by ClearSign in an offering under this prospectus:

- the net tangible book value per share of our equity securities before and after the offering;
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers in the offering; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

DESCRIPTION OF THE SECURITIES THAT MAY BE OFFERED

Description of Common Stock

The following summary of the rights of our common stock is not complete and is subject to and qualified in its entirety by reference to our articles of incorporation and bylaws, copies of which are incorporated by reference to our registration statement on Form S-1. See “Where You Can Find More Information.”

We have 64,500,000 shares of capital stock authorized under our articles of incorporation, consisting of 62,500,000 shares of common stock and 2,000,000 shares of preferred stock.

As of May 6, 2013 we had 8,793,265 shares of common stock issued and outstanding. Our authorized but unissued shares of common stock are available for issuance without further action by our shareholders, unless such action is required by applicable law or the rules of the NASDAQ Capital Market or any other stock exchange or automated quotation system on which our securities may become listed or traded. If the approval of our shareholders is not so required, our board of directors may determine not to seek stockholder approval.

Holders of our common stock are entitled to such dividends as may be declared by our board of directors out of funds legally available for such purpose, subject to any preferential dividend rights of any then outstanding preferred stock. The shares of common stock are neither redeemable nor convertible. Holders of common stock have no preemptive or subscription rights to purchase any of our securities.

Each holder of our common stock is entitled to one vote for each such share outstanding in the holder's name. No holder of common stock is entitled to cumulate votes in voting for directors.

In the event of our liquidation, dissolution or winding up, the holders of our common stock are entitled to receive pro rata our assets which are legally available for distribution, after payments of all debts and other liabilities and subject to the prior rights of any holders of preferred stock then outstanding. All of the outstanding shares of our common stock are fully paid and non-assessable. The shares of common stock offered by this prospectus will also be fully paid and non-assessable.

Our common stock is listed on the NASDAQ Capital Market under the symbol "CLIR". On May 3, 2013, the last sale price of our common stock was \$8.81 per share. The transfer agent and registrar for our common stock is VStock Transfer, LLC. Its address is 77 Spruce Street, Suite 201, Cedarhurst, New York 11516, and its telephone number is (212) 828-8436.

Description of Preferred Stock

Our articles of incorporation permit us to issue up to 2,000,000 shares of preferred stock in one or more series and with rights and preferences that may be fixed or designated by our board of directors without any further action by our shareholders. We currently have no shares of preferred stock outstanding.

Subject to the limitations prescribed in our articles of incorporation and under Washington law, our articles of incorporation authorize the board of directors, from time to time by resolution and without further stockholder action, to provide for the issuance of shares of preferred stock, in one or more series, and to fix the designation, limitations, voting powers, preferences and relative rights of the shares and to fix the qualifications, limitations and restrictions thereof.

Description of Warrants to Purchase Common Stock or Preferred Stock

We may issue warrants for the purchase of our preferred stock or common stock, which we refer to in this prospectus as "equity warrants". As explained below, each equity warrant will entitle its holder to purchase our equity securities at an exercise price set forth in, or to be determined as set forth in, the related prospectus supplement. Equity warrants may be issued separately or together with equity securities. The equity warrants are to be issued under equity warrant agreements.

The particular terms of each issue of equity warrants and the equity warrant agreement relating to the equity warrants will be described in the applicable prospectus supplement, including, as applicable:

- the title of the equity warrants;

- the initial offering price;

- the aggregate number of equity warrants and the aggregate number of shares of the equity security purchasable upon exercise of the equity warrants;

- if applicable, the designation and terms of the equity securities with which the equity warrants are issued, and the number of equity warrants issued with each equity security;

- the date on which the right to exercise the equity warrants will commence and the date on which the right will expire;

- if applicable, the minimum or maximum number of the equity warrants that may be exercised at any one time;

- anti-dilution provisions of the equity warrants, if any;

- redemption or call provisions, if any, applicable to the equity warrants;

- any additional terms of the equity warrants, including terms, procedures and limitations relating to the exchange and exercise of the equity warrants; and

- the exercise price.

