TECOGEN INC
Form S-1/A
April 27, 2012

As filed with the Securities and Exchange Commission on April 27, 2012

Registration No. 333-178697

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

Amendment No. 1 to

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

TECOGEN INC.

(Exact name of Registrant as specified in its charter)

Delaware	**3585**	**04-3536131**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

Tecogen Inc.

45 First Avenue

Waltham, MA 02451

(781) 622-1120

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

John N. Hatsopoulos
Chief Executive Officer
Tecogen Inc.
45 First Avenue
Waltham, MA 02451
(781) 622-1120/Fax: (781) 622-1027
(Name, address, including zip code, and telephone number,

including area code, of agent for service)

Copy to:
Edwin L. Miller, Jr.
Sullivan & Worcester LLP
One Post Office Square
Boston, MA 02109
Tel: (617) 338-2800/Fax: (617) 338-2880

As soon as practicable after the effective date of this Registration Statement.

(Approximate date of commencement of proposed sale to the public)

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box: þ

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company.

Large accelerated filer: ¨ Accelerated filer: ¨ Non-accelerated filer: ¨ Smaller reporting company: þ

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered [1]	Proposed Maximum Offering Price per Unit	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock	35,376,268	$ 0.80	$ 28,301,014	$ 3,244

[1] The offering price is the stated, fixed price of $0.80 per share until the securities are quoted on the OTC Bulletin Board, a national or international securities exchange for the purpose of calculating the registration fee pursuant to Rule 457. This amount is only for purposes of determining the registration fee, the actual amount received by a selling stockholder will be based upon fluctuating market prices once the securities are quoted on the OTC Bulletin Board, a national, or international securities exchange. The shares being registered hereby consist of 35,376,268 outstanding shares.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state or other jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 27, 2012

PROSPECTUS

35,376,268 SHARES OF COMMON STOCK

Initial Public Offering

This prospectus relates to the resale of up to 35,376,268 shares of Tecogen Inc. Common Stock. These shares will be resold from time to time by the investors listed in the section titled “Selling Security Holders”, and we refer to the investors as the selling stockholders. We are not selling any securities under this prospectus and therefore will not receive any proceeds from the sale of securities by the selling stockholders. All costs associated with this registration will be borne by us.

We currently lack a public market for our Common Stock. Selling stockholders will sell at a price of $0.80 per share until such time as our shares may be quoted on the OTC Bulletin Board or listed on a national or international securities exchange and thereafter at prevailing market prices or privately negotiated prices. The proposed maximum aggregate offering price is $28,301,014.

You should rely only on the information provided in this prospectus or any supplement to this prospectus. We have not authorized anyone else to provide you with different information.

A current prospectus must be in effect at the time of the sale of the shares of Common Stock discussed above. The selling stockholders will be responsible for any commissions or discounts due to brokers or dealers. We will pay all of

the other offering expenses.

Each selling stockholder or dealer selling the Common Stock is required to deliver a current prospectus upon the sale. In addition, for the purposes of the Securities Act of 1933, as amended, or the Securities Act, selling stockholders may be deemed underwriters.

THIS INVESTMENT INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD PURCHASE SHARES ONLY IF YOU CAN AFFORD A COMPLETE LOSS. WE URGE YOU TO READ THE “RISK FACTORS” SECTION BEGINNING ON PAGE 4, ALONG WITH THE REST OF THIS PROSPECTUS BEFORE YOU MAKE YOUR INVESTMENT DECISION.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION, OR THE SEC, NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES, OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

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You should rely only on the information contained in this Prospectus. 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. No offers are being made hereby in any jurisdiction where the offer or sale is not permitted.

Unless otherwise indicated, information contained in this Prospectus concerning our industry, including our market opportunity, is based on information from independent industry analysts, third-party sources and management estimates. Management estimates are derived from publicly-available information released by independent industry analysts and third party sources, as well as data from our internal research, and are based on assumptions made by us using data and our knowledge of such industry and market, which we believe to be reasonable. In addition, while we believe the market opportunity information included in this Prospectus is generally reliable and is based on reasonable assumptions, such data involves risks and uncertainties and is subject to change based on various factors, including those discussed under the heading “Risk Factors.”

PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere in this prospectus. It is not complete and does not contain all of the information that you should consider before investing in our Common Stock. You should read the entire prospectus carefully, especially the risks of investing in our Common Stock discussed under "Risk Factors" and our consolidated financial statements and accompanying notes. In this prospectus, unless the context otherwise requires, "Tecogen," "Company," "we," "us," or "our," refer to Tecogen Inc. and its subsidiaries.

Tecogen designs, manufactures and sells industrial and commercial cogeneration systems that produce combinations of electricity, hot water, and air conditioning using automotive engines that have been specially adapted to run on natural gas. Our reliable and efficient cogeneration systems reduce energy costs, decrease greenhouse gas emissions and decrease reliance on utility-generated electricity. Cogeneration systems are efficient because in addition to supplying mechanical energy to power electric generators or compressors – displacing utility supplied electricity – they provide opportunity for the facility to incorporate the engine's waste heat into onsite processes such as space and potable water heating. We produce standardized, modular, small-scale products, with a limited number of product configurations that are adaptable to multiple applications. We refer to these combined heat and power products as CHP (electricity plus heat) and MCHP (mechanical power plus heat).

Tecogen manufactures and supports three types of CHP products:

- Cogeneration units that supply electricity and heat (traditional CHP).
- Chillers that provide air-conditioning and heat or hot water (MCHP).
- High efficiency water heater (Heat Pump) for general purpose hot water applications (MCHP) offered by our subsidiary Ilios Inc., or Ilios.

Our CHP technology uses low-cost, mass-produced, internal combustion engines manufactured by General Motors Company, or GM, and Ford Motor Company, or Ford, (for the high efficiency water heater). These engines have been modified to run on natural gas and in the case of our established mainstay CHP and chiller products, have been proven to be cost-effective and reliable. In 2009, our internal research team developed a low-cost process of engine after treatment, or Ultra low-emissions technology, that provides our engines with exceptionally low emissions of criteria pollutants (contributors to smog and health concerns). We are awaiting the results of our patent application for this process and have introduced it commercially as an option to all of our products in 2012, under the trade name Ultra. This emissions system technology is important to us as it repositions our products, relative to environmental impact, to be on par with emerging technologies such as fuel cells, but at a much lower cost and greater overall efficiency in CHP applications. With emissions significantly lower than current engine technology, our Ultra low-emissions technology may reset existing natural gas regulations for engines in some areas of the country.

Our products are sold directly to end-users by our in-house marketing team and by established sales agents and representatives. Various agreements are in place with distributors and sales representatives, including three affiliated companies. Our existing customers include hospitals and nursing homes, colleges and universities, health clubs and spas, hotels and motels, office and retail buildings, food and beverage processors, multi-unit residential buildings, laundries, ice rinks, swimming pools, factories, municipal buildings, and military installations. We have an installed base of more than 2,100 units. Many of these have been operating for almost 25 years. Our principal engine supplier is GM and principal generator suppliers are Danotek Motion Technologies, and Marathon Electric. To produce air-conditioning, our engines drive a compressor purchased from J&E Hall International.

Energy cost savings, carbon reduction, grid independence, the country’s vast natural gas reserves, policy initiatives, and social responsibility all are factors driving the need for increased use of reliable, clean, and efficient on-site natural gas cogeneration systems with integral heat recovery.

In 2009 we created a majority-owned subsidiary Ilios to develop and distribute a line of ultra-high-efficiency heating products, including a high efficiency water heater. These products provide twice the efficiency of conventional commercial and industrial boilers (based upon management estimates) utilizing advanced thermodynamic principles. As of the date of this prospectus, we own a 62.5% interest in Ilios.

For each of our last five fiscal years and prior thereto, we have incurred annual operating losses. We expect this trend to continue until such time that we can sell a sufficient number of systems and achieve a cost structure to become profitable. We may not have adequate cash resources to reach the point of profitability, and we may never become profitable. Even if we do achieve profitability, we may be unable to increase our sales and sustain or increase our profitability in the future.

As of the end of the period covered by this report, our principal executive officer and principal accounting officer have performed an evaluation of controls and procedures and concluded that our controls were not effective to provide reasonable assurance that information required to be disclosed by our Company in reports that we file under the Exchange Act, is recorded, processed, summarized and reported as when required. Management conducted an evaluation of our internal control over financial reporting and based on this evaluation, management concluded that our internal control over financial reporting was not effective as of December 31, 2011. We currently do not have personnel with a sufficient level of accounting knowledge, experience and training in the selection, application and implementation of generally acceptable accounting principles as it relates to complex transactions and financial reporting requirements. We also have a small number of employees dealing with general controls over information technology security and user access. This constitutes a material weakness in financial reporting. Any failure to implement effective internal controls could harm our operating results or cause us to fail to meet our reporting obligations. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock, and may require us to incur additional costs to improve our internal control system.

Tecogen was formed in the early 1960’s as the Research and Development New Business Center of Thermo Electron Corporation, (which is now Thermo Fisher Scientific Inc.). For the next 20 years, this group performed fundamental and applied research in many energy-related fields to develop new technologies. During the late 1970’s, new federal legislation enabled electricity customers to sell power back to their utility. Thermo Electron Corporation saw a fit between the technology and know-how it possessed and the market for cogeneration systems. In 1982, the Research and Development group released its first major product, a 60-kW cogenerator. In the late 1980’s and early 1990’s, air-conditioning and refrigeration products using the same gas engine-driven technology were introduced, beginning with a 150-ton chiller. In 1987, Tecogen was spun out as a separate entity by Thermo Electron Corporation and in 1992 Tecogen became a division of the newly formed Thermo Power Corporation. In 2000, Thermo Power Corporation was dissolved, and Tecogen was sold to private investors including Thermo Electron Corporation’s original founders, Dr. George N. Hatsopoulos and John N. Hatsopoulos.

Tecogen has three affiliated companies, namely American DG Energy Inc., or American DG Energy, EuroSite Power Inc., or EuroSite Power, and GlenRose Instruments Inc., or GlenRose Instruments. These companies are affiliates

because several of the major stockholders of those companies, have a significant ownership position in the Company. American DG Energy, EuroSite Power and GlenRose Instruments do not own any shares of the Company, and the Company does not own any shares of American DG Energy, EuroSite Power or GlenRose Instruments. The business of GlenRose Instruments is not related to the business of the Company, American DG Energy and their other corporate affiliates.

American DG Energy, EuroSite Power and GlenRose Instruments are affiliated companies by virtue of common ownership. The common stockholders include:

- John N. Hatsopoulos, the Company's Chief Executive Officer who is also: (a) the Chief Executive Officer and a director of American DG Energy and holds 12.1% of the company's Common Stock, (b) the Chairman of EuroSite Power, (c) a director of Ilios and holds 7.3% of the company's Common Stock, and (d) the Chairman of GlenRose Instruments and holds 15.7% of the company's Common Stock.

- Dr. George N. Hatsopoulos, who is John N. Hatsopoulos' brother, and is also: (a) a director of American DG Energy and holds 14.7% of the company's Common Stock, (b) an investor in Ilios and holds 2.9% of the company's Common Stock and (c) an investor of GlenRose Instruments and holds 15.7% of the company's Common Stock.

John N. Hatsopoulos is the Company's Chief Executive Officer and is also the Chief Executive Officer of American DG Energy and the Chairman of GlenRose Instruments. On average, Mr. Hatsopoulos spends approximately 20% of his business time on the affairs of the Company; however such amount varies widely depending on the needs of the business and is expected to increase as the business of the Company develops.

Although we may, from time to time, have one or a few customers who may represent more than 10% of our product revenue for a given year, we are not dependent on the recurrence of such revenue from those customers. Our product revenue is such that customers may make a large purchase once and may not likely ever make such a purchase again. Our equipment is built to last 20 or more years, therefore, we do not build our product revenue model depending on recurring transactions from the same customer. Our service revenue may lend itself to recurring revenue from a single customer; however, we currently do not have any service revenue customers who make up more than 10% of our total revenues on an annual basis. American DG Energy has been considered a major customer in certain years as disclosed in the accompanying financial statements, however, we do not consider our business as "dependent" upon its recurrence.

We were incorporated in the State of Delaware on November 15, 2000. Our business and registered office is located at 45 First Avenue, Waltham, MA 02451. Our telephone number is 781-466-6400. Our Internet address is http://www.tecogen.com. The information on, or that may be accessed through, our website is not incorporated by reference into this prospectus and should not be considered a part of this prospectus.

We employ 56 active full-time employees and 4 part-time employees. Our corporate, engineering and manufacturing operations are located in a 24,000 square foot facility in Waltham, Massachusetts.

THE OFFERING

Securities being offered:	Up to 35,376,268 shares of Common Stock.
Common Stock to be outstanding after this offering:	54,243,882 shares
Offering price:	The offering price of the Common Stock is $0.80 per share. There is no public market for our Common Stock. We cannot give any assurance that the shares offered will have a market value, or that they can be resold at the offered price if and when an active secondary market might develop, or that a public market for our securities may be sustained even if developed. The absence of a public market for our stock will make it difficult to sell shares. We intend to apply to the over-the-counter bulletin board, through a market maker that is a licensed broker dealer, to allow the trading of our Common Stock upon our becoming a reporting entity under the Exchange Act. If our Common Stock becomes so quoted and a market for the stock develops, the actual price of stock will be determined by prevailing market prices at the time of sale or by private transactions negotiated by the selling stockholders. The offering price would thus be determined by market factors and the independent decisions of the selling stockholders.
Securities issued and to be issued:	54,243,882 shares of our Common Stock are issued and outstanding as of the date of this prospectus, 35,376,268 of which are being offered pursuant to this prospectus. Because all of the Common Stock to be sold under this prospectus will be sold by existing shareholders, there will be no increase in our issued and outstanding shares as a result of this offering.
Use of proceeds:	We will not receive any proceeds from the sale of the Common Stock by the selling stockholders.

SUMMARY CONSOLIDATED FINANCIAL DATA

The summary consolidated statements of operations data for each of the years ended December 31, 2011 and 2010 have been derived from our audited consolidated financial statements that are included elsewhere in this prospectus. You should read this information together with the consolidated financial statements and related notes and other information under "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus. Operating results for the year ended December 31, 2011 are not necessarily indicative of the results that may be expected for the year ended December 31, 2012.

Consolidated Statement of Operations Data:	December 31, 2011	2010
Revenues	$11,065,210	$11,311,229
Cost of sales	6,179,098	6,597,205
Gross profit	4,886,112	4,714,024
Operating expenses		
General and administrative	5,986,762	4,973,794
Selling	782,252	290,505
	6,769,014	5,264,299
Loss from operations	(1,882,902)	(550,275)
Other income (expense)		
Interest and other income	38,402	23,574
Interest expense	(40,294)	(37,280)
	(1,892)	(13,706)
Loss before income taxes	(1,884,794)	(563,981)
Provision for state income taxes	-	-
Consolidated net loss	(1,884,794)	(563,981)
Less: Loss attributable to the noncontrolling interest	310,293	208,673
Net loss attributable to Tecogen Inc.	$(1,574,501)	$(355,308)
Net loss per share - basic and diluted	$(0.03)	$(0.01)
Weighted average shares outstanding - basic and diluted	48,211,652	45,882,631

Consolidated Balance Sheet Data:	December 31, 2011	2010
Cash and cash equivalents	$3,018,566	$1,828,173

Short-term investments	683,428	85,000
Working capital	4,935,145	2,485,926
Total assets	8,745,492	5,876,422
Total liabilities	3,522,328	2,884,743
Stockholders' equity	$5,223,164	$2,991,679

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RISK FACTORS

The securities offered herein are highly speculative and should only be purchased by persons who can afford to lose their entire investment in us. You should carefully consider the following risk factors and other information in this prospectus before deciding to become a holder of our Common Stock. If any of the following risks actually occur, our business and financial results could be negatively affected to a significant extent.

Risks Relating to our Business

Our business faces many risks. If any of the events or circumstances described in the following risks occurs, our business, financial condition or results of operations could suffer and the trading price of our Common Stock could decline. Investors and prospective investors should consider the following risks and the information contained under the heading ‘‘Warning Concerning Forward-Looking Statements’’ before deciding whether to invest in our Common Stock.

Our operating history is characterized by net losses. We anticipate further losses, and we may never become profitable.

For each of our last five fiscal years and prior thereto, we have incurred annual operating losses. We expect this trend to continue until such time that we can sell a sufficient number of systems and achieve a cost structure to become profitable. We may not have adequate cash resources to reach the point of profitability, and we may never become profitable. Even if we do achieve profitability, we may be unable to increase our sales and sustain or increase our profitability in the future.

We may be unable to fund our future operating requirements, which could force us to curtail our operations.

To the extent that our funds are insufficient to fund our future operating requirements, we would need to raise additional funds, through further public or private equity or debt financings depending upon prevailing market conditions. These financings may not be available, or if available, may be on terms that are not favorable to us and could result in dilution to our stockholders and reduction of the trading price of our stock. The state of worldwide capital markets could also impede our ability to raise additional capital on favorable terms or at all. If adequate capital were not available to us, we likely would be required to significantly curtail our operations or possibly even cease our

operations. We believe that our existing resources, including cash and cash equivalents and future cash flows from operations, are sufficient to meet the working capital requirements of our existing business until March 31, 2013. Beyond March 31, 2013, as we continue to grow our business our cash requirements may increase. We may need to raise additional capital through a debt financing or an equity offering to meet our operating and capital needs for future growth.

If we experience growth in our business, our production capabilities or operational, financial and management information systems may become inadequate, which would impair our results of operations.

If we are successful in executing our business plan, we will experience growth in our business that could place a significant strain on our business operations, management and other resources. Our ability to manage such growth would require us to expand our production capabilities, continue to improve our operational, financial and management information systems, and to motivate and effectively manage our employees. We cannot provide assurance that our systems, procedures and controls or financial resources will be adequate, or that our management would keep pace with the growth that may occur.

The execution of our growth strategy is dependent upon the continued availability of third-party financing arrangements for our customers and is affected by general economic conditions.

The recent recessionary condition of the general economy and limited availability of credit and liquidity could materially and adversely affect our business and results of operations. Purchasers of our systems may require third party financing. Given the recent recession and the restricted credit markets, certain of our customers may be unable or unwilling to finance the cost to purchase our products or may be forced to cancel previously submitted orders or delay taking shipment until suitable credit is again available. Collecting payment from customers facing liquidity challenges may also be difficult. These factors could materially and adversely affect our business and financial condition.

We expect significant competition for our products and services.

Many of our competitors and potential competitors are well established and have substantially greater financial, research and development, technical, manufacturing and marketing resources than we do. Some of our competitors and potential competitors are much larger than we are. If these larger competitors decide to focus on the development of distributed power or cogeneration, they have the manufacturing, marketing and sales capabilities to complete research, development and commercialization of these products more quickly and effectively than we can. There can also be no assurance that current and future competitors will not develop new or enhanced technologies or more cost-effective systems. There can be no assurance that we will be successful in this competitive environment.

If we are unable to maintain our technological expertise in design and manufacturing processes, we will not be able to successfully compete.

We believe that our future success will depend upon our ability to develop and provide innovative products that meet the changing needs of our customers. This requires that we successfully anticipate and respond to technological changes in design and manufacturing processes in a cost-effective and timely manner. As a result, we continually evaluate the advantages and feasibility of new product design and manufacturing processes. We cannot, however, assure you that our process improvement efforts will be successful. The introduction of products embodying new technologies and shifting of customer demands or changing industry standards could render our existing products obsolete and unmarketable. Our future success will depend upon our ability to continue to develop and introduce a variety of new products and product enhancements to address the increasingly sophisticated needs of our customers. We may experience delays in releasing new products and product enhancements in the future. Material delays in introducing new products or product enhancements may cause customers to forego purchases of our products and purchase those of our competitors.

We are dependent on third-party suppliers for the supply of key components for our products.

We use third-party suppliers for components in many of our systems. From time to time, shipments can be delayed because of industry-wide or other shortages of necessary materials and components from third-party suppliers. A supplier's failure to supply components in a timely manner, or to supply components that meet our quality, quantity or cost requirements, or our inability to obtain substitute sources of these components on a timely basis or on terms acceptable to us, could impair our ability to deliver our products in accordance with contractual obligations.

We may not be able to maintain the confidentiality of our proprietary knowledge.

In addition to our patent rights, we also rely on treatment of our technology as trade secrets through confidentiality agreements, which our employees and vendors are required to sign. Our employees have agreed not to disclose any trade secrets or confidential information without our prior written consent. We also rely on non-disclosure agreements with others that have or may have access to confidential information to protect our trade secrets and proprietary knowledge. These agreements may be breached, and we may not have adequate remedies for any breach. Our trade secrets may also be or become known without breach of these agreements or may be independently developed by competitors. Failure to maintain the proprietary nature of our technology and information could harm our results of operations and financial condition.

Others may assert that our technology infringes their intellectual property rights.

We believe that we do not infringe the proprietary rights of others and, to date, no third parties have asserted an infringement claim against us, but we may be subject to infringement claims in the future. The defense of any claims of infringement made against us by third parties could involve significant legal costs and require our management to divert time from our business operations. Although we currently pay certain royalties, if we are unsuccessful in defending any claims of infringement, we may be forced to obtain licenses or to pay additional royalties to continue to use our technology. We may not be able to obtain any necessary licenses on commercially reasonable terms or at all. If we fail to obtain necessary licenses or other rights, or if these licenses are costly, our operating results may suffer either from reductions in revenues through our inability to serve customers or from increases in costs to license third-party technologies.

Our success is dependent upon attracting and retaining highly qualified personnel and the loss of key personnel could significantly hurt our business.

To achieve success, we must attract and retain highly qualified technical, operational and executive employees. The loss of the services of key employees or an inability to attract, train and retain qualified and skilled employees, specifically engineering, operations and business development personnel, could result in the loss of business or could otherwise negatively impact our ability to operate and grow our business successfully.

If we experience a period of significant growth or expansion, it could place a substantial strain on our resources.

If our cogeneration and chiller products achieve rapid market penetration, we may be required to deliver even larger volumes of technically complex products or components to our customers on a timely basis at reasonable costs to us. We have limited experience in ramping up our manufacturing capabilities to meet large-scale production requirements and delivering large volumes of our power control products. If we were to commit to deliver large volumes of our power control products, we cannot assure you that we will be able to satisfy large-scale commercial production on a timely and cost-effective basis or that such growth will not strain our operational, financial and technical resources.

Our business is subject to product liability and warranty claims.

Our business exposes us to potential product liability claims, which are inherent in the manufacturing, marketing and sale of our products, and we may face substantial liability for damages resulting from the faulty design or manufacture

of products or improper use of products by end users. We currently maintain a moderate level of product liability insurance, and there can be no assurance that this insurance will provide sufficient coverage in the event of a claim. Also, we cannot predict whether we will be able to maintain such coverage on acceptable terms, if at all, or that a product liability claim would not harm our business or financial condition. In addition, negative publicity in connection with the faulty design or manufacture of our products would adversely affect our ability to market and sell our products.

We sell our products with warranties. There can be no assurance that the provision in our financial statements for estimated product warranty expense will be sufficient. We cannot ensure that our efforts to reduce our risk through warranty disclaimers will effectively limit our liability. Any significant incurrence of warranty expense in excess of estimates could have a material adverse effect on our operating results, financial condition and cash flow. Further, we have at times undertaken programs to enhance the performance of units previously sold. These enhancements have at times been provided at no cost or below our cost. If we choose to offer such programs again in the future, such actions could result in significant costs.

Businesses and consumers might not adopt cogeneration solutions as a means for obtaining their electricity and power needs.

On-site distributed power generation solutions, such as ours, provide an alternative means for obtaining electricity and are relatively new methods of obtaining electrical power that businesses may not adopt at levels sufficient to grow our business. Traditional electricity distribution is based on the regulated industry model whereby businesses and consumers obtain their electricity from a government regulated utility. For alternative methods of distributed power to succeed, businesses and consumers must adopt new purchasing practices and must be willing to rely upon less traditional means of purchasing electricity. We cannot assure you that businesses and consumers will choose to utilize on-site distributed power at levels sufficient to sustain our business in this area. The development of a larger market for our products may be impacted by many factors which are out of our control, including, market acceptance, cost competitiveness, regulatory requirements and the emergence of newer, more competitive technologies and products. If a larger market fails to develop or develops more slowly than we anticipate, we may be unable to recover the losses we will have incurred to develop these products.

We operate in a highly regulated business environment, and changes in regulation could impose significant costs on us or make our products less economical, thereby affecting demand for our products.

Our products are subject to federal, state, local and foreign laws and regulations governing, among other things, emissions and occupational health and safety. Regulatory agencies may impose special requirements for the implementation and operation of our products or that may significantly affect or even eliminate some of our target markets. We may incur material costs or liabilities in complying with government regulations. In addition, potentially significant expenditures could be required in order to comply with evolving environmental and health and safety laws, regulations and requirements that may be adopted or imposed in the future. Furthermore, our potential utility customers must comply with numerous laws and regulations. The deregulation of the utility industry may also create challenges for our marketing efforts. For example, as part of electric utility deregulation, federal, state and local governmental authorities may impose transitional charges or exit fees, which would make it less economical for some potential customers to switch to our products. We can provide no assurances that we will be able to obtain these approvals and changes in a timely manner, or at all. Non-compliance with applicable regulations could have a material adverse effect on our business and financial condition. The market for electricity and cogeneration products is influenced by federal and state government regulations and policies. The deregulation and restructuring of the electric industry in the United States and elsewhere may cause rule changes that may reduce or eliminate some of the advantages of such deregulation and restructuring. We cannot determine how any deregulation or restructuring of the electric utility industry may ultimately affect the market for our products. Changes in regulatory standards or policies could reduce the level of investment in the research and development of alternative power sources, including our products. Any reduction or termination of such programs could increase the cost to our potential customers, making our systems less desirable, and thereby adversely affect our business and financial condition.

Utility companies or governmental entities could place barriers to our entry into the marketplace, and we may not be able to effectively sell our products.

Utility companies or governmental entities could place barriers on the installation of our products or the interconnection of the products with the electric grid. Further, they may charge additional fees to customers who install on-site generation or have the capacity to use power from the grid for back-up or standby purposes. These types of restrictions, fees or charges could hamper the ability to install or effectively use our products or increase the cost to our potential customers for using our systems. This could make our systems less desirable, thereby adversely affecting our revenue and other operating results. In addition, utility rate reductions make our products less competitive. The cost of electric power generation bears a close relationship to natural gas and other fuels. However, changes to electric utility tariffs often require lengthy regulatory approval and include a mix of fuel types as well as customer categories. Potential customers may perceive the resulting swings in natural gas and electric pricing as an increased risk of investing in on-site generation.

We depend upon the development of new products and enhancements of existing products.

Our operating results depend on our ability to develop and introduce new products, enhance existing products and reduce the costs to produce our products. The success of our products is dependent on several factors, including proper product definition, product cost, timely completion and introduction of the products, differentiation of products from those of our competitors, meeting changing customer requirements, emerging industry standards and market acceptance of these products. The development of new, technologically advanced products and enhancements is a complex and uncertain process requiring high levels of innovation, as well as the accurate anticipation of technological and market trends. There can be no assurance that we will successfully identify new product opportunities, develop and bring new or enhanced products to market in a timely manner, successfully lower costs and achieve market acceptance of our products, or that products and technologies developed by others will not render our products or technologies obsolete or noncompetitive.

We may not achieve production cost reductions necessary to competitively price our products, which would adversely affect our sales.

We believe that we will need to reduce the unit production cost of our products over time to maintain our ability to offer competitively priced products. Our ability to achieve cost reductions will depend on our ability to develop low cost design enhancements, to obtain necessary tooling and favorable supplier contracts and to increase sales volumes so we can achieve economies of scale. We cannot provide assurance that we will be able to achieve any such production cost reductions. Our failure to achieve such cost reductions could have a material adverse effect on our business and results of operations.

We have granted sales representation rights to an affiliated company which restricts our distribution.

We have granted to American DG Energy, an affiliated company, sales representation rights to our products and services in certain areas. In New England, American DG Energy has exclusive sales representation rights to our cogeneration products not including chillers. When Tecogen sells its cogeneration products in New England, Tecogen pays a commission to American DG Energy. American DG Energy has granted us sales representation rights to its On-Site Utility energy service in California; however, as of the date of this registration statement, this agreement has not materialized into any significant revenues. American DG Energy also has exclusive rights to our Ultra low-emissions technology if it is applied to engines from other CHP manufacturers used for their specific energy projects. In other words, American DG Energy could purchase CHP products from suppliers other than us and license that supplier to incorporate our Ultra low-emissions technology as long as the CHP system is owned and operated American DG Energy. As a result of those agreements we have no control over our distribution in certain areas and this could have a material adverse effect on our business and results of operations.

Commodity market factors impact our costs and availability of materials.

Our products contain a number of commodity materials, from metals, which include steel, special high temperature alloys, copper, nickel and molybdenum, to computer components. The availability of these commodities could impact our ability to acquire the materials necessary to meet our requirements. The cost of metals has historically fluctuated. The pricing could impact the costs to manufacture our products. If we are not able to acquire commodity materials at prices and on terms satisfactory to us or at all, our operating results may be materially adversely affected.

Our products involve a lengthy sales cycle and we may not anticipate sales levels appropriately, which could impair our results of operations.

The sale of our products typically involves a significant commitment of capital by customers, with the attendant delays frequently associated with large capital expenditures. For these and other reasons, the sales cycle associated with our products is typically lengthy and subject to a number of significant risks over which we have little or no control. We expect to plan our production and inventory levels based on internal forecasts of customer demand, which is highly unpredictable and can fluctuate substantially. If sales in any period fall significantly below anticipated levels, our financial condition, results of operations and cash flow would suffer. If demand in any period increases well above anticipated levels, we may have difficulties in responding, incur greater costs to respond, or be unable to fulfill the demand in sufficient time to retain the order, which would negatively impact our operations. In addition, our operating expenses are based on anticipated sales levels, and a high percentage of our expenses are generally fixed in the short term. As a result of these factors, a small fluctuation in timing of sales can cause operating results to vary materially from period to period.

The economic viability of our projects depends on the price spread between fuel and electricity, and the variability of the prices of these components creates a risk that our projects will be uneconomic.

The economic viability of our distributed generation products is dependent upon the price spread between fuel and electricity prices. Volatility in one component of the spread, the cost of natural gas and other fuels (e.g., propane or distillate oil) can be managed to a greater or lesser extent by means of futures contracts. However, the regional rates charged for both base load and peak electricity services may decline periodically due to excess capacity arising from over-building of utility power plants or recessions in economic activity. Any sustained weakness in electricity prices could significantly limit the market for our products.

We are exposed to credit risks with respect to some of our customers.

To the extent our customers do not advance us sufficient funds to finance our costs during the execution phase of our contracts, we are exposed to the risk that they will be unable to accept delivery or that they will be unable to make payment at the time of delivery.

We may make acquisitions that could harm our financial performance.

In order to expedite development of our corporate infrastructure, particularly with regard to equipment installation and service functions, we anticipate the future acquisition of complementary businesses. Risks associated with such acquisitions include the disruption of our existing operations, loss of key personnel in the acquired companies, dilution through the issuance of additional securities, assumptions of existing liabilities and commitment to further operating expenses. If any or all of these problems actually occur, acquisitions could negatively impact our financial performance and future stock value.

Our ability to access capital for the repayment of debts and for future growth is limited because the financial markets are currently in a period of disruption and recession and the Company does not expect these conditions to improve in the near future.

Our ability to continue to access capital could be impacted by various factors including general market conditions and the continuing slowdown in the economy, interest rates, the perception of our potential future earnings and cash distributions, any unwillingness on the part of lenders to make loans to us and any deterioration in the financial position of lenders that might make them unable to meet their obligations to us.

Our business is affected by general economic conditions and related uncertainties affecting markets in which we operate. The current economic conditions including the global recession could adversely impact our business in 2012 and beyond.

The current economic conditions including the global recession could adversely impact our business in 2012 and beyond, resulting in reduced demand for our products, increased rate of order cancellations or delays, increased risk of excess and obsolete inventories, increased pressure on the prices for our products and services; and greater difficulty in collecting accounts receivable.

Risks Related to Ownership of our Common Stock

We could issue additional Common Stock, which might dilute the book value of our Common Stock.

Our board of directors has the authority, without action or vote of our stockholders, to issue all or a part of any authorized but unissued shares. Such stock issuances may be made at a price that reflects a discount from the then-current trading price of our Common Stock. We may issue securities that are convertible into or exercisable for a significant amount of our Common Stock. These issuances would dilute your percentage ownership interest, which would have the effect of reducing your influence on matters on which our stockholders vote, and might dilute the book value of our Common Stock. You may incur additional dilution of net tangible book value if holders of stock options, whether currently outstanding or subsequently granted, exercise their options or if warrant holders exercise their warrants to purchase shares of our Common Stock. There can be no assurance that any future offering will be consummated or, if consummated, will be at a share price equal or superior to the price paid by our investors even if we meet our technological and marketing goals.

Our quarterly operating results are subject to fluctuations, and if we fail to meet the expectations of securities analysts or investors, our share price may decrease significantly.

Our annual and quarterly results may vary significantly depending on various factors, many of which are beyond our control. If our earnings do not meet the expectations of securities analysts or investors, the price of our stock could decline. Also, because our sales are primarily made on a purchase order basis, customers may generally cancel, reduce or postpone orders, resulting in reductions to our net sales and profitability.

Investment in our Common Stock is subject to price fluctuations and market volatility.

Historically, valuations of many small companies have been highly volatile. The securities of many small companies have experienced significant price and trading volume fluctuations, unrelated to the operating performance or the prospects of such companies.

Future sales of Common Stock by our existing stockholders may cause our stock price to fall.

The market price of our Common Stock could decline as a result of sales by our existing stockholders of shares of Common Stock in the market or the perception that these sales could occur. These sales might also make it more difficult for us to sell equity securities at a time and price that we deem appropriate and thus inhibit our ability to raise additional capital when it is needed.

Because we do not intend to pay cash dividends, our stockholders will receive no current income from holding our stock.

We have paid no cash dividends on our capital stock to date and we currently intend to retain all of our future earnings, if any, to fund the development and growth of our business. In addition, the terms of any future debt or credit facility may preclude us from paying these dividends. As a result, capital appreciation, if any, of our Common Stock will be your sole source of gain for the foreseeable future.

We are controlled by a small group of majority stockholders, and our minority stockholders will be unable to effect changes in our governance structure or implement actions that require stockholder approval, such as a sale of the Company.

George Hatsopoulos and John Hatsopoulos, who are brothers, beneficially own approximately 53.7% of our outstanding shares of Common Stock. These stockholders have the ability to control various corporate decisions, including our direction and policies, the election of directors, the content of our charter and bylaws and the outcome of any other matter requiring stockholder approval, including a merger, consolidation and sale of substantially all of our assets or other change of control transaction. The concurrence of our minority stockholders will not be required for any of these decisions.

There has been a material weakness in our disclosure controls and procedures and our internal control over financial reporting, which could harm our operating results or cause us to fail to meet our reporting obligations.

As of the end of the period covered by this report, our principal executive officer and principal accounting officer have performed an evaluation of controls and procedures and concluded that our controls were not effective to provide reasonable assurance that information required to be disclosed by our Company in reports that we file under the Exchange Act, is recorded, processed, summarized and reported as when required. Management conducted an evaluation of our internal control over financial reporting and based on this evaluation, management concluded that the company's internal control over financial reporting was not effective as of December 31, 2011. The Company currently does not have personnel with a sufficient level of accounting knowledge, experience and training in the selection, application and implementation of generally acceptable accounting principles as it relates to complex transactions and financial reporting requirements. The Company also has a small number of employees dealing with general controls over information technology security and user access. This constitutes a material weakness in financial reporting. Any failure to implement effective internal controls could harm our operating results or cause us to fail to meet our reporting obligations. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock, and may require us to incur additional costs to improve our internal control system.

Trading of our Common Stock may be restricted by the SEC's, "penny stock" regulations which may limit a stockholder's ability to buy and sell our stock.

The SEC has adopted regulations which generally define "penny stock" to be any equity security that has a market price less than $5.00 per share or an exercise price of less than $5.00 per share, subject to certain exceptions. Our securities may be covered by the penny stock rules, which impose additional sales practice requirements on broker-dealers who sell to persons other than established customers and accredited investors. The penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document in a form prepared by the SEC that provides information about penny stocks and the nature and level of risks in the penny stock market. The broker-dealer also must provide the customer with current bid and other quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction and monthly account statement showing the market value of each penny stock held in the customer's account. The bid and offer quotations, and the broker-dealer and salesperson compensation information, must be given to the customer orally or in writing prior to effecting the transaction and must be given to the customer in writing before or with the customer's confirmation. In addition, the penny stock rules require that prior to a transaction in a penny stock not otherwise exempt from these rules, the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. These disclosure and suitability requirements may have the effect of reducing the level of trading activity in the secondary market for a stock that is subject to these penny stock rules. Consequently, these penny stock rules may affect the ability of broker-dealers to trade our securities. We believe that the penny stock rules may discourage investor interest in and limit the marketability of our capital stock. Trading of our capital stock may be restricted by the SEC's "penny stock" regulations which may limit a stockholder's ability to buy and sell our stock.

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SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “will,” “would,” “could,” “should,” “continue,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus include, among other things, statements about:

- our future financial performance, including our revenue, cost of revenue, operating expenses and ability to achieve and maintain profitability;
- our ability to market, commercialize and achieve market acceptance for our combined heat and power systems or any other product candidates or products that we may develop;
- our ability to innovate and keep pace with changes in technology;
- the success of our marketing and business development efforts;
- our ability to maintain, protect and enhance our intellectual property;
- the effects of increased competition in our market;
- our ability to effectively manage our growth and successfully enter new markets; and
- the attraction and retention of qualified employees and key personnel.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly in the “Risk factors” section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual

future results may be materially different from what we expect. The forward-looking statements contained in this prospectus are made as of the date of this prospectus, and we do not assume any obligation to update any forward-looking statements except as required by applicable law.

USE OF PROCEEDS

We will not receive any proceeds from the sale of shares of Common Stock by the selling stockholders which are offered in this prospectus.

DETERMINATION OF OFFERING PRICE

The offering price for the shares in this offering was determined by our management. In determining the initial public offering price of the shares we considered several factors including the following:

- our status of business development;
- our new business structure and operations;
- prevailing market conditions, including the history and prospects for our industry;
- our future prospects and the experience of our management; and
- our capital structure.

Therefore, the public offering price of the shares does not necessarily bear any relationship to established valuation criteria and may not be indicative of prices that may prevail at any time or from time to time in the public market for the Common Stock. You cannot be sure that a public market for any of our securities will develop and continue or that the securities will ever trade at a price at or higher than the offering price in this prospectus.

DILUTION

We are not selling any of the shares of our Common Stock in this offering. All of the shares sold in this offering will be held by the selling stockholders at the time of the sale, so that no dilution will result from the sale of the shares.

SELLING SECURITY HOLDERS

The 35,376,268 common shares being offered for resale pursuant to this registration statement, or Common Shares, may be sold from time to time for the account of the selling security holders named in the following table. However, the selling security holders are not obligated to sell any of our Common Shares offered by this prospectus.

Beneficial ownership is determined in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. Except as otherwise indicated, all persons listed below have sole voting and investment power with respect to the shares beneficially owned by them, subject to applicable community property laws. The information is not necessarily indicative of beneficial ownership for any other purpose. With respect to selling stockholders that are entities, the individuals who have voting or investment power over the shares, as indicated, disclaim beneficial ownership of the securities except for their pecuniary interest therein.

None of the selling stockholders is in the business of buying and selling securities. However, Mr. Michael Zuk is affiliated with Oppenheimer & Co. The aforementioned investor purchased the securities in the ordinary course of his personal investment activities (or for his investment accounts) and at the time of the purchase he did not have any agreements or understandings directly or indirectly with any person to distribute the securities. If any shares of our Common Stock are sold by the aforementioned investor pursuant to this prospectus, he may be deemed an underwriter with respect thereto under the Securities Act. No other selling stockholders are themselves, or are affiliated with, a broker-dealer.

The table below contains information, to our knowledge, regarding each selling security holder's beneficial ownership of our Common Shares as of the date of this prospectus, and as adjusted to reflect the sale of the shares offered hereby, assuming that all of the shares offered hereby will be sold.

	Shares Beneficially Owned Prior to Offering			Shares Beneficially Owned After Offering	
Selling stockholder	Number	Percentage	Shares Being Offered (1)	Number (2)	Percentage
John N. Hatsopoulos (3)	14,875,350	27.42 %	14,875,350	-	*
George N. Hatsopoulos (4)	14,206,077	26.04 %	14,206,077	-	*
RBC Cees Nominees Ltd. (5)	3,616,418	6.67 %	2,847,188	769,230	1.42 %
Nettlestone Enterprises Limited (6)	1,394,231	2.57 %	625,000	769,231	1.42 %
Southern California Gas Company (7)	769,231	1.42 %	769,231	-	*
Robert A. Panora (8)	653,400	1.20 %	653,400	-	*
Charles T. Maxwell (9)	300,000	*	300,000	-	*
Bruno Meier	250,000	*	250,000	-	*

JNH 1989 Family Trust f/b/o Nia Marie Hatsopoulos (Nikolaidis Trustee) (10)	226,678	*	60,011	166,667	*
JNH 1989 Family Trust f/b/o Alexander Hatsopoulos (Nikolaidis Trustee) (11)	226,678	*	60,011	166,667	*
Jeremy Benjamin	200,000	*	200,000	-	*
Martin J. McDonough (12)	200,000	*	200,000	-	*
Ahmed Ghoniem (13)	100,000	*	100,000	-	*
Angelina Galiteva (14)	100,000	*	100,000	-	*
Michael Zuk, Jr. & Gayle Line Zuk (15)	70,000	*	20,000	50,000	*
Anthony S. Loumidis (16)	60,000	*	60,000	-	*
Bonnie Brown (17)	50,000	*	50,000	-	*
Total	37,298,063		35,376,268	1,921,795	

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* Represents beneficial ownership of less than 1% of our outstanding Common Stock.
\+ Member of our Board of Directors.
\# Executive Officer

1. Shares beneficially owned by our security holders and offered hereby consist of 35,376,268 outstanding shares of Common Stock.
2. The number assumes each selling security holder sells all of its shares being offered pursuant to this prospectus.
3. Includes: (a) 225,000 shares of Common Stock, directly held by Mr. John N. Hatsopoulos; (b) 4,948,165 shares of Common Stock; held by John N. Hatsopoulos and his wife, Patricia L. Hatsopoulos, as joint tenants, each of whom share voting and investment power; (c) 5,742,750 shares of Common Stock held by John N. Hatsopoulos and his wife, Patricia L. Hatsopoulos, as joint tenants with rights of survivorship, each of whom share voting and investment power; and (d) 3,959,435 shares of Common Stock held by The John N. Hatsopoulos Family Trust 2008 for the benefit of: (1) Patricia L. Hatsopoulos, (2) Alexander J. Hatsopoulos, and (3) Nia Marie Hatsopoulos, for which Mr. John N. Hatsopoulos is the trustee. This amount does not include: (a) 333,334 shares of Common Stock issuable upon conversion of $100,000 principal amount of 6% convertible debentures; and (b) 120,022 shares of Common Stock held by The John N. Hatsopoulos 1989 Family Trust for the benefit of: (1) Alexander J. Hatsopoulos, and (2) Nia Marie Hatsopoulos, for whom Mr. Paris Nikolaidis is the trustee. Mr. Hatsopoulos disclaims beneficial ownership of the shares held by that trust. Mr. John N. Hatsopoulos is the Chief Executive Officer of the Company and a director.
4. Includes: (a) 5,968,504 shares of Common Stock, directly held by Dr. George N. Hatsopoulos; (b) 7,934,350 shares of Common Stock; held by Dr. Hatsopoulos and his wife, Daphne Hatsopoulos, as joint tenants, each of whom share voting and investment power; and (c) 303,223 shares of Common Stock issuable upon conversion of $90,967 principal amount of 6% convertible debentures. This amount does not include 2,272,391 shares held in the 1994 Hatsopoulos Family Trust for the benefit of Dr. and Mrs. Hatsopoulos' adult children, for whom Ms. Daphne Hatsopoulos and Mr. Gordon Erhlich are the trustees. Dr. Hatsopoulos disclaims beneficial ownership of the shares held by this trust. Dr. George N. Hatsopoulos is a director of the Company.
5. Includes 3,616,418 shares of Common Stock held by RBC cees Nominees Ltd. The address of RBC cees Nominees Ltd. is 19-21 Broad Street, St. Hellier, Jersey JE1 3PB, Channel Islands. Messrs. Gordon Campbell and Michael James Evans are the authorized signatories of the company and may be deemed to exercise voting and/or dispositive power with respect to these shares.
6. Includes 1,394,231 shares of Common Stock held by Nettlestone Enterprises Limited. The address of Nettlestone Enterprises Limited is P.O. Box 665 Roseneath, The Grange, St. Peter Port, Guernsey GY1-3SJ, Channel Islands. Messrs. M.T.R Betley, M.S Heyworth and J.R Plimley are the directors of the company and may be deemed to exercise voting and/or dispositive power with respect to these shares.
7. Includes 769,231 shares of Common Stock held by the Southern California Gas Company. The address of the company is 8326 Centura Park Court, San Diego, California, 92123, and the directors of that company are the authorized signatories and may be deemed to exercise voting and/or dispositive power with respect to these shares.
8. Includes 653,400 shares of Common Stock, directly held by Mr. Panora, who is the Chief Operating Officer and President of the Company.
9. Includes 300,000 shares of Common Stock, directly held by Mr. Maxwell, who is a director of the Company.

10. Includes: (a) 60,011 shares of Common Stock; and (b) 166,667 shares of Common Stock issuable upon conversion of $50,000 principal amount of 6% convertible debentures held by Paris and Aliki Nikolaidis as trustees for the John N. Hatsopoulos 1989 Family Trust for the benefit of Nia Marie Hatsopoulos. Mr. Hatsopoulos disclaims beneficial ownership of those shares.
11. Includes (a) 60,011 shares of Common Stock; and (b) 166,667 shares of Common Stock issuable upon conversion of $50,000 principal amount of 6% convertible debentures held by Paris and Aliki Nikolaidis as trustees for the John N. Hatsopoulos 1989 Family Trust for the benefit of Alexander J. Hatsopoulos. Mr. Hatsopoulos disclaims beneficial ownership of those shares.
12. Includes 200,000 shares of restricted stock issued to Mr. McDonough that vest 25%, 180 days after an initial public offering and then an additional 25% of the shares vesting on each of the subsequent four anniversaries.
13. Includes 100,000 shares of Common Stock, directly held by Dr. Ghoniem, who is a director of the Company.
14. Includes 100,000 shares of Common Stock, directly held by Ms. Galiteva, who is the Chairperson of the Board of the Company.
15. Includes 70,000 shares of Common Stock held by Mr. Michael Zuk & Gayle Line Zuk. Mr. Michael Zuk is affiliated with Oppenheimer & Co. The seller purchased the securities to be resold in the ordinary course of business and at the time of the purchase, the seller had no agreements or understandings directly or indirectly, with any person to distribute the securities.
16. Includes 60,000 shares of Common Stock, directly held by Mr. Loumidis, who is a Vice President and Treasurer of the Company.
17. Includes 50,000 shares of Common Stock, directly held by Ms. Brown, who is the Chief Financial Officer of the Company.

Except for the current directors and officers as set forth in this Section and in the footnotes to the table above, other than Mr. Paris Nikolaidis, a former director of the Company who resigned from our Board of Directors on July 15, 2010, none of the selling stockholders has held any position or office, or had any other material relationship with the company within the past three years. See “Certain Relationships and Related Transactions” for a discussion of certain of the selling security holders’ relationship to us and our affiliates.

PLAN OF DISTRIBUTION

The selling security holders may, from time to time, sell, transfer, or otherwise dispose of any or all of their Common Shares on any stock exchange, market, or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices. The selling security holders will initially sell shares of our Common Stock at $0.80 per share, until such time as shares of our Common Stock may be quoted on the OTC Bulletin Board or listed on a national or international securities exchange. The selling security holders may use any one or more of the following methods when disposing of their Common Shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling security holders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling security holders may, from time to time, pledge or grant a security interest in some or all of the Common Shares owned in their name and, if they default in the performance of the secured obligations, the pledgees or secured parties may offer and sell the Common Shares, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act to include the pledgee,

transferee or other successors in interest as the selling security holders under this prospectus. The selling security holders also may transfer the Common Shares in other circumstances, in which case the transferees, pledges, or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our Common Shares, the selling security holders may enter into hedging transactions with broker-dealers or other financial institutions and may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of Common Shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling security holders from the sale of the Common Shares offered by them will be the purchase price of the Common Shares less discounts or commissions, if any. The selling security holders reserve the right to accept and, together with their respective agents from time to time, to reject, in whole or in part, any proposed purchase of Common Shares to be made directly or through agents.

The selling security holders also may resell all or a portion of the Common Shares in transactions on the OTC Bulletin Board a national, or international securities exchange, if and when our shares are quoted on the OTC Bulletin Board or listed on a national, or international securities exchange, in reliance upon Rule 144 under the Securities Act, provided that such transaction meets the criteria and conforms to the requirements of that rule.

Any underwriters, broker-dealers, or agents that participate in the sale of the Common Shares may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions, or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act.

To the extent required, the Common Shares to be sold, the name of the selling stockholder, the respective purchase prices and public offering prices, the names of any agent, dealer, or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

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

We have advised the selling security holders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling security holders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling security holders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling security holders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

DESCRIPTION OF SECURITIES TO BE REGISTERED

Up to 35,376,268 shares of our Common Stock may be sold by the selling security holders pursuant to this prospectus. The shares of common shares being offered for resale pursuant to this prospectus may be sold from time to time for the account of the selling security holders named in the *"Selling Security Holders"* section of this prospectus.

General

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and bylaws are summaries and are qualified by reference to the charter and the bylaws that will be in effect upon the effectiveness of this registration statement. These documents are filed as exhibits hereto.

Upon the effectiveness of this registration statement, our authorized capital stock will consist of 100,000,000 shares of Common Stock, par value $0.001 per share.

The following description summarizes information about our capital stock. You can obtain more comprehensive information about our capital stock by reviewing our certificate of incorporation and bylaws as well as the Delaware General Corporation Law.

Common Stock

General. As of the date of this prospectus, there were 54,243,882 shares of our Common Stock outstanding, held of record by 107 stockholders.

Voting Rights. Each holder of Common Stock is entitled to one vote per share on all matters properly submitted to a vote of the stockholders, including the election of directors. Our charter will not provide for cumulative voting rights. Because of this, but subject to the rights of any then outstanding shares of preferred stock, the holders of a majority of the shares of Common Stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose. An election of directors by our stockholders is determined by a plurality of the votes cast by stockholders entitled to vote on the election.

Dividends. Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of our outstanding shares of Common Stock are entitled to receive dividends, if any, as may be declared from time to time by our Board of Directors out of legally available funds.

Liquidation. In the event of our liquidation, dissolution or winding up, holders of Common Stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights and Preferences. Holders of our Common Stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our Common Stock with the exception of the investment of Southern California Gas Company on June 13, 2011, which has certain stockholder rights and a redemption right whereby the investor may redeem the shares for cash until the earlier of, the initiation of a public offering of the Company by filing a registration statement with the SEC, or five years, whatever comes first. The rights, preferences and privileges of holders of Common Stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future. The filing of our registration statement on Form S-1 on December 22, 2011, resulted in the expiration of the rights and preferences of the Southern California Gas Company; therefore as of December 31, 2011, we do not have any rights or preferences outstanding.

Stock Options

As of December 31, 2011, we had 4,381,000 options outstanding under our Stock Plan, each with a weighted average exercise price of $0.48 per share.

Warrants

As of December 31, 2011, there were no warrants outstanding.

Registration Rights

The Company is not a party to any registration rights agreements.

Delaware Anti-Takeover Law and Charter and Bylaws Provisions

Delaware Anti-Takeover Law. We are subject to Section 203 of the Delaware General Corporation Law. Section 203 of that law generally prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our Board of Directors, the business combination is approved in a prescribed manner or the interested stockholder acquired at least 85% of our outstanding voting stock in the transaction in which it became an interested stockholder. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

Certificate of Incorporation and Bylaws. Provisions of our certificate of incorporation and bylaws may delay or discourage transactions involving an actual or potential change of control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our Common Stock if and when it becomes tradable. Among other things, our charter and bylaws:

- authorize the issuance of "blank check" preferred stock, the terms of which may be established and shares of which may be issued without stockholder approval;
- eliminate the ability of stockholders to call a special meeting of stockholders; and
- establish advance notice requirements for nominations for election to the Board of Directors or for proposing matters that can be acted upon at stockholder meetings.

The amendment of any provisions of our charter by the stockholders would require the approval of the holders at least two-thirds of our then outstanding Common Stock. Our by-laws may be amended or repealed by a majority vote of our Board of Directors or by the affirmative vote of the holders of at least two-thirds of our then outstanding Common Stock.

Over-the-Counter (OTC) Bulletin Board and National, or International Securities Exchange

Following the effectiveness of this registration statement, we intend to arrange for the quotation of our Common Stock on the OTC Bulletin Board or the listing of our Common Stock on a national or international securities exchange.

Authorized but Unissued Shares

The authorized but unissued shares of Common Stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by regulatory authorities. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved Common Stock and preferred stock could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Transfer Agent and Registrar

The transfer agent and registrar for our Common Stock will be Continental Stock Transfer and Trust Company.

EXPERTS

The consolidated financial statements as of and for the periods ended December 31, 2011 and 2010, appearing in this registration statement and Prospectus have been audited by McGladrey & Pullen, LLP, an independent registered public accounting firm, as stated in their report appearing elsewhere herein, and are included in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

No expert or counsel named in this prospectus as having prepared or certified any part of this prospectus or having given an opinion upon the validity of the securities being registered or upon other legal matters in connection with the registration or offering of the Common Stock was employed on a contingency basis, or had, or is to receive, any interest, directly or indirectly, in our Company or any of our parents or subsidiaries. Nor was any such person connected with us or any of our parents or subsidiaries, if any, as a promoter, managing or principal underwriter, voting trustee, director, officer, or employee.

LEGAL MATTERS

The validity of our Common Stock offered under this prospectus will be passed upon by Sullivan & Worcester LLP, Boston, Massachusetts.

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BUSINESS

Overview

Tecogen designs, manufactures and sells industrial and commercial cogeneration systems that produce combinations of electricity, hot water, and air conditioning using automotive engines that have been specially adapted to run on natural gas. Our reliable and efficient cogeneration systems reduce energy costs, decrease greenhouse gas emissions and decrease reliance on utility-generated electricity. Cogeneration systems are efficient because in addition to supplying mechanical energy to power electric generators or compressors – displacing utility supplied electricity – they provide opportunity for the facility to incorporate the engine's waste heat into onsite processes such as space and potable water heating. We produce standardized, modular, small-scale products, with a limited number of product configurations that are adaptable to multiple applications. We refer to these combined heat and power products as CHP (electricity plus heat) and MCHP (mechanical power plus heat).