Holders of equity warrants will not be entitled, solely by virtue of being holders, to vote, to consent, to receive dividends, to receive notice as shareholders with respect to any meeting of shareholders for the election of directors or any other matter, or to exercise any rights whatsoever as a holder of the equity securities purchasable upon exercise of the equity warrants.

Anti-Takeover Effects of Certain Provisions of Washington Law and Our Charter Documents

The following is a summary of certain provisions of Washington law, our articles of incorporation and our bylaws. This summary does not purport to be complete and is qualified in its entirety by reference to the corporate law of Washington and our articles of incorporation and bylaws.

Effect of Washington Anti-Takeover Statute. We are subject to Section 23B.19 of the Washington Revised Statutes, an anti-takeover law (the “Anti-Takeover Statute”). In general, the Anti-Takeover Statute prohibits a target corporation from entering into a significant business transaction with an acquiring person for a period of five years following the acquiring person’s share acquisition unless

the share acquisition is exempt because it was inadvertently made and the acquiring person divests himself of a sufficient amount of the voting shares so that he is no longer the beneficial owner, directly or indirectly, of 10% or more of the outstanding voting shares of the target corporation and would not have, during the five year period prior to the announcement date of the significant business transaction been an acquiring person but for the inadvertent acquisition,

the significant business transaction or the purchase of shares made by the acquiring person is approved prior to the acquiring person’s share acquisition time by a majority of the members of the board of directors of the target corporation; or

at or subsequent to the acquiring person’s share acquisition time, the significant business transaction is approved by a majority of the members of the board of directors of the target corporation and approved at an annual or special meeting of shareholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting shares, except shares beneficially owned by or under the voting control of the acquiring person.

The Anti-Takeover Statute generally defines an “acquiring person” as a person or group of persons, other than the target corporation or a subsidiary of the target corporation, who beneficially owns 10% or more of the outstanding voting shares of the target corporation. The term “acquiring person” does not include a person who (a) beneficially owned 10% or more of the outstanding voting shares of the target corporation on March 23, 1988; (b) acquires its shares by gift, inheritance, or in a transaction in which no consideration is exchanged; (c) exceeds the 10% threshold as a result of action taken solely by the target corporation, such as redemption of shares, unless that person, by his own action,

acquires additional shares of the target corporation; (d) beneficially was the owner of 10% or more of the outstanding voting shares prior to the time the target corporation had a class of voting shares registered with the SEC pursuant to section 12 or 15 of the Securities Exchange Act; or (e) beneficially was the owner of 10% or more of the outstanding voting shares prior to the time the target corporation amended its articles of incorporation to provide that the corporation shall be subject to the provisions of this chapter.

The Anti-Takeover Statute defines a “significant business transaction” as:

(a) A merger, share exchange, or consolidation of a target corporation or a subsidiary of a target corporation with (i) an acquiring person, or (ii) any other domestic or foreign corporation which is, or after the merger, share exchange, or consolidation would be, an affiliate or associate of the acquiring person;

(b) A sale, lease, exchange, mortgage, pledge, transfer, or other disposition or encumbrance, whether in one transaction or a series of transactions, to or with an acquiring person or an affiliate or associate of an acquiring person of assets of a target corporation or a subsidiary of a target corporation (i) having an aggregate market value equal to 5% or more of the aggregate market value of all the assets, determined on a consolidated basis, of the target corporation, (ii) having an aggregate market value equal to 5% or more of the aggregate market value of all the outstanding shares of the target corporation, or (iii) representing 5% or more of the earning power or net income, determined on a consolidated basis, of the target corporation;

(c) The termination, while the corporation has an acquiring person and as a result of the acquiring person's acquisition of 10% or more of the shares of the corporation, of 5% or more of the employees of the target corporation or its subsidiaries employed in this state, whether at one time or over the five-year period following the share acquisition time;