Tecogen manufactures and supports three types of CHP products:

- Cogeneration units that supply electricity and heat (traditional CHP).
- Chillers that provide air-conditioning and heat or hot water (MCHP).
- High efficiency water heater (Heat Pump) for general purpose hot water applications (MCHP), offered by our Ilios subsidiary.

Our CHP technology uses low-cost, mass-produced, internal combustion engines manufactured by GM and Ford (for our high efficiency water heater). These engines have been modified to run on natural gas and in the case of our established mainstay CHP and chiller products, have been proven to be cost-effective and reliable. In 2009, our internal research team developed a low-cost process of engine after treatment, or Ultra low-emissions technology, that provides our engines with exceptionally low emissions of criteria pollutants (contributors to smog and health concerns). We are awaiting the results of our patent application for this process and have introduced it commercially as an option to all of our products in 2012, under the trade name Ultra. This emissions system technology is important to us as it repositions our products, relative to environmental impact, to be on par with emerging technologies such as fuel cells, but at a much lower cost and greater overall efficiency in CHP applications. With emissions significantly lower than current engine technology, our Ultra low-emissions technology may reset existing natural gas regulations for engines in some areas of the country.

Our products are sold directly to end-users by our in-house marketing team and by established sales agents and representatives. Various agreements are in place with distributors and sales representatives, including three affiliated companies. Our existing customers include hospitals and nursing homes, colleges and universities, health clubs and spas, hotels and motels, office and retail buildings, food and beverage processors, multi-unit residential buildings,

laundries, ice rinks, swimming pools, factories, municipal buildings, and military installations. We have an installed base of more than 2,100 units. Many of these have been operating for almost 25 years. Our principal engine supplier is GM and principal generator suppliers are Danotek Motion Technologies, and Marathon Electric. To produce air-conditioning, our engines drive a compressor purchased from J&E Hall International.

Energy cost savings, carbon reduction, grid independence, the country's vast natural gas reserves, policy initiatives, and social responsibility all are factors driving the need for increased use of reliable, clean, and efficient on-site natural gas cogeneration systems with integral heat recovery.

In 2009 we created a majority-owned subsidiary Ilios, to develop and distribute a line of ultra-high-efficiency heating products, including a high efficiency water heater. These products provide twice the efficiency of conventional commercial and industrial boilers (based upon management estimates) utilizing advanced thermodynamic principles. As of the date of this prospectus, we own a 62.5% interest in Ilios.

Tecogen was formed in the early 1960's as the Research and Development New Business Center of Thermo Electron Corporation, (which is now Thermo Fisher Scientific Inc.). For the next 20 years, this group performed fundamental and applied research in many energy-related fields to develop new technologies. During the late 1970's, new federal legislation enabled electricity customers to sell power back to their utility. Thermo Electron Corporation saw a fit between the technology and know-how it possessed and the market for cogeneration systems. In 1982, the Research and Development group released its first major product, a 60-kW cogenerator. In the late 1980's and early 1990's, air-conditioning and refrigeration products using the same gas engine-driven technology were introduced, beginning with a 150-ton chiller. In 1987, Tecogen was spun out as a separate entity by Thermo Electron Corporation and in 1992 Tecogen became a division of the newly formed Thermo Power Corporation. In 2000, Thermo Power Corporation was dissolved, and Tecogen was sold to private investors including Thermo Electron Corporation's original founders, Dr. George N. Hatsopoulos and John N. Hatsopoulos.

Although we may, from time to time, have one or a few customers who may represent more than 10% of our product revenue for a given year, we are not dependent on the recurrence of such revenue from those customers. Our product revenue is such that customers may make a large purchase once and may not likely ever make such a purchase again. Our equipment is built to last 20 or more years, therefore, we do not build our product revenue model depending on recurring transactions from the same customer. Our service revenue may lend itself to recurring revenue form a single customer; however, we currently do not have any service revenue customers who make up more than 10% of our total revenues on an annual basis. American DG Energy has been considered a major customer in certain years as disclosed in the accompanying financial statements, however, we do not consider our business as "dependent" upon its recurrence.

We were incorporated in the State of Delaware on November 15, 2000. Our business and registered office is located at 45 First Avenue, Waltham, MA 02451. Our telephone number is 781-466-6400. Our Internet address is http://www.tecogen.com. The information on, or that may be accessed through, our website is not incorporated by reference into this prospectus and should not be considered a part of this prospectus.

We employ 56 active full-time employees and 4 part-time employees. Our corporate, engineering and manufacturing operations are located in a 24,000 square foot facility in Waltham, Massachusetts.

Industry background

In the 20th century, the evolution of fossil fuel power plants in the United States and elsewhere was moving toward increasingly large and complex central stations utilizing high-temperature steam turbines. This technology, although steadily refined, reached a plateau of about 40% efficiency that persists to this day. According to the Environmental Protection Agency, or EPA, the present average efficiency of fossil-fueled power plants in the United States, including additional transmission losses, is 33% and has remained virtually unchanged for four decades[1].

The efficiency limitation reached in steam power plant design is universal in all devices converting the chemical energy from a burned fuel to electric power. This upper limit, due to practical design limitations, but also fundamental thermodynamic barriers[2] inherent in energy conversion, can only be improved incrementally and at significant cost. The very best commercial efficiency obtainable is about 50% from either a combined cycle steam turbine or a fuel cell. A combined cycle steam turbine incorporates a second, low-temperature turbine powered by spent exhaust gases from the first, a very expensive addition with only small benefit. Fuel cells, on the other hand, remain very expensive, and are generally confined to highly subsidized proof of concept projects.

[1] http://www.epa.gov/chp/basic/efficiency.html. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

[2] An ideal heat engine, defined by Nicolas Léonard Sadi Carnot, in his development of the concept of entropy, as being reversible and without friction, has an efficiency bound by the relative extremes of its heat sink temperatures. In this case, these are the fuel's combustion temperature relative to our local ambient condition. For fossil fuels the ideal maximum is about 70%, a theoretical device which cannot be constructed. For direct chemical conversion to electricity (fuel cells), the upper limit for efficiency is defined by Josiah Willard Gibbs' "free energy" which is maximized at 82%. Again this is an ideal device operating at an infinitely low output and fueled with hydrogen, which must be manufactured from fossil fuels with a considerable energy cost.

The efficiency limitation in centralized power production is essentially immovable; incremental improvement can only be made by large scale replacement of the existing stations with combined cycle or similar technology. This would take decades and would require significant costs and yield marginal benefits.

However, harnessing the waste energy that exits the fossil fuel power generation process in the form of hot water or low pressure steam, and using it purposefully for nearby process heating (i.e. CHP) can boost the efficiency to approaching 90%, a better than two-fold improvement. Given the thermodynamic limits on energy conversion, no other methodology for obtaining this level of efficiency gain exists or will ever exist from power generation sourced from fossil fuels. The implications of this process approach are significant. If CHP were applied in a large scale, global fuel usage would be curtailed dramatically, while implementation would require smaller, decentralized power systems in sizes on par with boilers and furnaces ranging from residential to the largest industrial process.

In order to properly service heating loads, CHP small-scale power generation technologies are located close to the load being served. According to a report by the International Energy Agency, or IEA, the attractiveness of CHP systems to end-users and policy makers stems from the fact that these systems are "inherently energy efficient and produce energy where it is needed.[3]

The report lists the benefits succinctly as follows: (1) dramatically increased fuel efficiency, (2) reduced emissions of CO_2 and other pollutants, (3) cost savings for the energy consumer (4) reduced need for transmission and distribution networks; and (5) beneficial use of local energy resources (particularly through the use of waste, biomass, and geothermal resources in district heating systems), providing a transition to a low-carbon future.

This IEA report agrees with many other reports regarding CHP. The EPA's has created a Combined Heat and Power Partnership that seeks to reduce the environmental impact of power generation by fostering the use of highly-efficient CHP. The following statement is found on the EPA web site:

"Combined heat and power systems offer considerable environmental benefits when compared with purchased electricity and onsite-generated heat. By capturing and utilizing heat that would otherwise be wasted from the production of electricity, CHP systems require less fuel than equivalent separate heat and power systems to produce the same amount of energy. Because less fuel is combusted, greenhouse gas emissions, such as carbon dioxide (CO_2), as well as criteria air pollutants like nitrogen oxides (NO_x) and sulfur dioxide (SO_2), are reduced.[4]

While CHP eliminates transmission and distribution losses (an efficiency benefit), it also offsets capital expenditures involved in upgrading or expanding the utility infrastructure (transmission & distribution/power plants). The national electric grid infrastructure is challenged to keep up with the growing US energy demand. The grid consists of the power generation plants as well as the transmission and distribution network of substations and wires. Power plants

are aging and plans for new ones are on the decline (see Figure 1). The U.S. Energy Information Administration Form EIA-860 Annual Electric Generator Report shows that the average age of a US coal-fired power plant is 43 years, which comprises approximately 30% of the nation's capacity.[5]

[3] International Energy Agency, Cogeneration and District Energy – Sustainable energy technologies for today and tomorrow, 2009, page 13. http://www.iea.org/files/CHPbrochure09.pdf. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

[4] http://www.epa.gov/chp/basic/environmental.html. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

[5] U.S Energy Information Administration, "Existing Units by Energy Source" 2010 (Excel file) http://www.eia.gov/electricity/annual. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

In addition, the distribution networks' transmission and distribution is operating at capacity in urban areas. Therefore, the distributed energy model of decentralizing power generation not only relieves the capacity constraints of existing power plants, but also unburdens the transmission and distribution systems, which ultimately improves the overall grid reliability and reduces the need for costly infrastructure upgrades. Consolidated Edison, Inc., the electric utility of New York City and surrounding areas, stated in their 2010 electric system long range plan: "Over the next 20 years we will seek to integrate energy efficiency, distributed generation and demand response to further our goals of deferring new infrastructure investments and providing safe, reliable, and reasonably priced service that is environmentally responsible.

Figure 1 – Proposed U.S. New Capacity: Coal, Natural Gas, Wind, and Nuclear[6]

Tecogen's Solution

Our CHP products address this inherent efficiency limitation of central power plants by fulfilling the growing market need for the production of small scale power generation located close to the loads being served, thus allowing energy intensive facility owners to reduce energy costs and operate with a lower carbon footprint. Furthermore, with recent technology innovations just within the last two years, our products now improve local air quality.

Our products provide our customer with the means to produce energy at their facility in a manner that is significantly more efficient than fossil-fueled central station power. Their high efficiency translates directly into lower energy consumption and, since they address shortcomings in the electricity production process, their benefit is enhanced (not redundant) by other onsite upgrades made to reduce usage, such as insulation, lighting upgrades, etc. According to our estimates and public sources, our cogeneration systems convert more than 80% (based on HHV) or 90% (based on LHV[7]) of the natural gas fuel to useful energy in the form of electricity and hot water or space heat compared to less than 40% for conventional power plant production. Our engine-driven chillers, when the waste heat is effectively used, offer similar efficiency benefits when compared with the conventional alternative (an electric chiller and onsite heater).

[6] National Energy Technology Laboratory Presentation, Tracking New Coal Fired Power Plants, July 2011, page 23. http://www.netl.doe.gov/coal/refshelf/ncp.pdf. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

[7] We use the higher heating value (HHV) of fuels for calorific content for all of our efficiency calculations. This convention reports efficiency at 10% lower than the other common convention, lower heating value (or LHV). Either is valid but it is important to be specific about which one is being used, especially when comparing different technologies reported from different sources.

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Our cogeneration and chiller products can often reduce customer operating costs by 30% to 60% which provide an excellent rate of return for their increased capital costs in many areas of the country with high electric tariffs.[8] Our chillers are especially suited to regions where tariffs are structured to bias electricity billing for peak usage charges (commonly called “demand” charges) or have other penalties associated with utility interconnection (see detailed discussion in section on government regulations). In these cases the chiller products target electricity costs at the most costly time of year (summer) while avoiding any negative aspects of utility interconnection, as our chillers run only on natural gas and have no tie to the electric grid.

Our heat pump product, recently introduced by our Ilios subsidiary, operates like an electric heat pump but utilizes a natural gas engine instead of the conventional electric motor to power the system. As such, the engine’s waste heat can be incorporated into the process, unlike its electric counterpart, which suffers upstream losses from the grid’s transmission and central station losses – 60% or greater. The net effect is that our heat pumps have efficiency far surpassing conventional boilers or electric heat pumps by that amount and more, in the case of a conventional heater. This improved efficiency translates directly to lower fuel consumption and for heavy use applications, significantly reduces operating costs.

Our products also address the worldwide objective of reducing greenhouse gas emissions. Natural gas outputs the lowest carbon dioxide emissions (CO_2 or carbon) per unit of energy of all the primary fossil fueling sources for power generation. According to the EPA website[9], a comparison of the CO_2 emissions for each fuel is as follows:

Natural Gas: 117.7 lbs CO_2/MMBtu (117.7million British Thermal Units)
Distillate Oil: 160.9 lbs CO_2/MMBtu
Coal: 206.7 lbs CO_2/MMBtu

In addition to using the lowest carbon content fuel, our products reduce CO_2 emissions further because of their improved efficiency. Figure 2 provides a comparison of the relative CO_2 output of our products compared to the national electric power grid (inclusive of all forms of power including wind, hydro, nuclear, natural gas and coal) and other energy sources. Our products are far superior to the grid and any other fossil fuel options available, including fuel cells and microturbines. Furthermore, using the carbon calculator on the EPA website, one Tecogen 100 kW CHP unit will reduce carbon emissions by 390 tons per year, or the equivalent of 64 cars (based on 8,000 run hours), compared to a microturbine of the same size that will reduce carbon emissions by 245 tons per year, or the equivalent of 41 cars, nearly 40% less than our CHP products. Our Ilios Heat Pump also offers CO_2 savings in proportion to its fuel savings of 60% or more.

[8] The Economics of Cogeneration, William Ryan, Ph.D., P.E., ASHRAE Journal, October 2002, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

[9] http://www.epa.gov/chp/basic/calculator.html. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

Figure 2 – Comparison of Carbon Emissions (GHG) for Various Sources Including

Tecogen's CHP and Chiller Products

(1) Average U.S. Powerplant CO_2 emission rate of 1,293 (lb/MWh) from USEPA eGrid 2010

(2) Coal Combined Cycle emissions based upon 50% efficiency (assumed to be the same as NG - see reference below)and coal CO2 emission rate from EPA website

(3) "Best in Class" NG combined cycle plant emissions based upon 50% efficiency (Northwest Power Planning Council "Natural Gas Combined-cycle Gas Turbine Power Plants), August 2002

(4) Fuel Cell and Microturbine emissions based upon calculations from efficiency data listed in the California Energy Commission, PIER Program, Combined Heat and Power Market Assessment, 2010 by ICF International

In addition to reductions in greenhouse gases, our products can benefit local air quality with regard to pollutant emissions. With the assistance of sponsored research funding from the California Energy Commission and the Southern California Gas Company, in 2010 we developed an advanced technology for controlling engine emissions. This patented Ultra low-emissions technology keeps our CHP systems compliant with air quality regulations over the long term. After a successful field test for more than a year, we shipped the first commercial Ultra low-emissions technology equipped units to the Sacramento Municipal Utility District in California in mid-2011.

With the new emission control technology, our products improve local air quality relative to either the conventional process (water heater with grid supplied power) or even the water heater alone. Figure 3 presents the annual emissions (lbs/year) from an Ultra CHP (labeled D), operating at 100 kW and producing 670,000 Btu/hr of heat for 6000 hours per year. Also shown are the annual emissions produced by a power plant (labeled A) and a gas boiler (labeled B) for the same energy production. As shown, the Ultra emissions (D) are significantly less than the combination of the power plant and boiler (A + B).

Figure 3 also compares the Ultra emission control technology to the Best Available Control Technology[10] (BACT) for natural gas engines as currently defined by the EPA. This illustrates the degree of improvement of the emissions output with the Ultra system. The BACT emission levels (labeled C) are indicative of the negative perception engines have historically had with respect to air quality. Engines have been actually more detrimental to the local environment when it is considered that a power plant is typically remotely sited, rendering it inconsequential to the local pollutant levels. This just leaves the gas boiler (B) affecting local air quality which is much more favorable than engine BACT (C). The Ultra technology can now transform the engine's reputation to a clean source of energy generation.

[10] Best available control technology (BACT) is a pollution control standard mandated by the United States Clean Air Act. See section under Government Regulations for detailed discussion.

Figure 3 –Emissions Levels of Criteria Pollutants from Various Sources Compared to

Tecogen's Ultra Low-Emissions Technology

(1) Based upon an output of 100 kW and 670,000 Btu/hr of heat.

(2) Average U.S. powerplant NOx emission rate of 1.7717 lb/MWh from (USEPA eGrid 2010)

(3) Gas boiler efficiency of 75% with emissions of 20 ppm @ 3% O2 (California Regulation SCAQMD Rule 1146.2)

Lastly, since the U.S. supply of natural gas has grown dramatically in the past few years, our natural gas engine-driven CHP systems contribute to energy security. They also help relieve grid congestion by minimizing peak demand on the utility system and by supplying electricity at customer sites, so utilities need not transmit the additional power.

Our Products and Services

Products

We manufacture natural gas engine-driven cogeneration systems and chillers, all of which are CHP systems that deliver more than one form of energy. We have simplified CHP technology for inexperienced customers. Our cogeneration products are all standard, modular units that come pre-packaged from the factory. They include everything the customer needs to minimize the cost and complexity of installing the equipment at their site. The package incorporates the engine, generator, heat-recovery equipment, system controls, electrical switchgear, emission controls, and modem for remote monitoring and data logging.

All of our cogeneration systems and most of our chillers use the same engine, the TecoDrive 7400 model supplied by the GM and modified by us to use natural gas fuel. The small 25 ton chiller uses a similar GM engine, the 3000 model. We have worked closely with GM and the gas industry (including The Gas Research Institute) in the 1980's and 1990's in funded research programs to develop the modifications to the engine and validate its durability. For the Ilios Heat Pump, we have introduced a more modern Ford engine that is enhanced for industrial gas applications.

Our commercial product line includes:

InVerde®

Our premier cogeneration product is the InVerde system, a 100 kW inverter-based CHP system that not only provides electricity and hot water for conventional cogeneration, but also satisfies the growing customer demand for "black-start" capability (operation during utility outage) as a result of its inverter-based (power electronics) technology. An inverter is an electrical device that converts direct current, or DC, to alternating current, or AC. The converted AC can be at any required voltage and frequency with the use of appropriate transformers, switching, and control circuits. Power electronics convert a variable-frequency permanent magnet generator's output to high-quality, 60-Hertz power (see Figure 4). This technology was developed for the renewable power generation industry (solar, wind), with the InVerde being the first commercial engine-based CHP system to use an inverter. It is considered a safe technology by electrical utilities, specifically with certification to the Underwriters Laboratory[11] Standard 1741 interconnection standard, a status the InVerde has acquired. This qualifies the product for a much simpler permitting process and is a mandatory requirement in some regions of the country (such as New York City and California). The inverter also improves the CHP system's efficiency at partial load, when less heat and power are needed by the customer.

The InVerde's black-start feature addresses a crucial demand from commercial and institutional customers who are increasingly concerned about utility grid blackouts and brownouts, natural disasters, security threats, and antiquated utility infrastructure. Multiple InVerde units can also operate as a standalone microgrid, equipped with licensed software that will allow a cluster of units to effortlessly and seamlessly align themselves to share the load (both real and reactive power) without complex controls. The InVerde CHP system was developed in 2007 and begun shipping in 2008. Our largest fleet installation for this product is twelve units for 1.2 MW of onsite power generation, 8.5 MMBtu/hr of heat (700,000 Btu/hr per unit).

Figure 4 - Diagram of InVerde CHP System

TECOGEN®

The TECOGEN® cogeneration system is the original model introduced back in the 1980's, which is available in sizes of 60 kW and 75 kW, with up to 500,000 Btu/hr of hot water. This technology is based upon conventional induction generators[12], so it is meant only for grid-connected operation and does not have universal interconnection acceptance as compared to the InVerde. While this product has the longest legacy and population, its production has been offset with the introduction of the InVerde.

[11] Underwriters Laboratory is a global independent safety science company offering expertise across five key strategic businesses: product safety, environment, life and health, knowledge services and verification services.

[12] An induction generator or asynchronous generator is a type of AC electrical generator that uses the principles of induction motors to produce power. Induction generators operate by mechanically turning their rotor in generator mode, giving negative slip. In most cases, a regular AC asynchronous motor is used as a generator, without any internal modifications.

TECOCHILL® Chillers

Our TECOCHILL® natural gas engine-driven chiller products are available in capacities ranging from 25 to 400 tons, with the smaller units air-cooled and the larger ones water-cooled. This technology was developed in 1987. The engine's mechanical energy is used to drive a compressor that makes chilled water, while the engine's free waste heat can be recovered to satisfy simultaneous building heating needs. This is sometimes referred to as "mechanical" cogeneration.

A gas chiller reduces most of the electrical demand (kW) associated with providing cooling for a building, thus reducing on-peak electrical demand (kW) and energy (kWh) charges, especially in the summer when electricity rates are at their highest, but when natural gas is "off-peak" and quite affordable. This also frees up electric capacity to use for other building loads.

Ilios High Efficiency Water Heater (Heat Pump)

The Ilios high efficiency water heater utilizes a heat pump cycle that takes the naturally occurring energy from the environment (low temperature) and with mechanical work of a compressor, pumps this heat to higher temperature using a standard vapor compression refrigeration cycle. Heat exchangers are used to extract energy from the cold source and deliver it to the warmed media. While heat pumps can be configured many different ways, in the case of Ilios, the cold source is the outdoor environment and the warmed media is the building's hot water. In a conventional heat pump, the compressor is driven by an electric motor. But with Ilios, a natural gas fired engine provides the shaft power. As a result, the refrigeration cycle heat is supplemented with the engine waste heat for added efficiency. The modular product, with an output of 500,000-700,000 Btu/hr, is designed to serve several common applications (potable water, space heating, pools, etc.). The first Ilios Heat Pump was sold at the end of 2011 and is currently operating at a site.

Ultra Low-Emissions Technology

All of our CHP products are now available with the Ultra low-emissions technology. This breakthrough technology was developed in 2010 as part of a funded research effort sponsored by the California Energy Commission and Southern California Gas Company. The objective of the research and development was to bring our emissions control systems in compliance with the California Air Resources Board, or CARB, emission regulations, the most stringent standard in the United States. We were able to exceed the regulation limits with a system that is cost-effective, robust, and reliable. Given the proprietary nature of this work, we filed for a patent in 2010.

In an effort to properly vet this technology, we identified and fulfilled three validation efforts. The first was to obtain third-party laboratory verification. AVL California Technology Center, a long-standing research and technology partner with the international automotive industry, confirmed our results in their state-or the art dynamometer test cell, which was outfitted with sophisticated emissions measurement equipment. The second validation effort was to verify the longevity and reliability in the field. We did so by equipping one of our TECOGEN 75 kW units, already operating at a customer location in Southern California, with the Ultra low-emissions technology and a continuous emissions monitoring device. To date, it has successfully operated over 13,000 hours (1 ½ years) and has consistently maintained CARB compliance. Lastly, we had two separate source test companies, licensed in California to perform emissions tests conforming to local regulations, each verify the results at different times during this ongoing field test. In fact, the results from the latter of these tests obtained in August 2011 were submitted to the State of New Jersey in an application to obtain air permit exemption. This certification was granted in November 2011. Since then we have sold Ultra systems to various customers.

Reliability

Our product lines have had a long history of reliable operation. Since 1995, we have had a remote monitoring system in place that connects to hundreds of units daily and reports (among other information) their availability, which is a percentage of the amount of time a unit is able to operate in a time period. Figure 5 shows the cumulative data for a monitored fleet of 365 units. It illustrates that >80% of the units operate at > 90% availability, with the average being 93.5%. By comparison, the average availability for fossil fueled power plants in the United States is 87.5% (NERC average, 2006-2010, <100 MW)[13], validating that our CHP reliability surpasses typical power plants.

Figure 5 - Tecogen Product Reliability

Product Service

We provide long-term maintenance contracts, ongoing parts sales, and turnkey installation through a network of eight well-established field service centers in California, the Midwest, and the Northeast. These centers are staffed by full-time Tecogen technicians, working from local leased facilities. The facilities provide office space and warehouse space for parts inventory.

Our service managers, supervisors and technicians work exclusively on our products. Because we manufacture our own equipment, our service technicians bring hands-on experience and competence to their jobs. They are trained at our manufacturing facility in Waltham, Massachusetts.

R&D Capabilities

Our research and development tradition and ongoing research have allowed us to cultivate deep engineering expertise and maintain continuity over several decades. We have sustained a strong core technical knowledge that is critical to ongoing product support and enhancements. Our TecoDrive engine, cogeneration and chiller products, InVerde, and most recently the InVerde Ultra and Ilios Heat Pump, were all created and optimized with the support of both public and private funding sources.

At this time, we have two funded research and development contracts. The first is a $1 million program with the California Energy Commission, awarded in 2009, to develop a small CHP engine (<50 HP) that utilizes advanced automotive technology for a nearly 20% fuel efficiency gain over our current TecoDrive technology. Once an endurance test is completed later this year, we expect to introduce this engine into the Ilios Heat Pump. The second contract is a Department of Energy contract through the Lawrence Berkeley National Laboratory for microgrid development work related to the InVerde that was awarded in 2012.

[13] North American Electric Reliability Corporation, “Generating Availability Report”, All Fossil Fuel Type plants, AF (Availability Factor), 2006 -2010 average, < 100 MW. http://www.nerc.com/page.php?cid=4|43|47. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

Distribution methods

Our products are sold directly to end-users by our sales team and by established sales agents and representatives. Various agreements are in place with distributors and outside sales representatives, who are compensated by commissions, including three affiliated companies, for certain territories and product lines. For example, we have sales representatives for the chiller market in the New York City/New Jersey territory; however, we do not have a sales representative for our cogeneration products in this territory. Sales sold through our in-house sales team or for those sales that are not covered by a sales representative's territory, are sold without commission or with a fractional commission amount.

American DG Energy has sales representation rights to our products and services. In New England, American DG Energy has exclusive sales representation rights to our cogeneration products not including chillers. When Tecogen sells its cogeneration products in New England, Tecogen pays a commission to American DG Energy. American DG Energy has granted us sales representation rights to its On-Site Utility energy service in California; however, as of the date of this registration statement, this agreement has not materialized into any significant revenues. American DG Energy also has exclusive rights to our Ultra low-emissions technology if it is applied to engines from other CHP manufacturers used for their specific energy projects. In other words, American DG Energy could purchase CHP products from suppliers other than us and license that supplier to incorporate our Ultra low-emissions technology as long as the CHP system is owned and operated American DG Energy.

Summary of advantages of our products

- Our CHP products provide an efficient onsite solution to power generation as the market seeks cost savings and clean alternatives to centralized grid power.

- Our CHP products are all standard, modular units that come pre-packaged from the factory to simplify installation and grid connection. The systems are supported in the field by a nationwide network of experienced professional staff. Standardized CHP units offer many compelling advantages, including lower cost, better quality control, higher reliability, easier service, integrated emission controls, and complete system warranty and maintenance support, than custom CHP systems.

- Our recent technology development of the Ultra low-emissions technology now eliminates the air quality concerns typically associated with engines. Our units comply with the most rigorous air quality regulations and may give us a significant advantage in California markets.

- Our cogeneration systems and chillers use standard, well-proven equipment made by reputable, well-established manufacturers. These components include rugged automotive-type engines, certified

inverters, induction generators, permanent-magnet generators[14], and conventional compressors. Certain key components are proprietary and have patent protection. Most notably, all software used in control is either proprietary (and copyright protected) or is used under exclusive license agreement. Our permanent magnet generator was developed exclusively for our InVerde as was the associated specialized inverter with these suppliers holding certain related patent protection.

[14] A permanent magnet synchronous generator is a generator where the excitation field is provided by a permanent magnet instead of a coil. Synchronous generators are the majority source of commercial electrical energy. They are commonly used to convert the mechanical power output of steam turbines, gas turbines, reciprocating engines, hydro turbines and wind turbines into electrical power for the grid. They are known as synchronous generators because the speed of the rotor must always match the supply frequency. In a permanent magnet generator, the magnetic field of the rotor is produced by permanent magnets. Other types of generator use electromagnets to produce a magnetic field in a rotor winding. The direct current in the rotor field winding is fed through a slip-ring assembly or provided by a brushless exciter on the same shaft.

- All of our CHP products, both cogeneration systems and chillers, can be designed for installation of multiple units at a single site, depending on the customer's particular needs. This enhances the ability of our products to meet the building's varying demand for electricity, heat, and/or air-conditioning throughout the day and from season to season. Also, multiple units operate more efficiently throughout the range of a customer's high and low energy requirements.

- Our InVerde products are opening new market opportunities and expanding our reach to customers beyond our traditional market segments. The InVerde's black-start feature addresses a crucial demand from customers concerned about utility blackouts and brownouts, natural disasters, security threats, and antiquated grid infrastructure. The InVerde also provides premium-quality power (in terms of wave form, voltage, and power factor), which is required by operators of computer server farms and precision instrumentation, for example. The InVerde product line also overcomes barriers related to grid interconnection, since the product is UL-certified as utility-safe (see our discussion on government regulations). Our standard cogeneration product lines are also designed to facilitate interconnection. Our extensive use of standardized components lets us manufacture CHP products at competitive prices, even at relatively low production volumes. Proven, well-understood hardware also increases the reliability and durability of the equipment and reduces the cost of servicing in the field. We are also able to minimize spare parts inventories and simplify training requirements.

- The Ilios Heat Pump utilizes a reverse refrigeration cycle powered by a natural gas engine to greatly improve heating efficiency relative to conventional "burner-based" systems. The heat pump cycle allows the system to reclaimed free heat from the local environment and add that energy to that which is contained in the fuel. The additive effect approximately doubles the efficiency relative to the conventional heating product. The system targets a large international market that is characterized by heavy, year-round use. This will increase fuel savings and maximize return on investment for the customer. These applications are also mostly centralized systems, rather than distributed, which allows easier integration of the new product into the facility. Also, the product competes only against other gas-fueled water heaters, which could expand our market beyond areas with high electric rates, and regulatory issues should be minimal.

Market Potential

Market Potential – CHP Today and 20 Year Outlook

In the late 1970's, energy policy was at the forefront of public discourse in the United States and elsewhere. CHP or cogeneration, the common term at that time, was recognized as an essential policy initiative that would alleviate fossil fuel consumption, reduce pollution, and alleviate grid congestion. The motivations of policy makers of that era largely parallel those of their contemporaries with the important exception of carbon mitigation, which had not yet been recognized as a potential problem. The essential regulation required to trigger the market was Public Utility Regulatory Policies Act (PURPA) passed in 1978 that required utilities to accept approved interconnected power sources and afford them fair treatment, including power purchase tariffs. Qualified technologies included the familiar renewable devices (wind and solar photovoltaic PV collectors) and fossil-fueled generation technologies so long as the overall efficiency – electricity and waste heat recovered – exceeded a minimum value.

In the ensuing decades, CHP has been applied to an increasing extent throughout the world as a means to provide the aforementioned societal benefits and more directly to reduce energy costs for consumers. Based on the IEA report, CHP generates about 10% of global electricity with the most heavily invested countries being Denmark (52%), Finland (38%), and followed by the Netherlands, Latvia, and Russia (all about 30%). The United States is below the world average with about 8% of CHP generated power.

Figure 6 - Major Economies CHP Potential under an Accelerated CHP Potential, 2015, 2030

The IEA report also provides estimates of market potential for CHP worldwide for the major economies (the "G13") as shown in Figure 6. With best-practice CHP policies in place, IEA states that most of these countries have the potential to double or triple their existing CHP power output. Converted to actual power values, rather than percentages of national generation, the potential impact would be extensive – collectively increasing CHP output from 10% of all generation to 24%, while also meeting 40% of the EU-25 and US Kyoto reduction targets for carbon[15].

For the United States, the domestic potential for CHP could increase from an 8% to 18% share of total electricity generation between 2005 and 2030, or approximately 7% based on our estimates, between 2011 and 2030. The United States Department of Energy projected 2012 demand for US domestic power is about 4,000,000 GWh (Gigawatt-hours), which corresponds to an average electric demand of around 500 GW (Gigawatts)[16]. Therefore, using the IEA estimated 7% growth through 2030 and assuming a flat total power demand, 280,000 GWh or 35 GW of new CHP is projected in the US that will cover a broad spectrum of sizes and commercial/industrial market sectors.

[15] International Energy Agency, Cogeneration and District Energy – Sustainable energy technologies for today and tomorrow, 2009, page 17. http://www.iea.org/files/CHPbrochure09.pdf. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement

[16] U.S. Energy Information Administration, AEO2012 Early Release Overview, Table 8 Electricity Supply, Disposition, Prices, and Emissions (see cell X27 in Excel Workbook). http://205.254.135.24/forecasts/aeo/er/tables_ref.cfm. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

According to a recent report by ICF International, Inc., for California[17], the projected penetration of new CHP by 2029 is 6.0 GW. This amounts to about 17% of the IEA estimate (6.0/35 GW), a reasonable estimate given California's population (12% of U.S. population), high electricity prices, and progressive energy policies. The portion of the California market projection that relates to our products (50 – 500 kW size applications) is 684 MW (0.68 GW). Extrapolating this to the whole United States we estimate the market addressable by our product line is 4 GW. Should we only capture an estimated 10% of this market over the next twenty years, it may represent the sales equivalent of approximately 4,000 InVerde units, or approximately $450 million in revenue.

According to the ICF International report, the largest market sectors suitable for our products include hotels, multi-family, nursing homes, hospitals, schools, colleges, food, and government. This closely matches our actual sales data (see Figure 7), covering approximately 1,000 sites and several decades of sales through 2009.

Figure 7 - Tecogen Customer Distribution CHP and Engine-Driven Chiller Systems

CHP's Long-term Outlook

The data collected for the ICF International report is illustrative of the relatively low market penetration of CHP in the smaller system sizes. The very large CHP market of greater than 20 MW has been thoroughly exploited with only 38% growth potential in the next two decades (see Figure 8). The opportunity increases as system size decreases, with the market size of less than 1 MW, having the potential to grow almost 6-fold. The missed opportunity is striking and likely even more disproportionate nationally as most areas of the country, except the Northeast, are essentially without measurable small CHP populations.

Figure 8 – CHP Market Penetration by Size in California

System Size (MW)	< 1	1-4.9	5-19.9	> 20
Current Inventory (MW)	200	350	750	7,900
Potential Through 2029 (MW)	1,138	1,279	764	3,015
Relative Growth Potential (%)	569 %	365 %	102 %	38 %

The unfulfilled promise of small CHP is rooted in unfavorable public policy that is increasingly burdensome in smaller projects. This subject is well covered in many industry forums, including the ICF International report and the IEA report, where favorable public policy is their central theme. From the IEA report, which closely examines the international successes from a policy prospective, is the following policy summary:[18]

[17] Combined Heat and Power Market Assessment of the California Energy Commission, PIER Program, April 2010, page 17, Figure ES-3. http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-200-2012-002. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

[18] International Energy Agency, Cogeneration and District Energy – Sustainable energy technologies for today and tomorrow, 2009, page 19. http://www.iea.org/files/CHPbrochure09.pdf. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement

Well-chosen policy can overcome barriers to CHP – The evidence from many of the countries highlighted in the previous section is clear: CHP does not need substantial financial incentives to make it happen. Rather, it requires the effective use of often modest targeted policies to systematically address barriers and allow for full realization of the potential for CHP and district heating systems. Common barriers include:

- *Economic and market issues, relating to the difficulty in securing fair value prices for CHP electricity that is exported to the grid.*
- *Regulatory issues, relating to non-transparent, inconsistent interconnection procedures and backup charges.*
- *Social/political issues, particularly in relation to a lack of knowledge in society about CHP benefits and savings.*
- *Difficulties in integrating the GHG emissions benefits into emissions trading or other regulations, due to CHP/DHC's [District Heating and Cooling] status as combined technologies that include heat and power.*

The impact of regulatory issues on CHP is a direct result of two key requirements: (a) utility interconnection is essential for system operation, and (b) air pollution compliance must be unassailable in the dense urban settings that are typical for CHP opportunities. Utilities, being a natural competitor to CHP, have had considerable influence on tariff policy that has directly or indirectly biased electricity rates to undermine customer savings. Equally damaging, utility interconnection technical requirements – the devices needed to meet utility safety requirements – have historically been imposed in an inconsistent and unnecessarily burdensome fashion. Regarding air quality and the negative perception of engines, this concern has resonated well in the public dialog; utilities and proponents of renewable technologies, especially solar PV, have effectively marginalized CHP in policy making forums, such as the recent three-year debate to restore the California Self Generation Incentive Program, or SGIP. The SGIP program eliminated all fossil fueled CHP devices, except fuel cells, because of their low pollution footprint in 2007. Engines have been allowed in return 2012, but only if able to meet emissions levels well below their current capability.

The negative perception of CHP because of air pollution concerns relative to "criteria pollutants" (those components that cause smog and impact health directly) are not without basis. Figure 3 shows a comparison of the annual pollution from a hypothetical CHP system meeting current engines standards BACT, against the alternative, the same quantity of power and heat delivered from the utility and an onsite boiler. The emissions levels from the CHP system are problematic and have provided strong argument for CHP opponents, especially utilities, to undermine policy favorable to CHP; however, our new Ultra low-emissions technology is a significantly better system that refutes all current arguments.

Tecogen's Strategy for Growth

Target markets and new customers

The traditional markets for CHP systems are buildings with long hours of operation and with coincident demand for electricity and heat. Traditional customers for our cogeneration systems include hospitals and nursing homes, colleges and universities, health clubs and spas, hotels and motels, office and retail buildings, food and beverage processors, multi-unit residential buildings, laundries, ice rinks, swimming pools, factories, municipal buildings, and military installations.

Traditional customers for our chillers overlap with those for our cogeneration systems. Chiller applications include schools, hospitals and nursing homes, office and apartment buildings, hotels, retailers, ice rinks, and industrial facilities. Engine-driven chillers are ideal replacements for aging electric chillers, since they both take up about the same amount of floor space.

We believe that the largest number of potential new customers in the U.S. require less than 1,000 kW of electric power and less than 1,200 tons of cooling capacity. We are targeting such customers in U.S. states with high electricity rates in the commercial sector, including California, Connecticut, Massachusetts, New Hampshire, New Jersey, and New York.

In the coming years, we believe that increasingly favorable government policy and economic conditions will improve our prospects domestically and abroad. Specifically, we believe that natural gas prices may increase from their current depressed values, but only modestly, while electric rates, may have significant, long-term upward pressure due to capital equipment expenditures for better emissions controls, higher efficiency, and increased sourcing of power from renewable sources. The capital expenditures for the electric power industry, especially due to mandated efficiency and carbon reductions, to reduce toxic emissions of coal plants, have no analog in the natural gas industry. Moreover, the natural gas industry has made great strides in sourcing, or fracking, and will be favored politically as a domestic fuel with reduced carbon emissions. The net result will be improved CHP customer savings and annual rate of returns.

Relative to government interaction, we believe that policy, both domestically and abroad, may evolve to align itself in our favor for the reasons expressed in the IEA report. CHP will help policy developers achieve their goals of a moderate, cost effective methodology to conserve precious natural resources, reduce carbon and toxic emissions, and other negative aspects associated maintaining the centralized utility system we have today. Over time, we believe other distributed generation technologies, such as those derived from renewable sources (wind, solar, photovoltaic) will have practical limitations that reduce their promise in the foreseeable future as major energy contributors. Likewise, nuclear energy may not revive to the extent that was considered reasonable likely a few years ago because of the recent incidents in Japan.

Key Tecogen Advantages

As more favorable conditions develop, the increased opportunity will be accompanied by increased competition. In addition to our overall experience and low-cost approach, we believe that our products have technological advantages that are significant, difficult to duplicate because of our intellectual property and features that will help us maintain a long-term competitive position. These are:

- *Clean Emissions Levels*. Engines, even natural gas ones, are more polluting relative to “criteria pollutants” (those directly affecting health and creating smog) than the conventional alternative of a boiler and utility supplied electricity from a modern power plant. Alternative technologies, fuel cells and microturbines, exist in large part to exploit this shortcoming, while regulators – influenced by the compelling arguments of CHP opponents relative to emissions concerns – have successfully created a highly negative regulatory environment against CHP. We believe our newly developed Ultra low-emissions technology will upend this situation; so equipped, our emissions can be effectively reduced to fuel cell levels, while retaining the inherent advantages of our technology – low cost, high efficiency, and practical service (see Figure 8). This feature will allow us to reverse negative perceptions about stationary engines and reverse decades of unfavorable CHP policy.

- *Utility Interconnectability.* The ability to interconnect with a utility, attainment of this permit has been a significant impediment to all CHP and distributed generation in general. Large systems are more able to cope with these costs (see Table 1). Interconnection is greatly eased if the system has certification status through a process developed and implemented in many states. The certified process for fast-track interconnection was designed for inverter-based

technologies (primarily solar photovoltaic) which are viewed very favorably with the public and regulators. Our inverter-based “InVerde” CHP system meets the requirements for the fast-track process providing us with a significant competitive advantage.

- *Increased Demand for Microgrids*. The ability to operate in an outage will be increasingly sought in CHP systems. Our InVerde system has a unique capability to operate both interconnected to the grid and isolated during an outage and transition between the two seamlessly (the Department of Energy definition of a microgrid). This is an attribute that is not shared by other distributed generation technologies.

Fuel cells and Microturbines are greatly impaired in islanded (grid independent) operation as they cannot respond to power swings inherent in that operating mode. Solar and wind powered systems have a similar issue as they are, of course, vulnerable to precarious environmental conditions. All these technologies require expensive battery systems to resolve these issues. Small engine systems with conventional generators are highly impractical in the dual role; the utilities have extremely onerous interconnection requirements for conventional alternators capable of islanded operation, while the power control problems are likewise significant, especially for systems of multiple units. Our InVerde is also the ideal “anchor” for hybrid microgrids – those utilizing other distributed generation sources such as photovoltaic – that need a stable source to act as the grid during islanded operation to provide stability as load swings occur.

Figure 9 Comparison of Tecogen Ultra Low-Emissions Technology to Other Technologies

1) Tecogen emissions based upon actual third party source test data

2) Microturbine and Fuel Cell NOx data from California Energy Commission, Combined Heat and Power Market Assessment 2010, by ICF International

(3) Limits represent CARB 2007 emission standard for Distributed Generation with a 60% (HHV) Overall Efficiency credit

We will seek customers, both domestic and international, that align utility tariff conditions and local/federal policy with our advantages. These would include regions that have strict emissions regulations or reward CHP systems that are especially non-polluting. As discussed under “Government Regulations”, examples would be southern California where clean emissions are mandated or New Jersey where clean emissions are a route to certification that simplifies permitting (our CHP products were so certified in 2011). Our microgrid capability and simplified interconnection will likewise be exploited wherever utilities are most tenacious to conventional generator interconnection but have conceded to Underwriters Laboratory Standard 1741 certified inverters for simplified interconnection (see discussion under Government Regulation). Examples would be Consolidated Edison, Inc. in New York and Pacific Gas and Electric Company in California where our certified approach has provided us with an interconnection advantage.

We plan to exploit the need for outage security in certain market segments – a new opportunity afforded by our InVerde product line. Our licensed microgrid technology will be focused at customers that value the ability to continue to maintain operation in substantial portions of their facility (or campus) for extended periods. These segments include military bases, hospitals, nursing homes, and hotels. A smaller premium power system under development could open new market segments such as municipal waste, supermarkets, small data centers, and biotechnology laboratories. For these customers, natural gas is often available indefinitely during outages, whereas onsite diesel supplies are generally used up in short order and difficult to replenish in difficult travel condition that often ensue. Our microgrid operation can be deliberately instigated to participate in utility encouraged grid curtailment programs to prevent brownouts. The low pollution feature of our systems would enable such operation without annual limitation as is often the case for highly polluting diesel standby generators, while the inverter interface is favored by safety conscious utility engineers.

The IEA estimates that world power from CHP, currently at 10%, would increase to 24% under best practices policy scenario. Our extrapolation to the U.S. market covered by our product range size (50-500 kW) is approximately $450M if we had a 10% market share. We hope to participate in a robust international market as well which we believe will be as large or larger. Our technical features, if they can be retained and the typical international trade difficulties overcome, would likely have similar advantages overseas.

Alliances

We continue to forge alliances with utilities, government agencies, universities, research facilities, and manufacturers. We have already succeeded in developing new technologies and products with the following companies, including:

- Sacramento Municipal Utility District (SMUD) – provided test sites
- Southern California Gas Company, a subsidiary of Sempra Energy – research and development contracts
- San Diego Gas & Electric Company, a subsidiary of Sempra Energy – research and development contracts
- California Energy Commission – research and development contracts
- Lawrence Berkeley National Laboratory – research and development contracts
- Consortium for Electric Reliability Technology Solutions – research and development contracts and test site
- The AVL California Technology Center – support role in performance of research and development contracts as well as internal research and development on our emission system
- General Motors Company – supplier of raw materials pursuant to a supplier agreement

We also have an exclusive licensing agreement for proprietary control software from the Wisconsin Alumni Research Foundation for the control software that enables our microgrid system. As discussed, the software allows our products to be integrated as a microgrid – a group of interconnected loads powered by a group of power sources (such as multiple InVerde units) that can be seamlessly isolated (and returned) from the main utility grid in the event of an outage. The licensed software allows us to implement a micro grid, powered by one or more InVerde systems with minimal control devices and associated complexity and costs.

Our efforts to forge partnerships continue to focus on utilities, particularly to promote the InVerde, our most utility-friendly product. The nature of these alliances vary by utility, but could include simplified interconnection, joint marketing, ownership options, peak demand mitigation agreements, and customer services. We are currently installing a microgrid with SMUD at its headquarters in Sacramento California, where the central plant will incorporate three InVerde systems equipped with our Ultra low-emissions technology. A portion of the expenses for this project are being reimbursed to SMUD through a grant from the California Energy Commission.

We also continue to leverage our resources with government and industry funding, which has yielded a number of successful developments. These include the Ultra low-emissions technology, which was sponsored by the California Energy Commission and Southern California Gas Company. Currently, we are testing the durability of a new engine technology that we developed with the California Energy Commission's support. If tests succeed, the engine could be applied in smaller CHP systems such as a 35-kW InVerde unit and in new, ultra-high-efficiency heating and air-conditioning products. For the years ended December 31, 2011 and 2010, we spent $223,745 and $763,990, respectively, in research and development activities all of which was reimbursed through grants from the California Energy Commission and Consortium for Electric Reliability Technology Solutions.

Competition

Our products fall into the broad market category of distributed generation which is made up of devices that produce electric power from a variety of sources for the purpose of mitigating the negative aspects of traditional central station power generation or inefficient process heating. Those that produce power from renewable sources – wind, solar, and bio-fuels – are not competitors to us. These devices do not alleviate the inefficient use of fossil fuels relative to onsite heating, while our CHP systems are required to be coupled to the facility's onsite heating processes![19]

Our products are CHP devices that operate on traditional gaseous fuels (natural gas and propane) and serve to improve the utilization of these fuels by generating power onsite and finding purposeful application of the engine's low-grade heat. Our electric power generating products (InVerde, CM-60, and CM-75) fit the classic CHP definition, while the TECOCHILL and Ilios Heat Pump are classified as "mechanical" CHP or MCHP. The MCHP characterization fits our TECOCHILL chillers and Ilios Heat Pump as the engine work is applied to a compressor in a vapor compression cycle, doing the work of an electric motor that would otherwise consume utility electricity derived largely from fossil-fueled power plants. The boost in efficiency of our MCHP products is obtained by the engine waste heat that is available for onsite heating.

CHP Market

The recent report by ICF International, Inc., for the California Energy Commission, provides a useful breakdown of their CHP market according to technology type. The Commission has accurate data, as most systems are tracked through various incentive programs or, in the case of large systems, involve significant public agency interaction (permitting, etc.). We believe their data is applicable to the domestic and international CHP market as a whole.

Figure 10: Technology Size Coverage[20]

The CHP market in California (see Figure 10) is served by four technologies of which we belong in the Reciprocating Engines group. A reciprocating engine, also often known as a piston engine, is a heat engine that uses one or more reciprocating pistons to convert pressure into a rotating motion. In the size range of 50-1,000 kW, our competition in cogeneration markets includes micro-turbines, fuel cells, and other systems based on conventional spark-ignited, piston-driven (reciprocating) engines powering electric generators. Reciprocating engines utilized in CHP applications benefit from the technological refinement and infrastructure created for their use in other, non-CHP applications (i.e. automobiles, trucks, etc.) operating on liquid fuels (diesel and gasoline). Because of their widespread use in

conventional power generation and transportation, reciprocating engines have an economic advantage over fuel cells and microturbines.

[19] Our products can utilize bio-fuels, but such fuels are often incompatible with engines (low octane, corrosive constituents, etc.), however, we are not planning to enter this market at this time.

[20] Combined Heat and Power Market Assessment of the California Energy Commission, PIER Program, April 2010, page 30, Table 9 (we have combined two engine categories for simplicity purposes). http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-200-2012-002. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

Competing CHP products based on reciprocating engines fall into two classes: those based on diesel engine lines and those based on gasoline engines manufactured for automotive use. In smaller sized CHP products, such as our products, the automotive engine type is highly preferred as it requires only modest changes to operate with natural gas. Moreover, the engine supply is plentiful and relatively inexpensive due to established sales channels for various aftermarket applications (power-boating, racing, etc.). The diesel based engine supply is more restrictive; much larger and multiple sized engines are available, but these require substantial factory-based changes for the natural gas fueling. The low production volume results in high costs per unit output until the product size is substantially larger than our models. These engines are often turbocharged to improve their first cost per unit of output which also improves the electrical output per unit of fuel consumed by about 10%, but with negative service and application issues.

Companies manufacturing smaller product (250-500 kW) based on diesel engines purchased from the prominent engine manufacturers have not been successful. Recent examples are Bluepoint Energy (Deutz/Caterpillar) and Hess Microgen (Daewoo). We believe the factors that have caused these companies and others that preceded them to fail (high first cost, poor service infrastructure) will persist and no significant competitor will emerge from this business model. Diesel-based engines will remain prominent in the CHP market but in larger sizes, custom designed by the major engine manufacturers (typically by their dealers) such as Caterpillar Inc., Cummins Power Generation Inc., and the Waukesha subsidiary of General Electric Company. Since these providers focus on very large systems –1000 kW and greater – we do not consider their operations directly competitive to ours.

Engine-based competition exists with companies that duplicate our business model of coupling an automotive engine to an induction generator and adding similar auxiliary equipment for controls and heat recovery. Aegis Energy Services, Inc., Integrated Power Corporation, and Intelligen Power Systems (formerly Coast Intelligen, Inc.) are examples. However, these companies have thus far only produced product similar to our older, pre-1990 designed CM-75. At this time no competitor, has a product which competes with our inverter-based InVerde, offering a UL-certified utility grid interface, outage capability and variable speed operation. We anticipate that some competitor will attempt to market an inverter-based product with at least some of these features. There will, however, be serious challenges to duplicating the InVerde. Product development time and costs would be significant and our patents and licensing agreement for the microgrid will impede certain important features from inclusion. We expect that our patent application of the Ultra low-emissions technology will be approved and that no practical alternatives will emerge. If this is the case, we may retain a strong competitive advantage for all our products in markets with restrictive air emissions requirements, such as New Jersey, California, and Massachusetts.

We have some competition from newer technologies such as fuel cells and microturbines (see Figure 10). We do not consider fuel cells as direct competition as they are extremely expensive – unviable without large public subsidies – and do not have sufficient heat recovery capability; the heat is either unavailable or of such low quality (i.e., low temperature) for most heat recovery applications. Like wind turbines and solar photovoltaic systems, their application as an electric power source, utilizing in many cases bio-fuels, is not comparable to our CHP systems.

The field of microturbine-based CHP products, once under development by a number of companies (Capstone Turbine Corporation, Ingersoll-Rand PLC, and Elliott Turbomachinery, a division of the Elliott Group, Inc.), has narrowed in recent years. Ingersoll-Rand PLC has sold its microturbine group to FlexEnergy Inc., where their focus is non-CHP power generation. The Eliott Group has sold their 100 kW microturbine product line to Capstone Turbine Corporation. Of these companies, Capstone Turbine Corporation is the only manufacturer with a commercial presence in the CHP marketplace that we are aware of.

Figure 11 - Comparison of CHP Technologies to Tecogen's InVerde 100

	Microturbine* 65 kW		Microturbine* 250 kW		Fuel Cell* 50-500 kW		Generic* Engine 100 kW		Tecogen** INV-100 100 kW	
Installed Costs, $/kW	2,739		2,684		6,310		2,210			
Heat Rate, Btu/kWh	13,542		12,290		9,475		12,000		12,630	
Electric Efficiency, %	25.2	%	27.8	%	36.0	%	28.4	%	27.0	%
Thermal Output, Btu/kWh	6277		4800		2923		6100		6700	
Overall Efficiency, %	72	%	67	%	67	%	79	%	80.0	%
O&M Costs, $/kWh	0.022		0.015		0.038		0.02			
NO_x [ppm @ 15% O2)	3.41		3.10		1.15		3.39		0.617	
NO_x Emissions, lbs/MWh	0.17		0.14		0.04		0.15		0.029	
NO_x Emissions, lbs/MWh w/CHP Credit	0.06		0.06		n.a.		0.05		0.010	

** California Energy Commission, PIER Program, Combined Heat and Power Market Assessment, 2010 by ICF International*

***Tecogen emissions obtained from actual source test data by a third-party air quality testing company based in California*

In CHP applications, the microturbine performance is undermined by several additional technical factors. First, the natural gas must be delivered at high pressure that is not available in standard utility distribution systems. The onsite compressor used in boosting the pressure consumes considerable electrical power. Secondly, the emissions reduction is achieved by operating the combustion process with a large amount of extra air. This sharply reduces the available heat for onsite recovery, resulting in an overall efficiency shortcoming of 15-20% (see greenhouse gas analysis under "Tecogen Solution"). It is difficult to predict the long-term prospects of the micro-turbines in the CHP space. Cost improvement is certainly feasible, especially if their manufacturing base enlarges. On the other hand, improved heat recovery efficiency is not likely to improve as its root cause, lean combustion, is essential to their low NOx emissions. Overall however, the trend for microturbines appears to focus on power generation without heat recovery as a primary element, especially where the fuel is problematic for reciprocating engines (low octane bio-fuels, etc.).

The recent report by ICF International, Inc., for the California Energy Commission includes data relative to the market penetration of the various technologies through 2008[21]. As shown in Figure 12, the historical data from California is supportive of our conclusions regarding the largely modest impact of microturbines and fuel cells in the CHP space.