(d) The issuance, transfer, or redemption by a target corporation or a subsidiary of a target corporation, whether in one transaction or a series of transactions, of shares or of options, warrants, or rights to acquire shares of a target corporation or a subsidiary of a target corporation to or beneficially owned by an acquiring person or an affiliate or associate of an acquiring person except pursuant to the exercise of warrants or rights to purchase shares offered, or a dividend, distribution, or redemption paid or made pro rata to, all shareholders or holders of options, warrants, or rights to acquire shares of the target corporation, and except for involuntary redemptions permitted by the target corporation's charter or by the law of this state or the state of incorporation;

(e) The liquidation or dissolution of a target corporation proposed by, or pursuant to an agreement, arrangement, or understanding, whether or not in writing, with an acquiring person or an affiliate or associate of an acquiring person;

(f) A reclassification of securities, including, without limitation, any shares split, shares dividend, or other distribution of shares in respect of stock, or any reverse shares split, or recapitalization of a target corporation, or a merger or consolidation of a target corporation with a subsidiary of the target corporation, or any other transaction, whether or not with or into or otherwise involving an acquiring person, proposed by, or pursuant to an agreement, arrangement, or understanding, whether or not in writing, with an acquiring person or an affiliate or associate of an acquiring person, that has the effect, directly or indirectly, of increasing the proportionate share of the outstanding shares of a class or series of voting shares or securities convertible into voting shares of a target corporation or a subsidiary of the target corporation that is directly or indirectly owned by an acquiring person or an affiliate or associate of an acquiring person, except as a result of immaterial changes due to fractional share adjustments; or

(g) A receipt by an acquiring person or an affiliate or associate of an acquiring person of the benefit, directly or indirectly, except proportionately as a shareholder of a target corporation, of loans, advances, guarantees, pledges, or other financial assistance or tax credits or other tax advantages provided by or through a target corporation.

Finally, the Anti-Takeover Statute defines a “target corporation” as:

(a) Every domestic corporation, if:

(i) The corporation has a class of voting shares registered with the SEC pursuant to Section 12 or 15 of the Securities Exchange Act; or

(ii) The corporation’s articles of incorporation have been amended to provide that such a corporation shall be subject to the provisions of this chapter, if the corporation did not have a class of voting shares registered with the SEC pursuant to section 12 or 15 of the Securities Exchange Act on the effective date of that amendment; and

(b) Every foreign corporation required to have a certificate of authority to transact business in the State of Washington if:

(i) The corporation has a class of voting shares registered with the SEC pursuant to section 12 or 15 of the Securities Exchange Act;

(ii) The corporation's principal executive office is located in the state;

(iii) The corporation has: (A) more than 10% of its shareholders of record resident in the state; or (B) more than 10% of its shares owned of record by state residents; or (C) 1,000 or more shareholders of record resident in the state;

(iv) A majority of the corporation's employees, together with those of its subsidiaries, are residents of the state or the corporation, together with its subsidiaries, employs more than one thousand residents of the state; and

(v) A majority of the corporation's tangible assets, together with those of its subsidiaries, measured by market value, are located in the state or the corporation, together with its subsidiaries, has more than fifty million dollars' worth of tangible assets located in the state.

Our Charter Documents. Our charter documents include provisions that may have the effect of discouraging, delaying or preventing a change in control or an unsolicited acquisition proposal that a shareholder might consider favorable, including a proposal that might result in the payment of a premium over the market price for the shares held by our shareholders. Certain of these provisions are summarized in the following paragraphs.

Effects of authorized but unissued common stock and blank check preferred stock. One of the effects of the existence of authorized but unissued common stock and undesignated preferred stock may be to enable our board of directors to make more difficult or to discourage an attempt to obtain control of our Company by means of a merger, tender offer, proxy contest or otherwise, and thereby to protect the continuity of management. If, in the due exercise of its fiduciary obligations, the board of directors were to determine that a takeover proposal was not in our best interest, such shares could be issued by the board of directors without shareholder approval in one or more transactions that might prevent or render more difficult or costly the completion of the takeover transaction by diluting the voting or other rights of the proposed acquirer or insurgent shareholder group, by putting a substantial voting block in institutional or other hands that might undertake to support the position of the incumbent board of directors, by effecting an acquisition that might complicate or preclude the takeover, or otherwise.

In addition, our articles of incorporation grant our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance also may adversely affect the rights and powers, including voting rights, of those holders and may have the effect of delaying, deterring or preventing a change in control of our Company.

Cumulative Voting. Our articles of incorporation do not provide for cumulative voting in the election of directors which would allow holders of less than a majority of the stock to elect some directors.

Vacancies. Our bylaws provide that any vacancy occurring on our board of directors may be filled by the shareholders, by the board of directors or, if the directors in office constitute less than a quorum, by the affirmative vote of a majority of the remaining directors.

Special Meeting of Shareholders. A special meeting of shareholders may only be called by our chairman of the board, the president or the board of directors or by holders of at least 25% of all the votes entitled to be cast on any issue proposed to be considered at the special meeting.

SELLING SHAREHOLDERS

We have prepared this prospectus to allow the selling shareholders named in the Selling Shareholder Table below to sell, from time to time, up to 147,618 shares of our common stock. All of the common stock included in that table may be offered by the selling shareholders for their own account by means of this prospectus. We will receive no proceeds from the sale of the shares held by the selling shareholders although, if the warrants are exercised, we would receive \$300,010 from the exercise of the warrants if a cashless exercise does not occur.

Registration of Warrants held by the MDB Selling Shareholders - As part of this prospectus, we are registering for resale 136,368 shares of common stock underlying warrants. The shares described in the table below under the heading “MDB Selling Shareholders” consist of shares of common stock that will be issued if these selling shareholders exercise their warrants. The warrants were originally issued to MDB Capital Group LLC (“MDB”) in partial compensation for services rendered to us by MDB in connection with a private offering we undertook in April 2011. MDB subsequently transferred warrants covering 62,050 shares of our common stock to its employees. The warrants include piggy-back registration rights, which the MDB Selling Shareholders have exercised. Within the past three years, MDB has provided underwriting and investment banking services, consulting services, and intellectual property services described in previously filed periodic reports, proxy statements and other information with the SEC.

Registration of Other Shares - As part of this prospectus, we are registering for resale 11,250 shares of common stock issued to John McFarland pursuant to the ClearSign Combustion Corporation 2013 Consultant Stock Plan approved by the Company’s shareholders on May 2, 2013 for consulting services provided or to be provided in 2013. Since September 2011, Mr. McFarland has provided investor relations services to the Company.

The following table sets forth information with respect to the common stock known to us to be beneficially owned by the selling shareholders as of May 6, 2013, including the total number of securities the selling shareholders may sell under this prospectus from time to time, and the number of securities the selling shareholders will own thereafter assuming no other acquisitions or dispositions of our securities. However, we have no way of determining the number of shares of common stock each will hold after this offering. Therefore, we have prepared the table below on the assumption that the selling shareholders will sell all of the shares of common stock covered by this prospectus.

We may amend or supplement this prospectus from time to time to update the disclosure set forth herein, however, if a selling shareholder transfers his or her interest in the common stock warrants prior to the effective date of the registration statement of which this prospectus is a part, we will be required to file a post-effective amendment to the registration statement to provide the information concerning the transferee. Alternatively, if a selling shareholder transfers his or her interest in the common stock warrants after the effective date of the registration statement of which this prospectus is a part, we may use a supplement to update this prospectus. See our discussion titled “Plan of Distribution” for further information regarding the selling shareholders’ method of distribution of these shares.