[21] Combined Heat and Power Market Assessment of the California Energy Commission, PIER Program, April 2010, page 28, Figure 7. http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-200-2012-002. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

Figure 12 – Share of Installed CHP in California by Prime Mover

Engine Driven Chillers (TECOCHILL)

To our knowledge, our gas-engine chiller products no longer have any direct competitors. Some earlier competitors such as Alturdyne Power Systems and PowerChill, did not transition their products to the new, climate-friendly refrigerants required by the EPA. Several others that were also significant manufacturers of conventional electric systems, such as York, a division of Johnson Controls, Inc. and Climaveneta S.p.A, discontinued marketing efforts as gas prices reached peak levels several years ago. Natural gas powered chillers using absorption technology remain in the market, such as Thermax Ltd. and Broad Air Conditioning. With a higher first cost and operating cost than conventional systems, justification for the technology is weak without an extenuating circumstance (lack of onsite electrical power or extremely inexpensive fuel). Natural gas prices have fallen significantly in the United States and many international markets, improving the economics for gas cooling considerably. Our engine driven chiller process, with efficiency 2 to 2.5 that of an absorption chiller, based on our estimates, offers similar economic and societal benefit as CHP[22] without requiring interconnection with the local electric utility. As such, we would anticipate some direct competition to the TECOCHILL products to emerge, including gas-fired absorption type. Our particular advantages in maintaining our competitive edge would be our large investment in sales and service infrastructure, low emissions capability, and high efficiency.

Ilios Engine-Driven Heat Pump

The Ilios Heat Pump product will compete in both the high-efficiency water heating market and the CHP market. Customers would consider the heat pump to replace a retired heater, but we believe our product is closer in its application to a CHP system and would generally compete in that market. That is, the Ilios Heat Pump will be installed as an adjunct to the existing heating system, operating as many hours as possible; the conventional heater is left in place, as its capital cost is inconsequential to the total system operating cost, and it is needed during times of engine maintenance or if the peak heating load cannot be met by the Ilios Heat Pump[23].

[22] The American Recovery and Reinvestment Act of 2009 allows CHP credit for engine-driven generators and compressors so long as overall efficiency is sufficiently elevated with engine heat recovery. The latter applies to the TECOCHILL which, with its heat recovery applied, qualifies as CHP.

[23] Conventional gas heaters in heavy commercial use burn fuel annually many times their first cost.

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As such, the application profile for the Ilios Heat Pump would be very similar to that of traditional CHP: heavy consumers of hot water –hospitals, hotels, multi-unit dwellings, and process heating (laundries, dairies, etc.). Like CHP, the main competitor will be conventional hot water systems and also conventional, electricity-producing CHP. In areas of low electric rates (such as the Midwest, South, and Southwest), where CHP has poor economic viability, the Ilios Heat Pump (whose payback only depends on natural gas rates) would be a financially attractive alternative. In areas of high electric rates (the Northeast and California) the conventional CHP option would likely be preferred. However, there will be significant exceptions in high electric rate regions where the Ilios option will have site-specific advantages. The most common would be those facilities where the electric interconnection to the utility is prohibited[24], or is too costly, or if the electric service is too small relative to heat load[25] such that full utilization of the system would cause electricity export, an unacceptable condition to most utilities.

At this time, a few manufacturers of gas-engine heat pumps exist, although the products are not directly comparable. The most prominent is Aisen Seiki Co., LTD, whose main business is automotive parts manufacturing. Their heat pump has been successful in Japan and has recently begun marketing in the United States through Nextaire in Nevada, however, their largest units is smaller than the Ilios Heat Pump. Another heat pump company is Robur S.p.A, which offers a system based on a natural gas fueled absorption cycle (no engine) which has a dual cooling/heating function. The system is also much smaller than the Ilios Heat Pump (about 1/5) and would only be a direct competitor if larger models were developed.

A few local cogeneration developers and contractors are emerging in an attempt to offer services similar to ours. To succeed as competitors, however, they would have to acquire comparable experience in the equipment and technology, installation contracting, maintenance and operation, economic evaluation of candidate sites, project financing, and energy sales, as well as the ability to cover broad regions. They may also have to overcome the prices of our products, which are competitive due to the use of standardized components throughout our product lines.

Certain Related Party Contracts

In January 2006, we entered into the 2006 Facilities, Support Services and Business Agreement with American DG Energy, an affiliate of the Company, to provide American DG Energy with certain office and business support services for a period of one year, renewable annually by mutual agreement. Under this agreement, we provide pricing based on a volume discount depending on the level of American DG Energy purchases of cogeneration and chiller products. For certain sites, American DG Energy hires us to service its chiller and cogeneration products. Under the current agreement, as amended, we also provide American DG Energy with office space and utilities at a monthly rate of $5,793.

American DG Energy has sales representation rights to our products and services. In New England, American DG Energy has exclusive sales representation rights to our cogeneration products not including chillers. When Tecogen sells its cogeneration products in New England, Tecogen pays a commission to American DG Energy. American DG

Energy has granted us sales representation rights to its On-Site Utility energy service in California; however, as of the date of this registration statement, this agreement has not materialized into any significant revenues. American DG Energy also has exclusive rights to our Ultra low-emissions technology if it is applied to engines from other CHP manufacturers used for their specific energy projects. In other words, American DG Energy could purchase CHP products from suppliers other than us and license that supplier to incorporate our Ultra low-emissions technology as long as the CHP system is owned and operated American DG Energy.

In October 2009, Ilios signed a five-year exclusive distribution agreement with American DG Energy. Under terms of the agreement, American DG Energy has exclusive rights to incorporate Ilios' ultra-high-efficiency water heater, in its energy systems throughout the European Union and New England. American DG Energy also has non-exclusive rights to distribute the Ilios Heat Pump in the remaining parts of the United States and the world using the On-Site Utility business model.

[24] Many large cities in the US (Boston, San Francisco, New York) utilize electric grids termed "area networks" that are highly susceptible to damage if power is exported from the facility. As such, these regions, which otherwise have excellent CHP potential, cannot be developed. The Ilios Heat Pump may be a viable option.

[25] Many CHP applications in multi-unit housing cannot be exploited because the electric service is split into many small meters for each unit. Since the CHP system must, by regulation, be interconnected on the customer side of a meter the installer faces an intractable problem as none of the small meters is nearly large enough to support a CHP unit. MCHP may effectively be applied as there is no electric interconnection.

The Company and its Affiliates

We have three affiliated companies: (a) American DG Energy, a publicly traded company that distributes, owns and operates on-site energy systems that produce electricity, hot water, heat and cooling in the United States, (b) EuroSite Power, a publicly registered company that distributes, owns and operates on-site energy systems that produce electricity, hot water, heat and cooling in the United Kingdom and Europe, and (c) GlenRose Instruments, a company that provides radiological services, operates a radiochemistry laboratory network and provides radiological characterization and analysis, hazardous, radioactive and mixed waste management, facility, environmental, safety, and industrial hygiene health management.

These three companies are affiliates because several of the major stockholders of those companies, have a significant ownership position in the Company. American DG Energy, EuroSite Power and GlenRose Instruments do not own any shares of the Company, and the Company does not own any shares of American DG Energy, EuroSite Power or GlenRose Instruments. The common stockholders include John N. Hatsopoulos, the Company's Chief Executive Officer who is the Chairman of GlenRose Instruments, the Chief Executive Officer of American DG Energy and a director of EuroSite Power. Also, Dr. George N. Hatsopoulos, who is John N. Hatsopoulos' brother, is a director of the Company, the Chairman of American DG Energy and an investor in GlenRose Instruments. The business of GlenRose Instruments is not related to the business of the Company, American DG Energy and their other corporate affiliates.

We currently own a 62.5% interest in Ilios. American DG Energy and EuroSite Power purchase the majority of their energy equipment from Tecogen. The primary types of equipment used are natural gas engine-driven cogeneration and air conditioning systems provided by us and ultra-high-efficiency heating products, including a high efficiency water heater from Ilios. Both Tecogen and American DG Energy distribute the Ilios products.

Intellectual Property

We currently hold several patents for its technologies, as well as a license agreement for the use of other technologies. We consider our patents and licenses to be important in the present operation of our business. We, however, do not consider any one of our patents or related group of patents to be of such importance that their expiration, termination, or invalidity would materially affect our business.

We have filed for a patent for our newly developed Ultra low-emissions technology. The outcome of the patent office application review is important because this technology will apply to all of our engine-driven gas products and may have licensing application to other natural gas engines. The intellectual property relating to the Ultra low-emissions technology will require patent protection so we can retain exclusive use of technology.

Government Regulation

We are subject to multiple types of government regulations that have significant influence on our current and future business. We have characterized these as follows: (a) product safety certification, (b) air pollution regulations relating to engine emissions, (c) state and federal incentives to encourage our technology, and (d) utility tariffs that influence the value of the displaced energy our systems provide, while also regulating the interconnection process. The regulations that relate to environmental considerations (air quality and greenhouse gas emissions) may become increasingly favorable to our technology, while those that relate to utility tariff structure and interconnection, that are burdensome today, may evolve to embrace CHP because of its efficiency benefits.

Product Safety Certifications

Our products are subject to various local building codes and inspection verification by local authorities. Our standard products are certified by a third party entity to conform to specific standards. These certifications require continuous verification by a certifying company that performs quarterly monitoring of our processes and design. Our InVerde product is also certified to the European standard CE mark, ("European Conformity") mandatory mark for products imported into the European Union for commercial sale.

Our cogeneration CHP products are also certified to a particular group of standards, specific to the distributed generation industry and utilized in the utility interconnection permitting process. These unique certifications were developed by various manufacturers, utilities, and government regulators in the distributed generation community to standardize the process involved in obtaining permission from the electric utility to jointly power a facility. In essence, manufacturers of standard products are allowed to submit a sample unit to be "type-tested" by a Nationally Recognized Testing Laboratory (NRTL) that proves its adherence to safety requirements and its design to be fail-safe. In doing so, this product is eligible for a fast-track interconnection, after passing simple site-specific screens. Under state-mandated regulations, such as California Rule 21 and Massachusetts Interconnection Tariff 09-03, most utilities are bound to accept the certified fast track process, which includes the certification.

Because of the important nature of simplified utility interconnection to CHP and to distributed generation, in general, our utility-interconnect certification, Underwriters Laboratory Standard 1741, is a significant competitive advantage and was a major driver for us in developing the inverter based CHP product. Moreover, the inverter design closely duplicates those for renewable technologies (solar, photovoltaic, wind, etc.) whose proponents are well-funded and aggressively protect the "type-testing" certification for inverter-based equipment. As such, the certification is unlikely to evolve in a way that would marginalize our product. No engine products have the Underwriters Laboratory Standard 1741 certification and we believe our market position is greatly enhanced by this status and their attainment a major cost barrier to competitors.

Air Pollution Regulations

Stationary natural gas engines and similar power-generating devices are subject to strict emissions regulations that are part of a complex hierarchy of regional, state, and federal regulations. The EPA establishes technology specific standards that are based on cost-benefit analysis for emissions controls strategies. These standards, termed "Best Available Control Technology" (BACT), are imposed in areas of non-attainment – regions of the country that fail to meet the federal clean air standards, although local regulators may lower these standards further.

Increasingly, regional standards in our key markets have become sufficiently strict that the technical limits of natural gas engines regarding pollution control are being approached or exceeded. In 2007, the CARB published a suggested standard for all distributed generation technologies, (CARB 2007), which a year later the Los Angeles area regulators, the South Coast Air Quality Management District (SCAQMD) used as basis for their regulation, Rule 1110.2. This reduced the allowed emissions for nitrous oxides, carbon monoxide, and hydrocarbons to unprecedented levels and a fraction of the former BACT regulation. We believe that no natural gas engine was permitted under the new rule.

Our development of the Ultra low-emissions technology was in response to the extremely strict limits imposed in Southern California, which we considered a bellwether for local regulations elsewhere. This year, the California's Self Generation Incentive Program (SGIP) has restored the state's lucrative ($500/kW or $50,000 for our InVerde) CHP rebate to engine technologies, but only if the SCAQMD/CARB NOx limit of approximately 3 parts per million can be

met. On the East Coast, important CHP territories are moving to sub-BACT limits. Effective in 2012, Massachusetts, Rhode Island, and Connecticut have amended their standard to require 3.6 parts per million NOx, with CO requirements on par with the “California” BACT (about 56 parts per million). New Jersey permit requirements are equal to California’s BACT, but allow the air permit process to be side-stepped if the distributed generation/CHP device is “emissions certified” through third party testing of a sample to an especially aggressive level (10 parts per million NOx and 10 parts per million CO). The recent certification of our Ultra low-emissions technology to the New Jersey “clean” requirement is an example. In New York, low emissions are encouraged through the state grant programs which exclude (or reduce) the grant unless low emissions are demonstrated[26].

We believe that its Ultra low-emissions technology will have significant advantages in markets where severe emissions limits are imposed or very clean combustion is encouraged through beneficial treatment (rebates, simplified permitting, etc.). We believe strict regulations will be the rule rather than the exception for CHP because these systems, by definition, are located in areas of high population/energy density, often coincidental with the strict air regulations. In these markets, CHP customers would have limited choices of more expensive devices such as fuel cell or microturbine-based CHP or more elaborate/expensive after treatment involving chemical injection (only applied in very large power generation). Our product would, therefore, be a lower cost, more efficient CHP alternative, with more or less equal emissions, a highly favorable combination features.

The imposition of seemingly unreasonable standards by the SCAQMD was not without warning nor arbitrary; rather, increased enforcement by field inspectors in the years prior to the adoption of Rule 1110.2 exposed severe shortcoming in the after treatment systems defined as BACT. Reacting to this troubling discovery, the District convened a series of public workshops with manufacturers and conducted follow-up tests to allow the industry to respond before taking action. At the conclusion of this process, it became clear in the view of regulators that true BACT compliance was largely unattainable on a continuous basis with current BACT technology; moreover, the existing compliance test protocol, a three-hour test every third year, had masked the true underperformance of the technology and its tendency for frequent, unobserved violations. As a result, the regulators, highly distrustful of the existing technology, included in the Rule the extraordinary requirement for weekly, self-administered “smog” tests.

We believe that the problems exposed by the SCAQMD may be widespread and the natural gas engine industry is highly vulnerable to more aggressive enforcement, even with the less strict BACT standard. The opportunity for Tecogen relative to emissions is significant; there may be prospects to license the Ultra low-emissions technology into the stationary natural gas industry particularly if stepped-up enforcement results from negative exposure provided by the SCAQMD workshops and their harsh outcome.

We anticipate that the successful permitting of the Ultra low-emissions system in California may result in an attempt by regulators to reset BACT levels to the CARB 2007 values. This process requires a successful permit as well as exhibited long-term compliance and cost-effectiveness of the new process. Under this scenario, the Rule 1110.2 standard could be adopted for natural gas engines as BACT with the Ultra low-emissions technology as its basis with application to other California regions where BACT is required (San Joaquin, Santa Barbara, Sacramento, Bay Area, and Ventura, etc.). This would be an obviously positive outcome for us both in regard to our products and licensing prospects into other markets. We expect to permit a CHP unit in the SCAQMD jurisdiction later in 2012 through a recent sale.

It is important to note that emissions regulations discussed above also impact our air-conditioning and Ilios Heat Pump products, although the effects are muted. TECOCHILL rebates are not common and none have been tied to a specific emissions level. The Ilios Heat Pump, being under 50 brake horsepower, is often exempt from regulations and its market, as discussed previously, may be in less regulated regions (i.e., low electric rates). Nevertheless, the Ultra low-emissions technology feature applied to these products will be a significant advantage.

[26] NYSERDA offers CHP grants through Public Opportunity Notices (PONS) that include low emissions requirements (see, for example, PON 2373 “Distributed Generation as Combined Heat and Power”). The Energy Cost Savings Program (ECSP) in New York City provides industrial users a 4.4 cent/kW-hr credit for CHP power generated above the actual avoided electrical charges from the utility if the system can meet a low NOx value of 7 parts per million NOx. See http://www.nyc.gov/html/sbs/nycbiz/downloads/pdf/summary/incentives/Guide_to_Incentives.pdf. This website address and any other website addresses included in this registration statement are included as textual references only and the information in such websites is not incorporated by reference into this registration statement.

State and Federal Incentives

Distributed Generation including CHP is incentivized in our current markets. As mentioned, the California SGIP will pay a significant portion of the CHP project cost, while incentives of similar value exist in New Jersey, New York, Connecticut, Maine, and Massachusetts, albeit with different structure and terms. Massachusetts has an additional CHP incentive in the form of an annual rebate proportional to the carbon savings relative to a conventional technology baseline. Our systems are eligible for the bonus depreciation included in the American Recovery and Reinvestment Act of 2009 (stimulus plan). Also, The Business Energy Investment Tax Credit (ITC) passed under the Troubled Asset Relief (TARP) bill in 2008 provides a 10% tax credit for CHP in our size range applied to the total project cost. The credit applies to the compressor drive system, like our TECOCHILL and Ilios Heat Pump, when heat recovery is applied to achieve a 60% minimum efficiency.

Utility Tariffs and Related Regulations

Another form of government incentive/disincentive relates to electric rates, rate structures, and tariffs. These laws are administered through state agencies, typically Public Utility Commissions, through formal proceedings involving the public, utilities, and various effected parties. Often, direct legislative mandate will be applied to specific issues. How these rules are structured and interpreted has significant impact on CHP viability in a given market. These rules have negatively affected the CHP industry, but may not significantly affect us since we have configured our product lines specifically to undermine their impact.

Anti-Efficiency Rate Structures. Many electric utilities structure commercial rates such that a significant portion of the customer invoice is in the form of fixed charges, such as meter fees, or portioned to peak demand charges, a much larger line-item charge for the maximum short-term (typically 15 minutes) usage at the site. Fixed charges, generally of small magnitude and not a significant concern, are not addressable by any distributed generation technology. Avoidance of peak demand charges, a major portion of the electric tariff in some markets, requires extremely high system operational efficiency, difficult to achieve in practice.

Our CHP products, being small and modular, are often applied in multiples which affords a significant measure of protection from peak demand charges being accrued at the full system rating. A system comprised of a single large machine would have a fairly high probability of a brief downtime during the monthly billing period and thereby risk setting a demand charge large enough to eliminate a large portion of the savings. A modular, multi-unit system is less likely to do so as this would require all the units in the group to fail simultaneously.

Our engine-driven chiller product, Tecochill, is highly effective in eliminating both the electric energy used by the site for air-conditioning but also the accompanying peak demand charge. Its operation is confined only to the cooling

months, allowing maintenance to be scheduled off season while system seasonal outages during the cooling season do not immediately impact the electric service and can therefore be managed to minimize their impact.

Avoided Cost Penalties. In some regions, utilities have argued that distributed generation customers, by reducing their electric usage, have avoided paying their fair share of costs that are associated with grid infrastructure. To correct this perceived inequity, utilities have successfully petitioned to their commissions in some markets to access a "departing load charge" for the purpose of paying into a fund for items such as nuclear power plant decommissioning costs. Similarly, utilities have been allowed to add a surcharge known as a "standby" charge, justified as the cost of the utility being available for periods when the CHP system is down.

These types of charges are not present in most east coast markets, but standby and departing load charges are well established in California, although exempt for renewable technologies. Again, our chiller products effectively avoid these charges as they are not subject to electric utility charges.

Technology-Specific Interconnection Requirements. While interconnection issues are typically safety related and expected to be product neutral, technology bias is common and negative to CHP. In many states, tariffs allow solar photovoltaic systems to "net" meter but prohibit the same benefit to CHP systems. Under net metering, excess electricity from onsite generation is allowed to flow back into the grid with full retail compensation. This eliminates important practical difficulties such as managing the power output of the distributed generation system to avoid uncompensated export and lost revenue from reduced output.

Another category of utility regulation that may have impact to our business is the Renewable Portfolio Standards, or RPS. Under this type of regulation, utilities are required to gradually increase their proportion of power generation from renewable sources (i.e. wind, solar, and bio-fuels). Currently there are 24 states plus the District of Columbia that have RPS policies in place, with RPS requirements ranging from 8% to 40%. Fourteen states include CHP as eligible technology. Together these states account for more than half of the electricity sales in the United States. RPS-type mechanisms have been adopted in several countries, including Britain, Italy, Poland, Sweden, Belgium, and Chile.

Overall, RPS would be expected as a positive policy for Tecogen and CHP. Program structures, if fair and balanced, would encourage less fossil use though financial incentives to improve efficiency. Electric power generated from renewable sources would increase overall electric rates and improve CHP investment returns. Since these programs are in their early stages their impact is yet to be determined.

A national "Cap and Trade" program is not anticipated in the foreseeable future, but worth noting, and of possible impact to Tecogen is the one moving aggressively forward in California legislated by Assembly Bill (AB) 32. The program details are still under active review and negotiation by various government and advocacy groups.

Employees

As of the date of this prospectus, we employed 56 active full-time employees and 4 part-time employees. We believe that our relationship with our employees is satisfactory. None of our employees are represented by a collective bargaining agreement; however, a few of our New Jersey and New York City service employees have been in contact with a labor union and we are currently negotiating with this labor union.

Properties

Our headquarters are located in Waltham, Massachusetts and consist of 24,000 square feet of office and storage space that are shared with American DG Energy and other tenants. The lease expires on March 31, 2014. We believe that our facilities are appropriate and adequate for our current needs.

Legal Proceedings

From time to time, we may become party to litigation or other legal proceedings that we consider to be a part of the ordinary course of our business. We are not currently involved in legal proceedings that could reasonably be expected to have a material adverse effect on our business, prospects, financial condition or results of operations. We may become involved in material legal proceedings in the future.

MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

No established public trading market exists for our Common Stock and the Company's Common Stock has never been quoted on any market or exchange. Except for this Offering, there is no Common Stock that is being, or has been proposed to be, publicly offered. As of the date of this prospectus, there were 54,243,882 shares of Common Stock issued and outstanding, held by 107 stockholders of record.

Market of and Dividends on the Registrant's Common Equity and Related Stockholder Matters.

Market Information

Our Common Stock is not currently traded on any stock exchange or electronic quotation system. We expect that our Common Stock will be traded on the OTC Bulletin Board, a national or international securities exchange following the effectiveness of this registration statement and compliance with the procedures of the OTC Bulletin Board, a national or international securities exchange.

Holders

As of the date of this prospectus, there were 107 holders of record of our Common Stock. See "Security Ownership of Certain Beneficial Owners and Management" for information on the holders of our Common Stock. Also see "Description of Securities" for a description of our outstanding and issued capital stock.

Rule 144

In general, pursuant to Rule 144, under the Securities Act, as currently in effect, once we have been subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act for 90 days, a person (or persons whose shares are aggregated) who is not deemed to have been an affiliate of ours at any time during the three months preceding a sale, and who has beneficially owned restricted securities within the meaning of Rule 144 for a least six months (including certain periods of consecutive ownership of preceding non-affiliated holders) would be entitled to sell those shares, subject only to the availability of current public information about us. Under Rule 144, a person who is not deemed to have been one of our affiliates at any time during the 3 months preceding a sale, and who has beneficially owned the shares proposed to be sold for at least one year is entitled to sell the shares without complying with the public

information, manner of sale, volume limitation or notice provisions of Rule 144.

In general, under Rule 144 as currently in effect, once we have been subject to the Exchange Act reporting requirements for 90 days, our affiliates or persons selling shares on behalf of our affiliates who own shares that were acquired from us or an affiliate of ours at least six months prior to the proposed sale are entitled to sell within any three-month period beginning 90 days after the date of this prospectus, a number of shares that does not exceed the greater of:

- 1% of the number of shares of our Common Stock then outstanding, which will equal approximately 542,438 shares of our Common Stock estimated as of the date of this prospectus; or
- The average weekly trading volume of our Common Stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale, or if no such notice is required, the date of receipt of the order to execute the transaction by a broker or the execution of the transaction directly with a market maker.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Outstanding Common Stock

Under the unlimited resale provisions of Rule 144, there are 15,635,046 shares of our Common Stock eligible for resale under Rule 144 without any additional holding period.

Stock Options

Rule 701 provides that the shares of Common Stock acquired upon the exercise of currently outstanding options or other rights granted under our equity plans may be resold by persons, other than affiliates, beginning 90 days after the date of the effectiveness of this registration statement, restricted only by the manner of sale provisions of Rule 144, and by affiliates in accordance with Rule 144 without compliance with its one-year minimum holding period.

As of December 31, 2011, we had 4,381,000 options outstanding under our Stock Plan at a weighted average exercise price of $0.48. As of such date, 1,673,750 of those options were exercisable.

We intend to file one or more registration statements on Form S-8 under the Securities Act following the effectiveness of this registration statement to register all shares of our Common Stock which have been issued or are issuable upon exercise of outstanding stock options or other rights granted under our Stock Plan. These registration statements are expected to become effective upon filing. Shares of Common Stock covered by these registration statements will thereupon be eligible for sale in the public market, subject in certain cases to vesting of such shares.

Dividends

To date, we have not declared or paid any dividends on our outstanding shares. We currently do not anticipate paying any cash dividends in the foreseeable future on our Common Stock. Although we intend to retain our earnings to finance our operations and future growth, our Board of Directors will have discretion to declare and pay dividends in the future. Payment of dividends in the future will depend upon our earnings, capital requirements and other factors, which our Board of Directors may deem relevant.

SELECTED FINANCIAL DATA

The summary consolidated statements of operations data for each of the years ended December 31, 2011 and 2010 have been derived from our audited consolidated financial statements that are included elsewhere in this prospectus. You should read this information together with the consolidated financial statements and related notes and other information under "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this prospectus. Operating results for the year ended December 31, 2011 are not necessarily indicative of the results that may be expected for the year ended December 31, 2012.

Consolidated Statement of Operations Data:	December 31, 2011	2010
Revenues	$11,065,210	$11,311,229
Cost of sales	6,179,098	6,597,205
Gross profit	4,886,112	4,714,024
Operating expenses		
General and administrative	5,986,762	4,973,794
Selling	782,252	290,505
	6,769,014	5,264,299
Loss from operations	(1,882,902)	(550,275)
Other income (expense)		
Interest and other income	38,402	23,574
Interest expense	(40,294)	(37,280)
	(1,892)	(13,706)
Loss before income taxes	(1,884,794)	(563,981)
Provision for state income taxes	-	-
Consolidated net loss	(1,884,794)	(563,981)
Less: Loss attributable to the noncontrolling interest	310,293	208,673
Net loss attributable to Tecogen Inc.	$(1,574,501)	$(355,308)
Net loss per share - basic and diluted	$(0.03)	$(0.01)
Weighted average shares outstanding - basic and diluted	48,211,652	45,882,631

Consolidated Balance Sheet Data:	December 31, 2011	2010
Cash and cash equivalents	$3,018,566	$1,828,173

Short-term investments	683,428	85,000
Working capital	4,935,145	2,485,926
Total assets	8,745,492	5,876,422
Total liabilities	3,522,328	2,884,743
Stockholders' equity	$5,223,164	$2,991,679

MANAGEMENT'S DISCUSSION AND ANALYSIS OF

FINANCIAL CONDITION AND RESULTS OF OPERATIONS

THIS DISCUSSION CONTAINS FORWARD-LOOKING STATEMENTS THAT RELATE TO FUTURE EVENTS OR OUR FUTURE FINANCIAL PERFORMANCE. THESE STATEMENTS INVOLVE KNOWN AND UNKNOWN RISKS, UNCERTAINTIES AND OTHER FACTORS THAT MAY CAUSE OUR ACTUAL RESULTS, LEVELS OF ACTIVITY, PERFORMANCE OR ACHIEVEMENTS TO BE MATERIALLY DIFFERENT FROM ANY FUTURE RESULTS, LEVELS OF ACTIVITY, PERFORMANCE OR ACHIEVEMENTS EXPRESSED OR IMPLIED BY THESE FORWARD-LOOKING STATEMENTS. THESE RISKS AND OTHER FACTORS INCLUDE, AMONG OTHERS, THOSE LISTED UNDER “SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS” AND “RISK FACTORS” AND THOSE INCLUDED ELSEWHERE IN THIS REGISTRATION STATEMENT.