Selling Shareholder Table

| Name | Securities Beneficially Owned Prior to Offering (1) | Securities Being Offered | Securities Beneficially Owned After Offering (2) | % Beneficial Ownership After Offering | |
|-----------------------------------|---|--------------------------|--|---------------------------------------|---|
| MDB Selling Shareholders: | | | | | |
| MDB Capital Group LLC (3)(4) | 534,025 | 74,318 | 459,707 | 5.1 | % |
| Amy En-Mei Wang (4)(5)(6) | 116,132 | 17,409 | 98,723 | 1.1 | % |
| Christopher A. Marlett (4)(6)(7) | 810,967 | 91,727 | 719,240 | 8.0 | % |
| Daniel E. Nagy (4)(6)(8) | 13,365 | 865 | 12,500 | 0.1 | % |
| Gary A. Schuman (4)(6)(9) | 6,812 | 312 | 6,500 | 0.1 | % |
| George H. Brandon (4)(10)(11) | 41,052 | 2,882 | 38,170 | 0.4 | % |
| Kevin M. Cotter (4)(6)(12) | 30,867 | 2,882 | 27,985 | 0.3 | % |
| Robert C. Clifford (4)(6)(13) | 66,507 | 2,882 | 63,625 | 0.7 | % |
| Robert M. Levande (4)(6)(14) | 134,708 | 17,409 | 117,299 | 1.3 | % |
| Total of MDB Selling Shareholders | 1,220,410 | 136,368 | 1,084,042 | 11.9 | % |
| John McFarland (15) | 24,750 | 11,250 | 13,500 | 0.2 | % |
| Total of Selling Shareholders | 1,245,160 | 147,618 | 1,097,542 | 11.9 | % |

- (1) Percentages stated in the above table are based on a total of 8,793,265 shares of common stock outstanding as of May 6, 2013.
- (2) Assumes that all of the shares offered hereby are sold and that shares owned before the offering but not offered hereby are not sold.
Includes 289,207 shares of common stock and 244,818 shares of common stock underlying two warrants.
- (3) Christopher A. Marlett is CEO of MDB Capital Group LLC, a broker-dealer, and has sole voting and dispositive power with respect to its shares of common stock.
- (4) The address of the security holder is 401 Wilshire Boulevard, Suite 1020, Santa Monica, California 90401.
- (5) Includes 74,573 shares of common stock and 41,559 shares of common stock underlying two warrants.
This security holder is an associated person of a broker-dealer. This person has represented to the Company that
- (6) he or she received a portion of the securities as compensation, and he had no agreements or understanding, directly or indirectly, with any person to distribute the securities at the time of their acquisition.
Includes 183,490 shares of common stock and 89,859 shares of common stock underlying two warrants owned by Mr. Marlett. This amount also includes 3,593 shares of common stock owned by Integrated Surgical Systems, Inc. and 289,207 shares of common stock and 244,818 shares of common stock underlying two warrants owned by MDB Capital Group LLC, for both of which Mr. Marlett is deemed the beneficial owner. Mr. Marlett is the CEO and a director of Integrated Surgical Systems, Inc. The board of directors of Integrated Surgical Systems, Inc., at large, holds voting and investment control over the securities held by the corporation. Mr. Marlett is also CEO of MDB Capital Group LLC and has sole voting and dispositive power with respect to its shares of common stock.
- (7) Includes 12,500 shares of common stock and 865 shares of common stock underlying a warrant.
- (8) Includes 4,500 shares of common stock and 312 shares of common stock underlying a warrant.
- (9) Includes 4,500 shares of common stock and 312 shares of common stock underlying a warrant.

- (10) Includes 18,040 shares of common stock and 21,512 shares of common stock underlying two warrants.
This security holder is an associated person of a broker-dealer. This person has represented to the Company that he acquired a portion of the securities as an investment and received a portion of the securities as compensation,
- (11) and he had no agreements or understanding, directly or indirectly, with any person to distribute the securities at the time of their acquisition.
- (12) Includes 13,495 shares of common stock and 17,372 shares of common stock underlying two warrants.
- (13) Includes 25,995 shares of common stock and 21,512 shares of common stock underlying two warrants.
- (14) Includes 93,149 shares of common stock and 41,559 shares of common stock underlying two warrants.
- (15) Includes 11,250 shares of common stock held in escrow pending performance of consulting services in 2013.
The address of the security holder is 2854 Johnson Ferry Road, Suite 200, Marietta, Georgia 30062.