During the last two fiscal years there has been a slowdown in the economy, a decline in the availability of financing from the capital markets, and a widening of credit spreads which has, or may in the future, adversely affect us to varying degrees. Such conditions may impact our ability to meet obligations to our suppliers and other third parties. These market conditions could also adversely affect the amount of revenue we report, require us to increase our allowances for losses, result in impairment charges and valuation allowances that decrease our equity, increase our loss and reduce our cash flows from operations. In addition, these conditions or events could impair our credit rating and our ability to raise additional capital.

Overview

Tecogen designs, manufactures and sells industrial and commercial cogeneration systems that produce combinations of electricity, hot water, and air conditioning using automotive engines that have been specially adapted to run on natural gas. Our reliable and efficient cogeneration systems reduce energy costs, decrease greenhouse gas emissions and decrease reliance on utility-generated electricity. Cogeneration systems are efficient because in addition to supplying mechanical energy to power electric generators or compressors – displacing utility supplied electricity – they provide opportunity for the facility to incorporate the engine’s waste heat into onsite processes such as space and potable water heating. We produce standardized, modular, small-scale products, with a limited number of product configurations that are adaptable to multiple applications. We refer to these combined heat and power products as CHP (electricity plus heat) and MCHP (mechanical power plus heat).

Tecogen manufactures and supports three types of CHP products:

- Cogeneration units that supply electricity and heat (traditional CHP).
- Chillers that provide air-conditioning and heat or hot water (MCHP).
- High efficiency water heater (Heat Pump) for general purpose hot water applications (MCHP), offered by our subsidiary Ilios.

Our CHP technology uses low-cost, mass-produced, internal combustion engines manufactured by GM and Ford (for the high efficiency water heater). These engines have been modified to run on natural gas and in the case of our established mainstay CHP and chiller products, have been proven to be cost-effective and reliable. In 2009, our internal research team developed a low-cost process of engine after treatment, or Ultra low-emissions technology, that provides our engines with exceptionally low emissions of criteria pollutants (contributors to smog and health concerns). We are awaiting the results of our patent application for this process and have introduced it commercially as an option to all of our products in 2012, under the trade name Ultra. This emissions system technology is important to us as it repositions our products, relative to environmental impact, to be on par with emerging technologies such as fuel cells, but at a much lower cost and greater overall efficiency in CHP applications. With emissions significantly lower than current engine technology, our Ultra low-emissions technology may reset existing natural gas regulations for engines in some areas of the country.

Our products are sold directly to end-users by our in-house marketing team and by established sales agents and representatives. Various agreements are in place with distributors and sales representatives, including three affiliated companies. Our existing customers include hospitals and nursing homes, colleges and universities, health clubs and spas, hotels and motels, office and retail buildings, food and beverage processors, multi-unit residential buildings, laundries, ice rinks, swimming pools, factories, municipal buildings, and military installations. We have an installed base of more than 2,100 units. Many of these have been operating for almost 25 years. Our principal engine supplier is GM and principal generator suppliers are Danotek Motion Technologies, and Marathon Electric. To produce air-conditioning, our engines drive a compressor purchased from J&E Hall International.

Energy cost savings, carbon reduction, grid independence, the country's vast natural gas reserves, policy initiatives, and social responsibility all are factors driving the need for increased use of reliable, clean, and efficient on-site natural gas cogeneration systems with integral heat recovery.

In 2009 we created a majority-owned subsidiary Ilios to develop and distribute a line of ultra-high-efficiency heating products, including a high efficiency water heater. These products provide twice the efficiency of conventional commercial and industrial boilers (based upon management estimates) utilizing advanced thermodynamic principles. As of the date of this prospectus, we own a 62.5% interest in Ilios.

For each of our last five fiscal years and prior thereto, we have incurred annual operating losses. We expect this trend to continue until such time that we can sell a sufficient number of systems and achieve a cost structure to become profitable. We may not have adequate cash resources to reach the point of profitability, and we may never become profitable. Even if we do achieve profitability, we may be unable to increase our sales and sustain or increase our profitability in the future.

As of the end of the period covered by this report, our principal executive officer and principal accounting officer have performed an evaluation of controls and procedures and concluded that our controls were not effective to provide reasonable assurance that information required to be disclosed by our reports that we file under the Exchange Act, is recorded, processed, summarized and reported as when required. Management conducted an evaluation of our internal control over financial reporting and based on this evaluation, management concluded that the company's internal control over financial reporting was not effective as of December 31, 2011. We currently do not have personnel with a sufficient level of accounting knowledge, experience and training in the selection, application and implementation of generally acceptable accounting principles as it relates to complex transactions and financial reporting requirements. We also have a small number of employees dealing with general controls over information technology security and user access. This constitutes a material weakness in financial reporting. Any failure to implement effective internal controls could harm our operating results or cause us to fail to meet our reporting obligations. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock, and may require us to incur additional costs to improve our internal control system.

Tecogen was formed in the early 1960's as the Research and Development New Business Center of Thermo Electron Corporation, (which is now Thermo Fisher Scientific Inc.). For the next 20 years, this group performed fundamental and applied research in many energy-related fields to develop new technologies. During the late 1970's, new federal legislation enabled electricity customers to sell power back to their utility. Thermo Electron Corporation saw a fit between the technology and know-how it possessed and the market for cogeneration systems. In 1982, the Research and Development group released its first major product, a 60-kW cogenerator. In the late 1980's and early 1990's, air-conditioning and refrigeration products using the same gas engine-driven technology were introduced, beginning with a 150-ton chiller. In 1987, Tecogen was spun out as a separate entity by Thermo Electron Corporation and in 1992 Tecogen became a division of the newly formed Thermo Power Corporation. In 2000, Thermo Power Corporation was dissolved, and Tecogen was sold to private investors including Thermo Electron Corporation's original founders, Dr. George N. Hatsopoulos and John N. Hatsopoulos.

Tecogen has three affiliated companies, namely American DG Energy, EuroSite Power and GlenRose Instruments. These companies are affiliates because several of the major stockholders of those companies, have a significant ownership position in the Company. American DG Energy, EuroSite Power and GlenRose Instruments do not own any shares of the Company, and the Company does not own any shares of American DG Energy, EuroSite Power or GlenRose Instruments. The business of GlenRose Instruments is not related to the business of the Company, American DG Energy and their other corporate affiliates.

American DG Energy, EuroSite Power and GlenRose Instruments are affiliated companies by virtue of common ownership. The common stockholders include:

- John N. Hatsopoulos, the Company's Chief Executive Officer who is also: (a) the Chief Executive Officer and a director of American DG Energy and holds 12.1% of the company's Common Stock, (b) the Chairman of EuroSite Power, (c) a director of Ilios and holds 7.3% of the company's Common Stock, and (d) the Chairman of GlenRose Instruments and holds 15.7% of the company's Common Stock.

- Dr. George N. Hatsopoulos, who is John N. Hatsopoulos' brother, and is also: (a) a director of American DG Energy and holds 14.7% of the company's Common Stock, (b) an investor in Ilios and holds 2.9% of the company's Common Stock and (c) an investor of GlenRose Instruments and holds 15.7% of the company's Common Stock.

John N. Hatsopoulos is our Chief Executive Officer and is also the Chief Executive Officer of American DG Energy and the Chairman of GlenRose Instruments. On average, Mr. Hatsopoulos spends approximately 20% of his business time on the affairs of the Company; however such amount varies widely depending on the needs of the business and is expected to increase as the business of the Company develops.

Although we may, from time to time, have one or a few customers who may represent more than 10% of our product revenue for a given year, we are not dependent on the recurrence of such revenue from those customers. Our product revenue is such that customers may make a large purchase once and may not likely ever make such a purchase again. Our equipment is built to last 20 or more years, therefore, we do not build our product revenue model depending on recurring transactions from the same customer. Our service revenue may lend itself to recurring revenue form a single customer; however, we currently do not have any service revenue customers who make up more than 10% of our total revenues on an annual basis. American DG Energy has been considered a major customer in certain years as disclosed in the accompanying financial statements, however, we do not consider our business as "dependent" upon its recurrence.

For the last twelve months, the majority of our revenue was generated from long-term maintenance contracts, or service contracts, which provide us with a somewhat predictable revenue stream, especially during the summer months. We have a slight surge of activity from May through September as our "chiller season" is in full swing. Our service margins are generally predictable as we service hundreds of long-term contracts.

Our product revenue is derived from the sale of the various cogeneration modules, such as the InVerde 100, the CM-75 and the CM-60, and the three chiller models, such as the smaller ST, the larger DT and the RT (roof-top) units. The sales cycle for each product varies widely, whereby it can be as short as a month to as long as a year or more, depending on the number of decision makers in our customer's facility. Furthermore, since our products and their installation are costly they are considered a major capital improvement and customers may be slow in making their buy decision. Therefore our product revenue can be difficult to predict and the expected margin, which is based on the various models we offer, also varies therefore it is also difficult to forecast.

Our cogeneration and chiller units are built to order and revenue is recognized upon shipment. The time to build a unit depends on its customized configuration and is approximately 12 to 16 weeks, so our work-in-process is an important factor in understanding our financial condition at any given quarter.

We were incorporated in the State of Delaware on November 15, 2000. Our business and registered office is located at 45 First Avenue, Waltham, MA 02451. Our telephone number is 781-466-6400. Our Internet address is http://www.tecogen.com. The information on, or that may be accessed through, our website is not incorporated by reference into this prospectus and should not be considered a part of this prospectus.

We employ 56 active full-time employees and 4 part-time employees. Our corporate, engineering and manufacturing operations are located in a 24,000 square foot facility in Waltham, Massachusetts.

Recent Accounting Pronouncements

In May 2011, the Financial Accounting Standards Board, or FASB, issued updated accounting guidance related to fair value measurements and disclosures that result in common fair value measurements and disclosures between United States generally accepted accounting principles, or GAAP, and International Financial Reporting Standards. This guidance includes amendments that clarify the application of existing fair value measurement requirements, in addition to other amendments that change principles or requirements for measuring fair value and for disclosing information about fair value measurements. This guidance is effective during interim and annual periods beginning after December 15, 2011. The adoption of this guidance is not expected to have a material effect on our consolidated financial statements.

Critical Accounting Policies

Revenue Recognition

Revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable and collectability is reasonably assured. Generally, sales of cogeneration and chiller units and parts are recognized when shipped and services are recognized over the service period. Payments received in advance of services being performed are recorded as deferred revenue.

Infrequently, we recognize revenue in certain circumstances before delivery has occurred (commonly referred to as bill and hold transactions). In such circumstances, among other things, risk of ownership has passed to the buyer, the buyer has made a written fixed commitment to purchase the finished goods, the buyer has requested the finished goods be held for future delivery as scheduled and designated by them, and no additional performance obligations exist by the Company. For these transactions, the finished goods are segregated from inventory and normal billing and credit terms are granted.

For those arrangements that include multiple deliverables, we first determines whether each service or deliverable meets the separation criteria of FASB ASC 605-25, Revenue Recognition—Multiple-Element Arrangements. In general, a deliverable (or a group of deliverables) meets the separation criteria if the deliverable has stand-alone value to the customer and if the arrangement includes a general right of return related to the delivered item and delivery or performance of the undelivered item(s) is considered probable and substantially in control of the Company. Each deliverable that meets the separation criteria is considered a separate “unit of accounting”. We allocate the total arrangement consideration to each unit of accounting using the relative fair value method. The amount of arrangement consideration that is allocated to a delivered unit of accounting is limited to the amount that is not contingent upon the delivery of another unit of accounting.

When vendor-specific objective evidence or third-party evidence is not available, adopting the relative fair value method of allocation permits us to recognize revenue on specific elements as completed based on the estimated selling price. We generally use internal pricing lists that determine sales prices to external customers in determining its best estimate of the selling price of the various deliverables in multiple-element arrangements. Changes in judgments made in estimating the selling price of the various deliverables could significantly affect the timing or amount of revenue recognition. We enter into sales arrangements with customers to sell our cogeneration and chiller units and related service contracts and occasionally installation services. Based on the fact that we sell each deliverable to other customers on a stand-alone basis, we have determined that each deliverable has a stand-alone value. Additionally, there are no rights of return relative to the delivered items; therefore, each deliverable is considered a separate unit of accounting.

After the arrangement consideration has been allocated to each unit of accounting, we apply the appropriate revenue recognition method for each unit of accounting based on the nature of the arrangement and the services included in each unit of accounting. Cogeneration and chiller units are recognized when shipped and services are recognized over the term of the applicable agreement, as provided when on a time and materials basis or upon completion and acceptance when on a completed contract basis.

Presentation of Sales Taxes

We report revenues net of any revenue-based taxes assessed by governmental authorities that are imposed on and concurrent with specific revenue-producing transactions.

Shipping and Handling Costs

We classify freight billed to customers as sales revenue and the related freight costs as cost of sales.

Advertising Costs

We expense the costs of advertising as incurred. For the years ended December 31, 2011 and 2010, advertising expense was approximately $86,700 and $14,900, respectively.

Cash and Cash Equivalents

We consider all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. We have cash balances in certain financial institutions in amounts which occasionally exceed current federal deposit insurance limits. The financial stability of these institutions is continually reviewed by senior management. We believe we are not exposed to any significant credit risk on cash and cash equivalents.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist of highly liquid cash equivalents and trade receivables. Our cash equivalents are placed with certain financial institutions and issuers. As of December 31, 2011, we had a balance of $3,201,994 in cash and cash equivalents that exceeded the Federal Deposit Insurance Corporation limit of $250,000.

Short-Term Investments

Short-term investments consist of certificates of deposit with maturities of greater than three months but less than one year. Certificates of deposits are recorded at fair value.

Accounts Receivable

Accounts receivable are stated at the amount management expects to collect from outstanding balances. An allowance for doubtful accounts is provided for those accounts receivable considered to be uncollectible based upon historical experience and management's evaluation of outstanding accounts receivable at the end of the period. Bad debts are written off against the allowance when identified.

Inventory

Raw materials, work in process, and finished goods inventories are stated at the lower of cost, as determined by the average cost method, or net realizable value. We periodically review inventory quantities on hand for excess and/or obsolete inventory based primarily on historical usage, as well as based on estimated forecast of product demand. Any reserves that result from this review are charged to cost of sales. For the years ended December 31, 2011, and 2010, there was a reserve against inventory in the amount of $358,800 and $355,500, respectively.

Property, Plant and Equipment and Depreciation and Amortization

Property, plant and equipment are recorded at cost. Depreciation is provided using the straight-line method over the estimated useful lives of the asset, which range from three to seven years. Leasehold improvements are amortized using the straight-line method over the lesser of the estimated useful lives of the assets or the term of the related leases. Expenditures for maintenance and repairs are expensed currently, while renewals and betterments that materially extend the life of an asset are capitalized.

Intangible Assets

Intangible assets subject to amortization include costs incurred by the Company to acquire product certifications and certain patent costs. These costs are amortized on a straight-line basis over the estimated economic life of the intangible asset, which range from seven to ten years. We review intangible assets for impairment when the circumstances warrant.

Research and Development Costs

Internal research and development expenditures are expensed as incurred. Proceeds from certain grants and contracts with governmental agencies and their contractors to conduct research and development for new CHP technologies or to improve or enhance existing technology is recorded as an offset to the related research and development expenses. These grants and contracts are paid on a cost reimbursement basis provided in the agreed upon budget. For the years ended December 31, 2011 and 2010, amounts received were approximately $239,158 and $917,148, respectively, which offset the Company's total research and development expenditures for each of the respective periods.

Stock-Based Compensation

Stock based compensation cost is measured at the grant date based on the estimated fair value of the award and is recognized as an expense in the consolidated statements of operations over the requisite service period. The fair value of stock options granted is estimated using the Black-Scholes option pricing valuation model. We recognize compensation on a straight-line basis for each separately vesting portion of the option award. Use of a valuation model requires management to make certain assumptions with respect to selected model inputs. The determination of the fair value of share-based payment awards is affected by our stock price. Since we are not publicly traded, we considered the sales price of the Common Stock in private placements to unrelated third parties as a measure of the fair value of its Common Stock. The average expected life is estimated using the simplified method for "plain vanilla" options. The simplified method determines the expected life in years based on the vesting period and contractual terms as set forth when the award is made. We use the simplified method for awards of stock-based compensation since it does not have the necessary historical exercise and forfeiture data to determine an expected life for stock options. The risk-free interest rate is based on U.S. Treasury zero-coupon issues with a remaining term which approximates the expected life assumed at the date of grant. When options are exercised we normally issue new shares (see "*Note 10 – Stockholders' equity*".)

Common Stock Subscriptions

Outstanding proceeds for Common Stock transactions appear as Common Stock subscriptions in the accompanying consolidated balance sheets and consolidated statements of changes in stockholders' equity until received.

Loss per Common Share

We compute basic loss per share by dividing net loss for the period by the weighted-average number of shares of Common Stock outstanding during the period. We compute its diluted earnings per common share using the treasury stock method. For purposes of calculating diluted earnings per share, we consider its shares issuable in connection with the convertible debentures, stock options and warrants to be dilutive Common Stock equivalents when the exercise/conversion price is less than the average market price of our Common Stock for the period.

Other Comprehensive Net Loss

The comprehensive net loss for the years ended December 31, 2011 and 2010 does not differ from the reported loss.

Income Taxes

We use the asset and liability method of accounting for income taxes. The current or deferred tax consequences of transactions are measured by applying the provisions of enacted tax laws to determine the amount of taxes payable currently or in future years. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities and expected future tax consequences of events that have been included in the financial statements or tax returns using enacted tax rates in effect for the years in which the differences are expected to reverse. Under this method, a valuation allowance is used to offset deferred taxes if, based upon the available evidence, it is more likely than not that some or all of the deferred tax assets may not be realized. Management evaluates the recoverability of deferred taxes and the adequacy of the valuation allowance annually.

Effective January 1, 2009, we adopted the provisions of the accounting standards relative to accounting for uncertainties in tax positions. These provisions provide guidance on the recognition, de-recognition and measurement of potential tax benefits associated with tax positions. We elected to recognize interest and penalties related to income tax matters as a component of income tax expense in the statements of operations. There was no impact on the financial statements as a result of this guidance. With few exceptions, we are no longer subject to possible income tax examinations by federal, state or local taxing authorities for tax years before 2007.

Fair Value of Financial Instruments

Our financial instruments are cash and cash equivalents, certificates of deposit, accounts receivable, accounts payable, capital lease obligations and notes due from related party convertible debentures. The recorded values of cash and cash equivalents, accounts receivable and accounts payable approximate their fair values based on their short-term nature. At December 31, 2011, the current value on the consolidated balance sheet of the debentures and capital lease obligations approximates fair value as the terms approximate those available for similar instruments. Certificates of deposit classified as short-term investments are recorded at fair value.

Results of Operations

Year Ended December 31, 2011 Compared to Year Ended December 31, 2010

Revenues

Revenues in 2011 were $11,065,210 compared to $11,311,229 in 2010, a decrease of $246,019 or 2.2%. The decrease is due to a combination of an overall decrease in product sales together with an increase in service revenue.

Product revenue in 2011 was $4,569,113, compared to $5,543,605 in 2010, a decrease of $974,492 or 17.6%. During the year ended December 31, 2010 we recognized revenue of more than $1.2 million from one multi-unit cogeneration project. This sale was not matched in the year ended December 31, 2011. Shipments of chiller modules during 2011 accounted for 40.1% of product revenues. For the same period in 2010, chiller modules represented only 10.2% due to the $1.2 million sale of cogeneration modules. In addition, work in process as of December 31, 2011 and 2010 was $119,640 and $4,774, respectively. At December 31, 2011, there was a cogeneration unit substantially completed but did not ship until the following quarter. In accordance with our revenue recognition policy, the revenue for this unit was not recognized as of December 31, 2011.

Service revenue in 2011 was $6,496,097 compared to $5,767,624, in 2010, an increase of $728,473, or 12.6%. This increase is due to the growth in modules serviced under contract as well as the performance of several large consulting/installation projects during the year. In 2010 there were no consulting/turnkey projects performed. Tecogen offered “turnkey” installations to its customers up until 2006 and these Tecogen installed locations have been historically our best performing sites. In 2011, our service operation went back to the installation business whereby Tecogen service personnel installs our equipment rather than only selling and servicing the modules. We are also offering consulting services whereby Tecogen engineers will support the installation effort.

Cost of Sales

Cost of sales in 2011 was $6,179,098 compared to $6,597,205 in 2010, a decrease of $418,107, or 6.3%. Our gross profit margin was 44.2% in 2011, compared to 41.7% in 2010, an increase of 2.5%. The improvement in gross margin is attributable to sale of more chillers, which carry a higher margin, in the product mix versus sales of cogeneration devices.

Operating Expenses

Operating expenses were $6,769,014 in 2011, compared to $5,264,299 in 2010, an increase of $1,504,715, or 28.6%. The increase was due to a combination of non-cash compensation expense related to the issuance of restricted stock and option awards to our employees (which increased $247,288), the costs associated with the overhead, development, production and sale of our subsidiary’s water heating product (approximately $952,000) as well as the addition of personnel to support the sales efforts of the service and installation operations (approximately $279,000).

Loss from Operations

Loss from operations for the year ended December 31, 2011 was $1,882,902 compared to $550,275 for the year ended December 31, 2010, a decrease of $1,332,627. This increase in loss from operations was due to a combination of non-cash compensation expense related to the issuance of restricted stock and option awards to our employees (which increased $247,288), the costs associated with the overhead, development, production and sale of our subsidiary’s water heating product (approximately $952,000) as well as the addition of personnel to support the sales efforts of the service and installation operations (approximately $279,000).

Contract Research and Development

Contract research and development income, which is classified as an offset to applicable expenses, for the years ended December 31, 2011 and 2010 was $239,158 and $917,148, respectively. This decrease is due to the small engine development contract with the California Energy Commission, which included significant subcontract research work in 2010. This income offset cost of sales of $210,597 and $753,129, respectively and operating expenses of $13,148 and $10,861, respectively for the years ended December 31, 2011 and 2010. Total expenses offset by contract research and development grants for the year ended December 31, 2011 were $223,745, providing a net profit of $15,413. Total expenses offset by contract research and development grants for the year ended December 31, 2010 were $763,990, providing a net profit of $153,158.

Other Income (Expense), Net

Other expense, net, for 2011 was $1,892 compared to $13,706 for the same period in 2010. Other expense, net includes interest income on cash balances and short-term investments and notes receivable from stockholder of $38,402 net of interest expense of $40,294 for 2011. For the same period in 2010, interest income was $23,574 and interest expense was $37,280. The increase in interest income is the result the interest earned on notes receivable from stockholder which existed for twelve months during 2011 and six months during 2010.

Provision for Income Taxes

We did not record any benefit or provision for income taxes for the year ended December 31, 2011 and 2010, respectively. As of December 31, 2011 and 2010, the income tax benefits generated from the Company's net losses have been fully reserved.

Noncontrolling Interest

The noncontrolling interest share in the losses in Ilios was $310,293 in 2011 compared to $208,673 in 2010. The increase was due to additional payroll costs incurred by Ilios, our majority owned subsidiary, in 2011.

Liquidity and Capital Resources

Consolidated working capital at December 31, 2011 was $4,935,145, compared to $2,485,926 at December 31, 2010. Included in working capital were cash and cash equivalents of $3,018,566 and short-term investments of $683,428 at December 31, 2011, compared to $1,828,173 and $85,000, respectively, at December 31, 2010. The increase in working capital was a result of cash raised from the sale of Common Stock, from the conversion of accrued interest on our convertible debentures and the issuance of a demand note payable, offset by cash used to purchase inventory.

Cash used in operating activities was $2,409,620 for the year ended December 31, 2011 compared to cash provided by operating activities of $341,870 for the year ended December 31, 2010. Our accounts receivable balance decreased to $1,399,232 at December 31, 2011 compared to $1,788,323 at December 31, 2010, providing $389,091 of cash due to the timing of billing, shipments and collections. Our inventory increased to $2,568,986 as of December 31, 2011 compared to $1,324,415 as of December 31, 2010, using $1,244,571 to purchase inventory to build modules in backlog. Amount due to us from related parties increased to $299,739 as of December 31, 2011 from $98,230 at December 31, 2010, using $201,509 from services performed.

Accounts payable increased to $812,214 as of December 31, 2011, from $705,406 at December 31, 2010 providing $106,808 in cash to purchase inventory. Accrued expenses decreased to $727,463 as of December 31, 2011 from $895,884 as of December 31, 2010, using $168,421 of cash. Interest payable, related party decreased to $61,062 as of December 31, 2011 from $93,727 as of December 31, 2010 using $32,665 from a non-cash conversion to equity.

During the year ended December 31, 2011, our investing activities used $748,933 of cash and included expenditures for property and equipment of $115,186, purchases of short-term investments of $680,000 and sales of short-term

investments of $85,000. Our financing activities provided $4,348,946 of cash during the year ended December 31, 2011 from the issuance of a demand note payable to a stockholder as well as the sale of Common Stock to various investors.

At December 31, 2011, our commitments included various leases for office and warehouse facilities of $1,295,691. The source of funds to fulfill these commitments will be provided either from cash and short term investment balances, operations or through debt or equity financing.

We believe that our existing resources, including cash and cash equivalents and future cash flows from operations, are sufficient to meet the working capital requirements of our existing business until March 31, 2013. Beyond March 31, 2013, as we continue to grow our business our cash requirements may increase. We may need to raise additional capital through a debt financing or an equity offering to meet our operating and capital needs for future growth.

Our ability to continue to access capital could be impacted by various factors including general market conditions and the continuing slowdown in the economy, interest rates, the perception of our potential future earnings and cash distributions, any unwillingness on the part of lenders to make loans to us and any deterioration in the financial position of lenders that might make them unable to meet their obligations to us. If these conditions continue and we cannot raise funds through a public or private debt financing, or an equity offering, our ability to grow our business may be negatively affected and we may need to suspend and significantly reduce our operating costs until market conditions improve.

Seasonality

We expect that the majority of our heating systems sales will be in the winter and the majority of our chilling systems sales will be in the summer. Our cogeneration and chiller system sales are not generally affected by the seasons, although customer goals will be to have chillers installed and running in the spring. Our service team does experience higher demand in the warmer months when cooling is required. These units are generally shut down in the winter and started up again in the spring. This “busy season” for the service team generally runs from April/May through the end of September.

Off Balance Sheet Arrangements

The Company currently has no material off balance sheet arrangements and has no plans to enter into any such arrangements.

CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON

ACCOUNTING AND FINANCIAL DISCLOSURE

On April 13, 2011, Caturano and Company, Inc. (formerly Caturano and Company, P.C.), or Caturano, resigned as the Company’s independent registered public accounting firm as a result of the July 20, 2010, acquisition by McGladrey & Pullen, LLP, or McGladrey, of certain of Caturano’s assets. The Company’s board of directors appointed McGladrey as the Company’s independent registered public accounting firm for the fiscal year ending December 31, 2010.