PLAN OF DISTRIBUTION

We or the selling shareholders may offer and sell the securities in any one or more of the following ways:

· to or through underwriters, brokers or dealers;

· directly to one or more other purchasers;

· through a block trade in which the broker or dealer engaged to handle the block trade will attempt to sell the securities as agent, but may position and resell a portion of the block as principal to facilitate the transaction;

· through agents on a best-efforts basis;

· in “at the market” offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on NASDAQ or sales made through a market maker other than on an exchange or other similar offerings through sales agents; or

· otherwise through any other method permitted by applicable law or a combination of any of the above methods of sale.

In addition, we may enter into option, share lending or other types of transactions that require us to deliver shares of common stock to an underwriter, broker or dealer, who will then resell or transfer the shares of common stock under this prospectus. We may also enter into hedging transactions with respect to our securities. For example, we may:

- enter into transactions involving short sales of the shares of common stock by underwriters, brokers or dealers;
- sell shares of common stock short and deliver the shares to close out short positions;
- enter into option or other types of transactions that require the delivery shares of common stock to an underwriter, broker or dealer, who will then resell or transfer the shares of common stock under this prospectus; or
- loan or pledge the shares of common stock to an underwriter, broker or dealer, who may sell the loaned shares or, in the event of default, sell the pledged shares.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be identified in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

Each time we or the selling shareholders sell securities, we or the selling shareholders will provide a prospectus supplement that will name any underwriter, dealer or agent involved in the offer and sale of the securities. Any prospectus supplement will also set forth the terms of the offering, including:

- the purchase price of the securities and the proceeds we or the selling shareholders will receive from the sale of the securities;
- any underwriting discounts and other items constituting underwriters' compensation;
- any public offering or purchase price and any discounts or commissions allowed or re-allowed or paid to dealers;

- any commissions allowed or paid to agents;
- any other offering expenses;
- any securities exchanges on which the securities may be listed;
- the method of distribution of the securities;
- the terms of any agreement, arrangement or understanding entered into with the underwriters, brokers or dealers; and
- any other information we think is important.

If underwriters or dealers are used in the sale, the securities will be acquired by the underwriters or dealers for their own account. The securities may be sold from time to time by us or the selling shareholders in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
 - at prices related to such prevailing market prices;
- at varying prices determined at the time of sale; or
- at negotiated prices.

Such sales may be effected:

- in transactions on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in transactions in the over-the-counter market;
 - in block transactions in which the broker or dealer so engaged will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction, or in crosses, in which the same broker acts as an agent on both sides of the trade;
- through the writing of options; or
- through other types of transactions.

Any shares of common stock covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

The securities may be offered to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more of such firms. Unless otherwise set forth in the prospectus supplement, the obligations of underwriters or dealers to purchase the securities offered will be subject to certain conditions precedent and the underwriters or dealers will be obligated to purchase all the offered securities if any are purchased. Any public offering price and any discount or concession allowed or reallocated or paid by underwriters or dealers to other dealers may be changed from time to time.

The securities may be sold directly by us, the selling shareholders or through agents as designated from time to time. Any agent involved in the offer or sale of the securities in respect of which this prospectus is delivered will be named, and any commissions payable to such agent will be set forth in, the prospectus supplement. Unless otherwise indicated in the prospectus supplement, any such agent will be acting on a best efforts basis for the period of its appointment.

Offers to purchase the securities offered by this prospectus may be solicited, and sales of the securities may be made by us or the selling shareholders directly to institutional investors or others, who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale of the securities. The terms of any offer made in this manner will be included in the prospectus supplement relating to the offer.

Some of the underwriters, dealers or agents used by us or the selling shareholders in any offering of securities under this prospectus may be customers of, engage in transactions with, and perform services for us or affiliates of ours in the ordinary course of business. Underwriters, dealers, agents and other persons may be entitled to indemnification against and contribution toward certain civil liabilities, including liabilities under the Securities Act, and to be reimbursed for certain expenses.