Caturano’s audit reports on the Company’s financial statements for the fiscal years ended December 31, 2009 and December 31, 2008 did not contain any adverse opinion or disclaimer of opinion, and were not qualified or modified as to uncertainty, audit scope or accounting principles. During the Company’s fiscal years ended December 31, 2009 and December 31, 2008 and through the date of Caturano’s resignation, there were no disagreements between the Company and Caturano on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to Caturano’s satisfaction, would have caused Caturano to make reference thereto in connection with its audit reports, and no reportable events as defined in Item 304(a)(1)(v) of Regulation S-K.

Prior to the engagement of McGladrey, we did not consult with such firm regarding the application of accounting principles to a specific completed or contemplated transaction, or any matter that was either the subject of a

disagreement or a reportable event. We also did not consult with McGladrey regarding the type of audit opinion that might be rendered on our financial statements and no oral or written report was provided by McGladrey.

MANAGEMENT AND GOVERNANCE

Directors and Executive Officers.

The following table lists the current members of our board of directors and our executive officers. The address for our directors and officers is c/o Tecogen Inc., 45 First Avenue, Waltham, Massachusetts 02451.

Name	Age	Position(s)
Angelina M. Galiteva	45	Chairperson of the Board and Director
John N. Hatsopoulos	78	Chief Executive Officer and Director
Robert A. Panora	57	Chief Operating Officer and President
Bonnie J. Brown	49	Chief Financial Officer and Secretary
Anthony S. Loumidis	47	Vice President and Treasurer
George N. Hatsopoulos	85	Director
Ahmed F. Ghoniem	60	Director
Charles T. Maxwell	80	Director
Joseph E. Aoun	59	Director

Angelina M. Galiteva, age 45, has been our Chairperson of the Board since 2005. She is founder and Chair of the Board for the Renewables 100 Policy Institute, a non-profit entity dedicated to the global advancements of renewable energy solutions since 2008. Ms. Galiteva is also Chairperson at the World Council for Renewable Energy (WCRE) which focuses on the development of legislative and policy initiatives to facilitate the introduction and growth of renewable energy technologies since 2003. Ms. Galiteva is the governor's appointee to the California Independent System Operator (CA ISO), providing direction and oversight for the California ISO which operates the California electricity grid. Also, Ms. Galiteva is a principal at New Energy Options, Inc., a company focusing on advancing the integration of sustainable energy solutions since 2006. Ms. Galiteva holds a Master's degree in Environmental and Energy Law, a law degree from Pace University School of Law, and a bachelor's degree from Sofia University in Bulgaria.

Our board of directors has determined that Ms. Galiteva's prior experience in the energy field qualify her to be a member of the board of directors in light of the Company's business and structure.

John N. Hatsopoulos, age 78, has been the Chief Executive Officer of the Company since the organization of the Company in 2000. He has also been the Chief Executive Officer of American DG Energy Inc., (NYSE Amex: ADGE), a publicly traded company in the On-Site Utility business since 2000, and the Chairman of EuroSite Power

Inc., a subsidiary of American DG Energy Inc. since 2009. Mr. Hatsopoulos is a co-founder of Thermo Electron Corporation, which is now Thermo Fisher Scientific (NYSE: TMO), and the retired President and Vice Chairman of the Board of Directors of that company. He is a member of the Board of Directors of Ilios Inc., GlenRose Instruments Inc., Agenus Inc. (NASDAQ: AGEN), American CareSource Holdings, Inc. (NASDAQ: ANCI) and TEI Biosciences Inc., and is a former Member of the Corporation of Northeastern University. The Company, American DG Energy Inc., EuroSite Power Inc., and GlenRose Instruments Inc., are affiliated companies by virtue of common ownership. Mr. Hatsopoulos graduated from Athens College in Greece, and holds a bachelor's degree in history and mathematics from Northeastern University, as well as honorary doctorates in business administration from Boston College and Northeastern University.

Mr. Hatsopoulos is the Company's Chief Executive Officer and is also the Chief Executive Officer of American DG Energy and the Chairman of GlenRose Instruments. On average, Mr. Hatsopoulos spends approximately 20% of his business time on the affairs of the Company; however such amount varies widely depending on the needs of the business and is expected to increase as the business of the Company develops.

Our board of directors has determined that Mr. Hatsopoulos's prior experience as co-founder, president and Chief Financial Officer of Thermo Electron Corporation, where he demonstrated leadership capability and gained extensive expertise involving complex financial matters, and his extensive knowledge of complex financial and operational issues qualify him to be a member of the board of directors in light of the Company's business and structure.

Robert A. Panora, age 57, has been our Chief Operating Officer and President since the organization of the Company in 2000. He had been General Manager of Tecogen's Product Group since 1990 and Manager of Product Development, Engineering Manager, and Operations Manager of the Company since 1984. Over his 27-year tenure with Tecogen, Mr. Panora has been responsible for sales and marketing, engineering, service, and manufacturing. Mr. Panora contributed to the development of Tecogen's first product, the CM-60 cogeneration system, and was Program Manager for the cogeneration and chiller projects that followed. Mr. Panora has had considerable influence on many aspects of Tecogen's business, from building the employee team, to conceptualizing product designs and authoring many of the original business documents, sales tools, and product literature pieces. Mr. Panora has a bachelor's and master's degrees in Chemical Engineering from Tufts University.

Bonnie J. Brown, age 49, has been our Chief Financial Officer since 2007 and our Secretary since 2010. Ms. Brown joined the Company in 2005 as Controller. She has also been the Chief Financial Officer of Ilios Inc. since its inception in 2009. Prior to joining Tecogen, Ms. Brown was a partner at Sullivan Bille PC, a regional accounting firm, for 15 years where she provided financial, accounting, audit, tax, and business consulting services for mid-sized companies. Ms. Brown has also worked at Enterprise Bank and Trust (NASDAQ:EBTC) as project manager for special assignments including branch acquisitions and information systems transitions in the trust department eventually serving as Internal Audit Director, establishing an in-house audit function. She has also provided independent contractor services for a wide variety of publicly traded and closely held companies, including consulting, internal control and Sarbanes-Oxley compliance services. Ms. Brown is a CPA and holds a B.S. in Accountancy from Bentley College and an M.S. in Computer Information Systems from Boston University.

Anthony S. Loumidis, age 47, has been our Vice President since 2007 and Treasurer since 2001. Mr. Loumidis is currently the Chief Financial Officer of the Company's affiliates, American DG Energy Inc., since 2004, EuroSite Power Inc., since 2010, and GlenRose Instruments Inc., since 2006. GlenRose Instruments Inc. provides analytical services to the federal government and its prime contractors. He is also the Treasurer of Ilios Inc., a high-efficiency heating products company. Mr. Loumidis was previously with Thermo Electron Corporation, where he held various positions including National Sales Manager for Thermo Capital Financial Services, Manager of Investor Relations and Manager of Business Development of Tecomet, a subsidiary of Thermo Electron Corporation. Mr. Loumidis is a FINRA registered representative, holds a bachelor's degree in business administration from the American College of Greece in Athens and a master's degree in business administration from Northeastern University.

George N. Hatsopoulos, age 85, has been a member of our Board since the organization of the Company in 2000. He is the founder and Chief Executive Officer of Pharos, LLC, an organization devoted to the creation of leading edge business ventures and he is a member of the Board of Directors of American DG Energy Inc., an affiliated company by virtue of common ownership. He is the founder and chairman emeritus of Thermo Electron Corporation and served as Chairman and Chief Executive Officer since its founding in 1956 until his retirement from those positions in 1999. Dr. Hatsopoulos has served on the board of the Federal Reserve Bank of Boston, including a term as chairman. He was a member of the Securities and Exchange Commission Advisory Committee on Capital Formation and Regulatory Process, the Advisory Committee of the U.S. Export-Import Bank, and the boards of various corporations and institutions. Dr. Hatsopoulos is a fellow of the American Academy of Arts and Sciences, the American Society of Mechanical Engineers and other scientific and technical organizations. He is the recipient of numerous honors and awards in engineering, science, industry and academics, has authored over 60 articles in professional journals, and is

the principal author of textbooks on thermodynamics and thermionic energy conversion. Dr. Hatsopoulos has been a faculty member and senior lecturer at Massachusetts Institute of Technology and continues his association with MIT as a Life Member of the Corporation. Dr. Hatsopoulos holds bachelors, masters and doctorate degrees from MIT, all in mechanical engineering.

Our board of directors has determined that Dr. Hatsopoulos's prior experience as founder, chairman and Chief Executive Officer of Thermo Electron Corporation, where he demonstrated leadership capability and gained extensive expertise involving complex financial matters, and his extensive knowledge of complex financial and operational issues qualify him to be a member of the board of directors in light of the Company's business and structure.

Ahmed H. Ghoniem, age 60, has been a member of our Board since 2008. He is the Ronald C. Crane Professor of Mechanical Engineering at MIT. He is also the director of the Center for 21st Century Energy, and the head of Energy Science and Engineering at MIT, where he plays a leadership role in many energy-related activities, initiatives and programs. Mr. Ghoniem joined MIT as an assistant professor in 1983. He is an associate fellow of the American Institute of Aeronautics and Astronautics, and Fellow of American Society of Mechanical Engineers. Recently, he was granted the KAUST Investigator Award. He is a member of the Board of Directors of EuroSite Power Inc., and Ilios Inc., which are affiliated companies by virtue of common ownership. Mr. Ghoniem holds a Ph.D. in Mechanical Engineering from the University of California, Berkeley, and an M.S. and B.S. in Mechanical Engineering from Cairo University.

Our Board of Directors has determined that Dr. Ghoniem's prior experience as a Professor of Mechanical Engineering at MIT and his prior experience in the energy sector qualify him to be a member of our Board of Directors in light of our business and structure.

Charles T. Maxwell, age 80, has been a member of our Board since 2001. He is a widely recognized expert in the energy sector, with over 40 years of experience with major oil companies and investment banking firms. He is currently Senior Energy Analyst with Weeden & Co. of Greenwich, Connecticut, since 1999, where he develops strategic data and forecasts on oil, gas and power markets. Mr. Maxwell is a member of the Board of Directors of American DG Energy Inc., an affiliated company by virtue of common ownership. Since the early 1980's, he has been an active member of an Oxford-based organization comprised of present or past OPEC-county oil ministers and other oil industry executives from 30 countries who meet twice annually to analyze trends in global energy markets. He is a member of the board of directors of Chesapeake Energy Corp. (NYSE: CHK). Mr. Maxwell holds a bachelor's degree in political science from Princeton University and holds a B.A. from Oxford University as a Marshall Scholar in Middle East literature and history.

Our board of directors has determined that Mr. Maxwell's prior experience in the energy sector and his extensive experience as a director of public companies qualifies him to be a member of the board of directors in light of the Company's business and structure.

Joseph E. Aoun, age 59, has been a member of our Board since 2011. He is President of Northeastern University, a preeminent global, experiential, research university since 2006. President Aoun is recognized as a leader in higher education policy and serves on the board of directors of the American Council on Education as well as the Boston Private Industry Council, Boston World Partnerships, Jobs for Mass, and the New England Council. He is a member

of the Executive Committee of the Greater Boston Chamber of Commerce, a member of the Massachusetts Business Roundtable and Massachusetts Math & Science Initiative, and serves on the Leadership Council for the Mass Life Sciences Collaborative and as co-chair of the City to City Boston initiative. President Aoun is the recipient of numerous honors and awards and is an internationally known scholar in linguistics. President Aoun holds a master's degree in Oriental Languages and Literature from Saint Joseph University, Beirut, Lebanon, Diploma of Advanced Study General and Theoretical Linguistics, University of Paris VIII, Paris, France, and a Ph.D. Linguistics and Philosophy from MIT.

Our Board of Directors has determined that Dr. Aoun's prior experience as the President of Northeastern University and his prior experience in the energy sector qualify him to be a member of our Board of Directors in light of our business and structure.

Each executive officer is elected or appointed by, and serves at the discretion of, our Board of Directors. The elected officers of the Company will hold office until their successors are duly elected and qualified, or until their earlier resignation or removal.

Family Relationships

There are no other family relationships among members of our Board of Directors and executive officers other than George N. Hatsopoulos and John N. Hatsopoulos who are brothers.

Board Composition

The number of directors of the Company is established by the Board of Directors in accordance with our bylaws. The exact number of directors is currently set at six (6) by resolution of the Board of Directors. The directors are elected to serve for one (1) year terms, with the term of directors expiring each year at the annual meeting of stockholders; provided further, that the term of each director shall continue until the election and qualification of a successor and be subject to such director's earlier death, resignation or removal.

Our certificate of incorporation and bylaws provide that the authorized number of directors may be changed only by resolution of the Board of Directors, and also provide that our directors may be removed only for cause by the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in an annual election of directors, and that any vacancy on our Board of Directors, including a vacancy resulting from an enlargement of our Board of Directors, may be filled only by vote of a majority of our directors then in office.

We have no formal policy regarding board diversity. Our priority in selection of board members is identification of members who will further the interests of our stockholders through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business and understanding of the competitive landscape.

Board Committees

Our Board of Directors directs the management of our business and affairs and conducts its business through meetings of the Board of Directors and our committees: the Audit Committee, the Compensation Committee and the Nominating and Governance Committee.

The members of the Audit Committee are Ms. Galiteva and Mr. Maxwell. The members of the Compensation Committee are Dr. Aoun, Ms. Galiteva and Dr. Ghoniem. The members of our Nominating and Governance

Committee are Dr. Aoun, Dr. Ghoniem and Mr. Maxwell. All committee members have been determined to be independent by our Board of Directors in accordance with the NYSE Amex rules. The Board of Directors has also determined that Mr. Maxwell qualifies as an audit committee financial expert. In addition, from time to time, other committees may be established under the direction of the Board of Directors when necessary to address specific issues.

The functions of the Audit Committee include reviewing and supervising the financial controls of the Company, appointing, compensating and overseeing the work of the independent auditors, reviewing the books and accounts of the Company, meeting with the officers of the Company regarding the Company's financial controls, acting upon recommendations of the independent auditors and taking such further actions as the Audit Committee deems necessary to complete an audit of the books and accounts of the Company. The charter of the Audit Committee will be available on the Company’s website at www.tecogen.com and is included as Exhibit 10.1 hereto.

The Compensation Committee's functions include reviewing with management cash and other compensation policies for employees, making recommendations to the Board of Directors regarding compensation matters and determining compensation for the Chief Executive Officer. Our Chief Executive Officer has been instrumental in the design and recommendation to the compensation committee of compensation plans and awards for our directors and executive officers including our President, Chief Operating Officer and Chief Financial Officer. All compensation decisions for the Chief Executive Officer and all other executive officers are reviewed and approved by the Compensation Committee, subject to ratification by the Board of Directors. The charter of the Compensation Committee will be available on the Company’s website at www.tecogen.com and is included as Exhibit 10.2 hereto.

The Nominating and Governance Committee functions are to identify persons qualified to serve as members of the Board of Directors, to recommend to the Board of Directors persons to be nominated by the board for election as directors at the annual meeting of stockholders and persons to be elected by the board to fill any vacancies, and recommend to the Board the Directors persons to be appointed to each of its committees. In addition, the Nominating and Governance Committee is responsible for developing and recommending to the Board of Directors a set of corporate governance guidelines applicable to the Company (as well as reviewing and reassessing the adequacy of such guidelines as it deems appropriate from time to time) and overseeing the annual self-evaluation of the Board of Directors. The charter of the Nominating and Governance Committee is available on the Company's website at www.tecogen.com and is included as Exhibit 10.3 hereto.

Director Compensation

Each director who is not also one of our employees will receive a fee of $500 per day for service on those days that our Board of Directors and or each of the Audit, Compensation or Nominating and Governance Committees hold meetings, or otherwise conduct business. Non-employee directors also will be eligible to receive stock or options awards under our 2011 Stock Incentive Plan, as amended, or the Stock Plan. We reimburse all of our non-employee directors for reasonable travel and other expenses incurred in attending Board of Directors and committee meetings. Any director who is also one of our employees receives no additional compensation for serving as a director. Our non-employee directors did not receive any compensation in cash prior to or during 2010 because prior to filing this registration statement the compensation of directors was only in stock awards.

Board Leadership Structure

We separate the roles of Chief Executive Officer and Chairman in recognition of the differences between the two roles. Our Chief Executive Officer is responsible for setting the strategic direction for the Company and the overall leadership and performance of the Company. Our Chairman provides guidance to the Chief Executive Officer, sets the agenda for Board of Director meetings, presides over meetings of the full Board of Directors and leads all executive meetings of the independent directors. We are a small company with a small management team, and we feel the separation of these roles enhances high-level attention to our business.

Our Board of Directors Role in Risk Oversight

Our Board of Directors oversees our risk management processes directly and through its committees. Our management is responsible for risk management on a day-to-day basis. The Audit Committee assists the Board of Directors in fulfilling its oversight responsibilities with respect to risk management in the areas of financial reporting, internal controls and compliance with legal and regulatory requirements, and discusses policies with respect to risk

assessment and risk management, including guidelines and policies to govern the process by which the Company's exposure to risk is handled. The Compensation Committee assists the Board of Directors in fulfilling its oversight responsibilities with respect to the management of risks arising from our compensation policies and programs. The Nominating and Governance Committee assists the Board of Directors in fulfilling its oversight responsibilities with respect to the management of risks associated with board organization, membership and structure, succession planning for our directors, and corporate governance.

Code of Business Conduct and Ethics

The Company has adopted a code of business conduct and ethics that applies to the Company's directors, officers and employees. The Company's code of business conduct and ethics is intended to promote honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; full, fair, accurate, timely and understandable disclosure in reports and documents that the Company files with, or submits to, the SEC and in other public communications made by the Company; compliance with applicable governmental laws, rules and regulations; prompt internal reporting of violations of the code of business conduct and ethics to an appropriate person or persons identified in the code of business conduct and ethics; and accountability for adherence to the code of business conduct and ethics. The Company's code of business conduct and ethics is available on the Company's website at www.tecogen.com and is included as Exhibit 14.1 hereto.

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Executive Compensation.

The Compensation Committee and Board of Directors construct policies and guidelines regarding executive compensation. The major components of executive compensation will be base salary, annual incentive bonuses, equity incentive awards and customary employee benefits. Among the factors likely to be relevant are:

- the executive officer's skills and experience;
- the particular importance of the executive officer's position to us;
- the executive officer's individual performance;
- the executive officer's growth in his or her position; and
- base salaries for comparable positions within our Company and at other companies.

Our Compensation Committee performs evaluations of our executive officers' compensation at least annually and may solicit the input of a compensation consulting firm and peer group benchmarking data in making any adjustments believed to be appropriate.

The following table sets forth information with respect to the compensation of our executive officers as of December 31, 2011:

Summary Compensation Table

Name and principal position	Year	Salary ($)	Bonus ($)	Stock awards ($)	Option awards ($)(1)	All other compensation ($)	Total ($)
John N. Hatsopoulos	2011	1	-	-	-	-	1
Chief Executive Officer	2010	1	-	-	-	-	1
(Principal Executive Officer)							
Robert A. Panora (2)(3)	2011	163,770	-	-	123,408	1,032	288,210
Chief Operating Officer and President	2010	163,770	-	-	-	1,032	164,802
Bonnie J. Brown (4)(5)	2011	156,000	-	-	-	360	156,360

Chief Financial Officer and Secretary (Principal Financial Officer)	2010	156,000	-	-	24,446	360	180,806
Anthony S. Loumidis (6)	2011	12,994	10,000	-	37,022	-	60,016
Vice President and Treasurer	2010	-	-	-	-	-	-

(1) The amounts in the "Stock Option Awards" column reflect the aggregate grant date fair value of the awards computed in accordance with FASB ASC Topic 718. The assumptions used by us with respect to the valuation of stock and option awards are set forth in *Note 10 – Stockholders' equity* to our financial statements included elsewhere in this registration statement.

(2) Includes stock option award to purchase 500,000 shares of Common Stock at a purchase price of $0.65 per share granted on February 15, 2011, with 125,000 of the shares vesting on February 15, 2012 and then an additional 125,000 shares on each of the subsequent three anniversaries, subject to acceleration of vesting upon a change in control.

(3) Includes group life insurance of $1,032 for 2011 and 2010, respectively.

(4) Includes stock option award to purchase 100,000 shares of Common Stock at a purchase price of $0.65 per share granted on February 18, 2010, with 25,000 of the shares vesting on February 18, 2011 and then an additional 25,000 shares on each of the subsequent three anniversaries, subject to acceleration of vesting upon a change in control.

(5) Includes group life insurance of $360 for 2011 and 2010.

(6) Includes stock option award to purchase 150,000 shares of Common Stock at a purchase price of $0.65 per share granted on February 15, 2011, with 25,000 of the shares vesting on February 15, 2012 and then an additional 25,000 shares on each of the subsequent three anniversaries, subject to acceleration of vesting upon a change in control.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information with respect to outstanding equity awards held by our executive officers as of December 31, 2011:

	Option awards				Stock awards	
Name	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price ($)	Option expiration date	Number of shares of stock that have not vested (#)	Market value of shares of stock that have not vested ($)(1)
John N. Hatsopoulos	-	-	-	-	-	-
Robert A. Panora (2)(3)	-	500,000	0.65	2/14/2021	553,400	387,380
Bonnie J. Brown (4)(5)	75,000	25,000	0.30	2/13/2013	50,000	35,000
Bonnie J. Brown (6)	100,000	100,000	0.50	3/11/2019	-	-
Bonnie J. Brown (7)	25,000	75,000	0.65	2/18/2015	-	-
Anthony S. Loumidis (8)(9)	20,000	-	0.30	2/24/2014	30,000	21,000
Anthony S. Loumidis (10)	100,000	-	0.30	9/29/2015	-	-
Anthony S. Loumidis (11)	56,250	18,750	0.30	2/13/2013	-	-
Anthony S. Loumidis (12)	-	150,000	0.65	2/14/2021	-	-

(1) Market value of shares of stock that have not vested is computed on the last private placement price of the Company's Common Stock at November 30, 2011, which was $0.80 per share.

(2) Includes stock option award granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to Mr. Panora's continued employment and subject to acceleration of vesting upon a change in control.

(3) Includes 553,400 shares of restricted Common Stock at a purchase price of $.001 per share granted on December 4, 2006, with 100% of the shares vesting one year after the Company's initial public offering, subject to acceleration of vesting upon a change in control prior to a termination event.

(4) Includes stock option award granted on February 13, 2008, with 25% of the shares vesting on February 13, 2009 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to Ms. Brown's continued employment and subject to acceleration of vesting upon a change in control.

(5) Includes 50,000 shares of restricted Common Stock at a purchase price of $.001 per share granted on December 13, 2006, with 100% of the shares vesting one year after the Company's initial public offering, subject to acceleration of vesting upon a change in control prior to a termination event.

(6) Includes stock option award granted on March 11, 2009, with 25% of the shares vesting on March 11, 2010 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to Ms. Brown's continued employment and subject to acceleration of vesting upon a change in control.

(7) Includes stock option award granted on February 28, 2010, with 25% of the shares vesting on February 28, 2011 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to Ms. Brown's continued employment and subject to acceleration of vesting upon a change in control.

(8) Includes stock option award granted on February 24, 2004, with 25% of the shares vesting on February 24, 2005 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to Mr. Loumidis continued employment and subject to acceleration of vesting upon a change in control.

(9) Includes 30,000 shares of restricted Common Stock at a purchase price of $.001 per share granted on December 13, 2006, with 100% of the shares vesting one year after the Company's initial public offering, subject to acceleration of vesting upon a change in control prior to a termination event.

(10) Includes stock option award granted on September 29, 2005, with 25% of the shares vesting on September 29, 2006 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to continued employment of Mr. Loumidis and subject to acceleration of vesting upon a change in control.

(11) Includes stock option award granted on February 13, 2008, with 25% of the shares vesting on February 13, 2009 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to continued employment of Mr. Loumidis and subject to acceleration of vesting upon a change in control.

(12) Includes stock option award granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to continued employment of Mr. Loumidis and subject to acceleration of vesting upon a change in control.

Director Compensation

Each director who is not also one of our employees will receive a fee of $500 per day for service on those days that our Board of Directors and or each of the Audit, Compensation or Nominating and Governance Committees hold meetings, or otherwise conduct business. Non-employee directors also will be eligible to receive stock or options awards under our equity incentive plan. We reimburse all of our non-employee directors for reasonable travel and other expenses incurred in attending Board and committee meetings. Any director who is also one of our employees receives no additional compensation for serving as a director.

Our non-employee directors did not receive any compensation in cash prior to or during 2010 because prior to filing this registration statement the compensation of directors was only in stock awards. The following table sets forth information with respect to the compensation of our directors as of December 31, 2011:

Summary Compensation Table

Name	Fees earned or paid in cash ($)	Stock awards ($)	Option awards ($)(1)	All other compensation ($)	Total ($)
Angelina M. Galiteva (2)	500	-	24,682	-	25,182
John N. Hatsopoulos	-	-	-	-	-
George N. Hatsopoulos	-	-	-	-	-
Ahmed F. Ghoniem (3)	-	-	24,682	-	24,682
Charles T. Maxwell (4)	500	-	24,682	-	25,182
Joseph E. Aoun	-	-	-	-	-

(1) The amounts in the “Stock Option Awards” column reflect the aggregate grant date fair value of the awards computed in accordance with FASB ASC Topic 718. The assumptions used by us with respect to the valuation of stock and option awards are set forth in *Note 10 – Stockholders’ equity* to our financial statements included elsewhere in this registration statement.

(2) Includes stock option award to purchase 100,000 shares of Common Stock at a purchase price of $0.65 per share granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to acceleration of vesting upon a change in control.

(3) Includes stock option award to purchase 100,000 shares of Common Stock at a purchase price of $0.65 per share granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012 and then an additional 25% of

the shares vesting on each of the subsequent three anniversaries, subject to acceleration of vesting upon a change in control.

(4) Includes stock option award to purchase 100,000 shares of Common Stock at a purchase price of $0.65 per share granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012 and then an additional 25% of the shares vesting on each of the subsequent three anniversaries, subject to acceleration of vesting upon a change in control.

Outstanding Equity Awards at Fiscal Year-End Table

The following table summarizes the outstanding equity awards held by each director as of December 31, 2011.

	Option awards				Stock awards	
Name	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price ($)	Option expiration date	Number of shares of stock that have not vested (#)	Market value of shares of stock that have not vested ($)(1)
Angelina M. Galiteva (2)(3)	100,000	-	0.03	10/20/2013	100,000	80,000
Angelina M. Galiteva (4)	-	100,000	0.65	2/14/2021	-	-
John N. Hatsopoulos	-	-	-	-	-	-
George N. Hatsopoulos	-	-	-	-	-	-
Ahmed F. Ghoniem (5)(6)	-	100,000	0.65	2/14/2021	100,000	80,000
Charles T. Maxwell (7)(8)	-	100,000	0.65	2/14/2021	100,000	80,000
Joseph E. Aoun	-	-	-	-	-	-

(1) Market value of shares of Common Stock that have not vested is computed by the Company's most recent private placement of Common Stock in November 30, 2011, which was $0.80 per share.

(2) Includes stock option award granted on October 20, 2003, with 100% of the shares vesting on the date of the option grant.

(3) Includes 100,000 shares of restricted Common Stock at a purchase price of $.001 per share granted on December 13, 2006, with 100% of the shares vesting one year after the Company's initial public offering.

(4) Includes stock option award granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012, and then an additional 25% of the shares vesting on each of the subsequent four anniversaries, provided that Ms. Galiteva serves as a director or consultant to the Company.

(5) Includes stock option award granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012, and then an additional 25% of the shares vesting on each of the subsequent four anniversaries, provided that Mr. Ghoniem serves as a director or consultant to the Company.