Subject to any restrictions relating to debt securities in bearer form, any securities initially sold outside the United States may be resold in the United States through underwriters, dealers or otherwise.

Any underwriters to which offered securities are sold by us or the selling shareholders for public offering and sale may make a market in such securities, but those underwriters will not be obligated to do so and may discontinue any market making at any time.

The anticipated date of delivery of the securities offered by this prospectus will be described in the applicable prospectus supplement relating to the offering.

The selling shareholders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be an “underwriter” within the meaning of the Securities Act with respect to any securities such entity sells pursuant to this prospectus.

To comply with the securities laws of some states, if applicable, the securities may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the securities may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

There can be no assurance that we or the selling shareholders will sell all or any of the securities offered by this prospectus.

LEGAL MATTERS

Richardson & Patel, LLP, with an office at The Chrysler Building, 405 Lexington Avenue, 49th Floor, New York, New York 10174, will pass upon the validity of the securities offered in this prospectus. As of May 6, 2013, Richardson & Patel, LLP and its principals or entities controlled by its principals own 166,495 shares of our common stock, a portion of which it accepted as payment for certain legal services rendered to us. Although Richardson & Patel, LLP is not under any obligation to accept shares of our common stock in payment for services, it may do so in the future.

EXPERTS

Gumbiner Savett Inc., independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2012, as set forth in their report, which is

incorporated by reference in the prospectus and elsewhere in this registration statement. Our financial statements are incorporated by reference in reliance on the report of Gumbiner Savett Inc., given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities covered by this prospectus. This prospectus, which is a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information with respect to us and the securities covered by this prospectus, please see the registration statement and the exhibits filed with the registration statement. A copy of the registration statement and the exhibits filed with the registration statement may be inspected without charge at the Public Reference Room maintained by the SEC, located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC also maintains an Internet website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the website is <http://www.sec.gov>.

We are subject to the information and periodic reporting requirements of the Exchange Act and, in accordance therewith, we file periodic reports, proxy statements and other information with the SEC. Such periodic reports, proxy statements and other information are available for inspection and copying at the Public Reference Room and website of the SEC referred to above. We maintain a website at <http://www.unipixel.com>. You may access our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed pursuant to Sections 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC and applicable law permits us to “incorporate by reference” into this prospectus information that we have or may in the future file with or furnish to the SEC. This means that we can disclose important information by referring you to those documents. You should read carefully the information incorporated herein by reference because it is an important part of this prospectus. We hereby incorporate by reference the following documents into this prospectus:

· Our Annual Report on Form 10-K for the fiscal year ended December 31, 2012, as filed with the SEC on February 22, 2013;

· All information in our proxy statement filed with the SEC on March 27, 2013 to the extent incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2012;

· Our Quarterly Report on Form 10-Q for the period ended March 31, 2013, as filed with the SEC on May 6, 2013; and

· Our Current Reports on Form 8-K filed with the SEC on January 18, 2013 and January 22, 2013.

Additionally, all documents filed by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of this prospectus and before the termination or completion of this offering shall be deemed to be incorporated by reference into this prospectus from the respective dates of filing of such documents. Any information that we subsequently file with the SEC that is incorporated by reference as described above will automatically update and supersede any previous information that is part of this prospectus.

Upon written or oral request, we will provide you without charge, a copy of any or all of the documents incorporated by reference, other than exhibits to those documents unless the exhibits are specifically incorporated by reference in the documents. Please send requests to ClearSign Combustion Corporation, 12870 Interurban Avenue South, Seattle, Washington 98168, Attn: Chief Financial Officer, Telephone: (206) 673-4848.

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION

FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the company, we have been informed that in the opinion of the Securities and Exchange

Commission such indemnification is against public policy as expressed in the Act and is therefore unenforceable.

812,500 Shares

ClearSign Combustion Corporation

Common Stock

Prospectus Supplement

BREAN CAPITAL, LLC

February 28, 2014