(6) Includes 100,000 shares of restricted Common Stock at a purchase price of $.001 per share granted on October 1, 2008, with 100% of the shares vesting 180 days after the Company's initial public offering.

(7)

Includes stock option award granted on February 15, 2011, with 25% of the shares vesting on February 15, 2012, and then an additional 25% of the shares vesting on each of the subsequent four anniversaries, provided that Mr. Maxwell serves as a director or consultant to the Company.

(8) Includes 100,000 shares of restricted Common Stock at a purchase price of $.001 per share granted on October 1, 2008, with 100% of the shares vesting 180 days after the Company's initial public offering.

There have been no other stock awards granted to date and none of such options have been exercised.

2011 Stock Option and Incentive Plan

The Company's Stock Plan provides for the grant of stock-based awards to employees, officers and directors of, and consultants or advisors to, the Company and its subsidiaries. The Stock Plan is included as Exhibit 10.4 hereto.

Under the Stock Plan, the Company may grant stock options, restricted stock and other stock-based awards. As of December 31, 2011, a total of 7,355,000 shares of Common Stock may be issued upon the exercise of options or other awards granted under the Stock Plan.

The Stock Plan is administered by the Board of Directors and the Compensation Committee. Subject to the provisions of the Stock Plan, the Board of Directors and the Compensation Committee each has the authority to select the persons, to whom awards are granted and determine the terms of each award, including the number of shares of Common Stock subject to the award. Payment of the exercise price of an award may be made in cash, in a “cashless exercise” through a broker, or if the applicable stock option agreement permits, shares of Common Stock or by any other method approved by the Board of Directors or Compensation Committee. Unless otherwise permitted by the Company, awards are not assignable or transferable except by will or the laws of descent and distribution.

Upon the consummation of an acquisition of the business of the Company, by merger or otherwise, the Board of Directors shall, as to outstanding awards (on the same basis or on different bases as the Board of Directors shall specify), make appropriate provision for the continuation of such awards by the Company or the assumption of such awards by the surviving or acquiring entity and by substituting on an equitable basis for the shares then subject to such awards either (a) the consideration payable with respect to the outstanding shares of Common Stock in connection with the acquisition, (b) shares of stock of the surviving or acquiring corporation or (c) such other securities or other consideration as the Board of Directors deems appropriate, the fair market value of which (as determined by the Board of Directors in its sole discretion) shall not materially differ from the fair market value of the shares of Common Stock subject to such awards immediately preceding the acquisition. In addition to or in lieu of the foregoing, with respect to outstanding stock options, the Board of Directors may, on the same basis or on different bases as the Board of Directors shall specify, upon written notice to the affected optionees, provide that one or more options then outstanding must be exercised, in whole or in part, within a specified number of days of the date of such notice, at the end of which period such options shall terminate, or provide that one or more options then outstanding, in whole or in part, shall be terminated in exchange for a cash payment equal to the excess of the fair market value (as determined by the Board of Directors in its sole discretion) for the shares subject to such Options over the exercise price thereof. Unless otherwise determined by the Board of Directors (on the same basis or on different bases as the Board of Directors shall specify), any repurchase rights or other rights of the Company that relate to a stock option or other award shall continue to apply to consideration, including cash, that has been substituted, assumed or amended for a stock option or other award pursuant to these provisions. The Company may hold in escrow all or any portion of any such consideration in order to effectuate any continuing restrictions.

The Board of Directors may at any time provide that any stock options shall become immediately exercisable in full or in part, that any restricted stock awards shall be free of some or all restrictions, or that any other stock-based awards may become exercisable in full or in part or free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

The Board of Directors or Compensation Committee may, in its sole discretion, amend, modify or terminate any award granted or made under the Stock Plan, so long as such amendment, modification or termination would not materially and adversely affect the participant.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2011, regarding Common Stock that may be issued under the Company's equity compensation plans.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in second column)
Equity compensation plans approved by security holders	4,381,000	$ 0.48	645,732
Equity compensation plans not approved by security holders	-	-	-
Total	4,381,000	$ 0.48	645,732

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In February 2011, our management conducted an assessment of the risks associated with our compensation policies and practices. This process included a review of our compensation programs, a discussion of the types of practices that could be reasonably likely to create material risks, and an analysis of the potential effects on the Company on related risks as a whole.

Although we reviewed all of our compensation programs, we paid particular attention to programs involving incentive-based payouts and programs that involve our executive officers. During the course of our assessment, we consulted with the Compensation Committee of our Board of Directors.

We believe that our compensation programs are designed to create appropriate incentives without encouraging excessive risk taking by our employees. In this regard, our compensation structure contains various features intended to mitigate risk. For example:

- None of our executive officers receives any performance-based compensation or incentive payments.

- A portion of the compensation package for our sales-based employees consists of commissions for units sold and installed, which package is designed to link an appropriate portion of compensation to long-term performance, while providing a balanced compensation model overall.

- The Compensation Committee oversees our compensation policies and practices and is responsible for reviewing and approving executive compensation, annual incentive compensation plans applicable to sales employees and other compensation plans.

Our Compensation Committee, in its evaluation, determined that it does not believe that the Company employs any compensation plans or practices that create incentives for employees to deliver short-term profits at the expense of generating systematic risks for the Company. Based on this and the assessment described above, we have concluded that the risks associated with our compensation policies and practices are not reasonably likely to have material adverse effect on the Company.

Compensation Committee Interlocks and Insider Participation

None of our executive officers serves as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our Board of Directors or its Compensation Committee. None of the current members of the Compensation Committee of our Board of Directors has ever been one of our employees.

Employment Contracts and Termination of Employment and Change-in-Control Arrangements

None of our executive officers has an employment contract or change-in-control arrangement, other than stock and option awards that contain certain change-in-control provisions such as accelerated vesting due to acquisition. In the event an acquisition that is not a private transaction occurs while the optionee maintains a business relationship with the Company and the option has not fully vested, the option will become exercisable for 100% of the then number of shares as to which it has not vested and such vesting to occur immediately prior to the closing of the acquisition.

The stock and option awards that would vest for each named executive if a change-in-control were to occur are disclosed under our *Outstanding Equity Awards at Fiscal Year-End Table*. Specifically, as of December 31, 2011, Robert A. Panora, our Chief Operating Officer and President, had 500,000 stock options and 533,400 shares of restricted stock that had not vested, Bonnie J. Brown, our Chief Financial Officer, had 200,000 stock options and 50,000 shares of restricted stock that had not vested and Anthony S. Loumidis, our Vice President and Treasurer, had 186,750 stock options and 30,000 shares of restricted stock that had not vested.

Our stock and option awards contain certain change-in-control provisions. Descriptions of those provisions are set forth below:

Stock Awards Change-in-Control Definition

Change-in-Control shall mean (a) the acquisition in a transaction or series of transactions by any person (such term to include anyone deemed a person under Section 13(d)(3) of the Exchange Act), other than the Company or any of its subsidiaries, or any employee benefit plan or related trust of the Company or any of its subsidiaries, of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of fifty percent (50%) or more of the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors; provided a Change-in-Control shall not occur solely as the result of an initial public offering or (b) the sale or other disposition of all or substantially all of the assets of the Company in one transaction or series of related transactions.

Option Awards Change-in-Control Definition

Accelerated vesting due to acquisition. In the event an acquisition that is not a private transaction occurs while the optionee maintains a business relationship with the Company and this option has not fully vested, this option shall become exercisable for 100% of the then number of shares as to which it has not vested, such vesting to occur immediately prior to the closing of the acquisition.

Definitions. The following definitions shall apply to certain terms used in this Section:

Acquisition means (i) the sale of the Company by merger in which the stockholders of the Company in their capacity as such no longer own a majority of the outstanding equity securities of the Company (or its successor); or (ii) any sale of all or substantially all of the assets or capital stock of the Company (other than in a spin-off or similar transaction) or (iii) any other acquisition of the business of the Company, as determined by the Board. Business relationship means service to the Company or its successor in the capacity of an employee, officer, director or consultant.

Private transaction means any acquisition where the consideration received or retained by the holders of the then outstanding capital stock of the Company does not consist of (i) cash or cash equivalent consideration, (ii) securities which are registered under the Securities Act, or any successor statute and/or (iii) securities for which the Company or any other issuer thereof has agreed, including pursuant to a demand, to file a registration statement within ninety (90) days of completion of the transaction for resale to the public pursuant to the Securities Act.

Director Independence

The Company's policy is that a majority of our Board of Directors shall be "independent" in accordance with NYSE Amex rules (even though the Company is not currently subject to those requirements) including, in the judgment of the Board of Directors, the requirement that such directors have no material relationship with the Company (either directly or as a partner, stockholder or officer of an organization that has a relationship with the Company). The Board of Directors has adopted the following standards to assist it in determining whether a director has a material relationship with the Company. Under these standards, a director will not be considered to have a material relationship with the Company if he or she is not:

a) a director who is, or during the past three years was, employed by the company, other than prior employment as an interim executive officer (provided the interim employment did not last longer than one year);

b) a director who accepted or has an immediate family member who accepted any compensation from the company in excess of $120,000 during any period of twelve consecutive months within the three years preceding the determination of independence, other than the following:

(i) compensation for board or board committee service;

(ii) compensation paid to an immediate family member who is an employee (other than an executive officer) of the company;

(iii) compensation received for former service as an interim executive officer (provided the interim employment did not last longer than one year); or

(iv) benefits under a tax-qualified retirement plan, or non-discretionary compensation;

(c) a director who is an immediate family member of an individual who is, or at any time during the past three years was, employed by the company as an executive officer;

(d) a director who is, or has an immediate family member who is, a partner in, or a controlling shareholder or an executive officer of, any organization to which the company made, or from which the company received, payments (other than those arising solely from investments in the company's securities or payments under non-discretionary charitable contribution matching programs) that exceed 5% of the organization's consolidated gross revenues for that year, or $200,000, whichever is more, in any of the most recent three fiscal years;

(e) a director who is, or has an immediate family member who is, employed as an executive officer of another entity where at any time during the most recent three fiscal years any of the issuer's executive officers serve on the compensation committee of such other entity; or

(f) a director who is, or has an immediate family member who is, a current partner of the company's outside auditor, or was a partner or employee of the company's outside auditor who worked on the company's audit at any time during any of the past three years.

Ownership of a significant amount of the Company’s stock, by itself, does not constitute a material relationship. For relationships not covered by these standards, the determination of whether a material relationship exists shall be made by the other members of the Board of Directors who are independent (as defined above).

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth, as of April 27, 2012, certain information with respect to the beneficial ownership of the Company's Common Stock by (1) any person including any “group” as set forth in Section 13(d)(3) of the Exchange Act, known by us to be the beneficial owner of more than 5% of our Common Stock, (2) each director, (3) each of our executive officers and (4) all of our current directors and executive officers as a group. The percentages in the following table are based on 54,243,882 shares of Common Stock issued and outstanding as of April 27, 2012.

Name and address of beneficial owner (1)	Amount and Nature of Beneficial Ownership	Percent of Class
5% Stockholders:		
John N. Hatsopoulos (2)	14,875,350	27.4 %
George N. Hatsopoulos (3)	14,206,077	26.0 %
RBC Cees Nominees Limited (4)	3,616,418	6.7 %
Joseph J. Ritchie (5)	3,586,449	6.6 %
Directors and Officers:		
John N. Hatsopoulos (2)	14,875,350	27.4 %
George N. Hatsopoulos (3)	14,206,077	26.0 %
Robert A. Panora (6)	653,400	1.2 %
Charles T. Maxwell (7)	300,000	0.6 %
Bonnie J. Brown (8)	250,000	0.5 %
Anthony S. Loumidis (9)	236,250	0.4 %
Angelina M. Galiteva (10)	200,000	0.4 %
Ahmed F. Ghoniem (11)	100,000	0.2 %
Joseph E. Aoun	-	0.0 %
All executive officers and directors as a group (9 persons)	30,821,077	56.7 %

(1) The address of the directors and officers listed in the table above is: c/o Tecogen Inc., 45 First Avenue, Waltham, Massachusetts 02451.

(2) Includes: (a) 225,000 shares of Common Stock, directly held by Mr. John N. Hatsopoulos; (b) 4,948,165 shares of Common Stock; held by John N. Hatsopoulos and his wife, Patricia L. Hatsopoulos, as joint tenants, each of whom share voting and investment power; (c) 5,742,750 shares of Common Stock held by John N. Hatsopoulos and his wife, Patricia L. Hatsopoulos, as joint tenants with rights of survivorship, each of whom share voting and investment power; and (d) 3,959,435 shares of Common Stock held by The John N. Hatsopoulos Family Trust 2008 for the benefit of: (1) Patricia L. Hatsopoulos, (2) Alexander J. Hatsopoulos, and (3) Nia Marie Hatsopoulos,

for which Dr. George N. Hatsopoulos and Ms. Patricia L. Hatsopoulos are the trustees. This amount does not include: (a) 333,334 shares of Common Stock issuable upon conversion of $100,000 principal amount of 6% convertible debentures; and (b) 120,022 shares of Common Stock held by The John N. Hatsopoulos 1989 Family Trust for the benefit of: (1) Alexander J. Hatsopoulos, and (2) Nia Marie Hatsopoulos, for whom Mr. Paris Nikolaidis is the trustee. Mr. Hatsopoulos disclaims beneficial ownership of the shares held by that trust.

(3) Includes: (a) 5,968,504 shares of Common Stock, directly held by Dr. George N. Hatsopoulos; (b) 7,934,350 shares of Common Stock; held by Dr. Hatsopoulos and his wife, Daphne Hatsopoulos, as joint tenants, each of whom share voting and investment power; and (c) 303,223 shares of Common Stock issuable upon conversion of $90,967 principal amount of 6% convertible debentures. This amount does not include 2,272,391 shares held in the 1994 Hatsopoulos Family Trust for the benefit of Dr. and Mrs. Hatsopoulos' adult children, for whom Ms. Daphne Hatsopoulos and Mr. Gordon Erhlich are the trustees. Dr. Hatsopoulos disclaims beneficial ownership of the shares held by this trust.

(4) Includes 3,616,418 shares of Common Stock purchased in August 2010 and November 2011 held by RBC cees Nominees Ltd. The address of RBC cees Nominees Ltd. is 19-21 Broad Street, St. Hellier, Jersey JE1 3PB, Channel Islands.

(5) Includes 3,586,449 shares of Common Stock, directly held by Mr. Ritchie. The address of Mr. Ritchie is 2100 Enterprise Avenue, Geneva, IL 60134.

(6) Includes 653,400 shares of Common Stock, directly held by Mr. Panora.
(7) Includes 300,000 shares of Common Stock, directly held by Mr. Maxwell.
(8) Includes: (a) 50,000 shares of Common Stock, and (b) options to purchase 200,000 shares of Common Stock exercisable within 60 days of the date of this prospectus.
(9) Includes: (a) 60,000 shares of Common Stock, and (b) options to purchase 176,250 shares of Common Stock exercisable within 60 days of the date of this prospectus.
(10) Includes: (a) 100,000 shares of Common Stock, and (b) options to purchase 100,000 shares of Common Stock exercisable within 60 days of the date of this prospectus.
(11) Includes 100,000 shares of Common Stock.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The Company has three affiliated companies, namely American DG Energy, EuroSite Power and GlenRose Instruments. These companies are affiliates because several of the major stockholders of those companies, have a significant ownership position in the Company. American DG Energy, EuroSite Power and GlenRose Instruments do not own any shares of the Company, and the Company does not own any shares of American DG Energy, EuroSite Power or GlenRose Instruments. The business of GlenRose Instruments is not related to the business of the Company, American DG Energy and their other corporate affiliates.

American DG Energy, EuroSite Power and GlenRose Instruments are affiliated companies by virtue of common ownership. The common stockholders include:

- John N. Hatsopoulos, the Company's Chief Executive Officer who is also: (a) the Chief Executive Officer and a director of American DG Energy and holds 12.1% of the company's Common Stock, (b) the Chairman of EuroSite Power, (c) a director of Ilios and holds 7.3% of the company's Common Stock, and (d) the Chairman of GlenRose Instruments and holds 15.7% of the company's Common Stock.

- Dr. George N. Hatsopoulos, who is John N. Hatsopoulos' brother, and is also: (a) a director of American DG Energy and holds 14.7% of the company's Common Stock, (b) an investor in Ilios and holds 2.9% of the company's Common Stock and (c) an investor of GlenRose Instruments and holds 15.7% of the company's Common Stock.

Additionally, the following related persons had or may have a direct or indirect material interest in our transactions with our affiliated companies:

- Barry J. Sanders, who is: (a) the President and Chief Operating Officer of American DG Energy, (b) the Chief Executive Officer and a director of EuroSite Power and (c) the Chairman of Ilios.

- Anthony S. Loumidis, the Company's Vice President and Treasurer who is: (a) the Chief Financial Officer Secretary and Treasurer of American DG Energy, (b) the Chief Financial Officer Secretary and Treasurer of EuroSite Power, (c) the Chief Financial Officer Secretary and Treasurer of GlenRose Instruments and (d) the Treasurer of Ilios.

American DG Energy has sales representation rights to the Company's products and services in New England, and the Company has sales representation rights to the American DG Energy On-Site Utility solution in California. Revenue from sales of cogeneration and chiller systems, parts and service to American DG Energy during the years ended December 31, 2011 and 2010 amounted to $713,267 and $1,658,471, respectively.

On October 20, 2009, American DG Energy, in the ordinary course of its business, signed a Sales Representative Agreement with Ilios to promote, sell and service the Ilios high-efficiency heating products, such as the high efficiency water heater, in the marketing territory of the New England States, including Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and Maine. The marketing territory also includes all of the nations in the European Union. The initial term of this Agreement is for five years, after which it may be renewed for successive one-year terms upon mutual written agreement.

On September 24, 2001, the Company entered into subscription agreements with investors for the sale of convertible debentures. The primary investors were George N. Hatsopoulos, who subscribed for $200,000 of the debentures, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children, who subscribed for a total amount of $100,000 of the debentures. The debentures accrue interest at a rate of 6% per annum and are due on September 24, 2007. The debentures are convertible, at the option of George N. Hatsopoulos, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children, into shares of Common Stock at a conversion price of $0.30 per share.

On September 24, 2007, George N. Hatsopoulos, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children agreed to extend the debenture term to September 24, 2011. On May 11, 2009, George N. Hatsopoulos converted a portion of the principal in the amount of $109,033 of the debentures and accrued interest in the amount of $90,967 into 400,000 shares of Common Stock in the Company's newly formed subsidiary, Ilios, at $0.50 per share. Also, on May 11, 2009, John N. Hatsopoulos converted principal amount of $427,432 in demand notes payable and accrued interest in the amount of $72,567 into 1,000,000 shares of Ilios Common Stock at $0.50 per share. The difference between the Company's purchase price of the Ilios, Inc. shares and the amount of debt forgiveness was recorded as additional paid-in capital.

On September 30, 2009, Joseph J. Ritchie elected to convert $30,000 of the outstanding principal amount of the debenture, plus accrued interest of $14,433, into 148,111 shares of Common Stock at a conversion price of $0.30 per share. On September 24, 2011, George N. Hatsopoulos, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children, agreed to extend their term to September 24, 2013 and requested that accrued interest in the amount of $72,959 be converted into the Company's Common Stock at $0.50 per share (which was the average price of the Company's stock from September 24, 2001 to September 24, 2011).

On September 10, 2008 the Company entered into a demand note agreement with John N. Hatsopoulos, in the principal amount of $250,000 at an annual interest rate of 5%. On September 7, 2011 the Company entered into an additional demand note agreement with John N. Hatsopoulos, in the principal amount of $750,000 at an annual interest rate of 6%. Unpaid principal and interest on the demand notes is due upon demand.

Additional disclosure on the Company's debt is set forth in *Note 7 – Demand notes payable and convertible debentures – related party* to our financial statements included in our registration statement.

John N. Hatsopoulos' salary is $1.00 per year. On average, Mr. Hatsopoulos spends approximately 20% of his business time on the affairs of the Company; however such amount varies widely depending on the needs of the business and is expected to increase as the business of the Company develops.

The Company signed a Facilities and Support Services Agreement with American DG Energy on January 1, 2006, as amended, included as Exhibit 10.6 hereto. The term of the agreement commences as of the start of each year and certain portions of the agreement, including office space allocation, get renewed annually upon mutual written agreement.

The Company subleases portions of its corporate offices and manufacturing facility to sub-tenants, several of which are affiliated companies, under annual sublease agreements. For the years ended December 31, 2011 and 2010, the Company received $185,596 and $196,466, respectively, from American DG Energy, Levitronix LLC and Alexandros

Partners LLC. In addition, for the years ended December 31, 2011 and 2010, the Company received from the same affiliated companies, $224,700 and $142,050, respectively, to offset common operating expenses incurred in the administration and maintenance of its corporate office and warehouse facility.

The Company’s headquarters are located in Waltham, Massachusetts and consist of 24,000 square feet of office and storage space that are shared with American DG Energy and other tenants. The lease expires on March 31, 2014. We believe that our facilities are appropriate and adequate for our current needs.

Revenue from sales of cogeneration and chiller systems, parts and service to American DG Energy during the years ended December 31, 2011 and 2010 amounted to $713,267 and $1,658,471, respectively. In addition, Tecogen pays certain operating expenses, including benefits and insurance, on behalf of American DG Energy. Tecogen was reimbursed for these costs. As of December 31, 2011 and 2010, the total amount due from American DG Energy was $299,739 and $98,230, respectively.

For additional disclosure related to our related parties and related party transactions see *Note 12 - Related party transactions* to our financial statements included in our registration statement.

Policies and Procedures for Related Person Transactions

Our Board of Directors will adopt a written related person transaction policy to set forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships in which we were or are to be a participant, the amount involved exceeds $120,000, and a related person had or will have a direct or indirect material interest, including, without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness, and employment by us of a related person.

Any related person transaction proposed to be entered into by us will be required to be reported to our Chief Financial Officer and will be reviewed and approved by the Audit Committee in accordance with the terms of the policy, prior to effectiveness or consummation of the transaction, whenever practicable. If our Chief Financial Officer determines that advance approval of a related person transaction is not practicable under the circumstances, the Audit Committee will review and, in its discretion, may ratify the related person transaction at the next meeting of the audit committee, or at the next meeting following the date that the related person transaction comes to the attention of our Chief Financial Officer. Our Chief Financial Officer, however, may present a related person transaction arising in the time period between meetings of the Audit Committee to the chair of the Audit Committee, who will review and may approve the related person transaction, subject to ratification by the Audit Committee at the next meeting of the Audit Committee.

In addition, any related person transaction previously approved by the Audit Committee or otherwise already existing that is ongoing in nature will be reviewed by the Audit Committee annually to ensure that such related person transaction has been conducted in accordance with the previous approval granted by the Audit Committee, if any, and that all required disclosures regarding the related person transaction are made.

Transactions involving compensation of executive officers will be reviewed and approved by the Compensation Committee in the manner specified in the charter of the Compensation Committee.

A related person transaction reviewed under this policy will be considered approved or ratified if it is authorized by the Audit Committee in accordance with the standards set forth in our related person transaction policy after full disclosure of the related person’s interests in the transaction. As appropriate for the circumstances, the Audit Committee will review and consider:

- the related person’s interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;

- the approximate dollar value of the amount of the related person's interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of business;
- whether the transaction with the related person is proposed to be, or was, entered into on terms no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to stockholders in light of the circumstances of the particular transaction.

The Audit Committee will review all relevant information available to it about the related person transaction. The audit committee may approve or ratify the related person transaction only if the audit committee determines that, under all of the circumstances, the transaction is in, or is not inconsistent with, our best interests. The audit committee may, in its sole discretion, impose conditions as it deems appropriate on us or the related person in connection with approval of the related person transaction.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of Common Stock being offered by this prospectus. This prospectus does not contain all of the information included in the registration statement. For further information pertaining to us and our Common Stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement or other document.

We are subject to the reporting and information requirements of the Exchange Act and, as a result, we will intend to file periodic and current reports, proxy statements and other information with the SEC. You may read and copy any reports, statements, or other information we file at the SEC's Public Reference Room at 100 F. Street, N.E., Washington D.C. 20549, on official business days during the hours of 10:00 am to 3:00 pm. You can request copies of these documents, upon payment of a duplicating fee by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room. Our SEC filings are also available to the public on the SEC's Internet site at http\\www.sec.gov.

FINANCIAL STATEMENTS

The Financial Statements included below are stated in U.S. dollars and are prepared in accordance with U.S. Generally Accepted Accounting Principles. The following table summarizes the relevant financial data for our business and should be read with our financial statements, which are included in this registration statement.

Audited Financial Statements

All other schedules for which provision is made in the applicable accounting regulations of the SEC are not required under the related instructions, or are inapplicable, and therefore have been omitted.

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

Tecogen Inc.

We have audited the accompanying consolidated balance sheets of Tecogen Inc. as of December 31, 2011 and 2010, and the related consolidated statements of operations, stockholders' equity, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Tecogen Inc. as of December 31, 2011 and 2010, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

/s/ McGladrey & Pullen, LLP
McGladrey & Pullen, LLP

Boston, Massachusetts
April 27, 2012

Audited Financial Statements

TECOGEN INC.

CONSOLIDATED BALANCE SHEETS

As of December 31, 2011 and 2010

	2011	2010
ASSETS		
Current assets:		
Cash and cash equivalents	$3,018,566	$1,828,173
Short-term investments	683,428	85,000
Accounts receivable, net	1,399,232	1,788,323
Inventory, net	2,568,986	1,324,415
Due from related party	299,739	98,230
Prepaid and other current assets	112,716	85,103
Total current assets	8,082,667	5,209,244
Property, plant and equipment, net	385,779	404,888
Intangible assets, net	241,621	226,865
Other assets	35,425	35,425
TOTAL ASSETS	$8,745,492	$5,876,422
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Demand notes payable, related party	$1,037,500	$287,500
Current portion of convertible debentures, related party	-	190,967
Accounts payable	812,214	705,406
Accrued expenses	727,463	895,884
Deferred revenue	509,283	549,834
Interest payable, related party	61,062	93,727
Total current liabilities	3,147,522	2,723,318
Long-term liabilities:		
Deferred revenue, net of current portion	183,839	161,425
Convertible debentures, related party, net of current portion	190,967	-
Total liabilities	3,522,328	2,884,743
Commitments and contingencies (Note 8)	-	-
Redeemable Common stock, $0.001 par value	-	-
Stockholders' equity:		
Tecogen Inc. shareholders' equity:		

Common stock, $0.001 par value; 100,000,000 shares authorized; 53,993,882 and 48,931,046 issued and outstanding at December 31, 2011 and 2010, respectively	53,994	48,931
Additional paid-in capital	15,486,775	11,652,516
Common stock subscription	-	(53)
Receivable from shareholder	(345,000)	(345,000)
Accumulated deficit	(10,122,766)	(8,548,265)
Total Tecogen Inc. stockholders' equity	5,073,003	2,808,129
Noncontrolling interest	150,161	183,550
Total stockholders' equity	5,223,164	2,991,679
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$8,745,492	$5,876,422

The accompanying notes are an integral part of these consolidated financial statements.

TECOGEN INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

For the Years Ended December 31, 2011 and 2010

	2011	2010
Revenues		
Products	$4,569,113	$5,543,605
Services	6,496,097	5,767,624
	11,065,210	11,311,229
Cost of sales		
Products	3,005,698	3,801,485
Services	3,173,400	2,795,720
	6,179,098	6,597,205
Gross profit	4,886,112	4,714,024
Operating expenses		
General and administrative	5,986,762	4,973,794
Selling	782,252	290,505
	6,769,014	5,264,299
Loss from operations	(1,882,902)	(550,275)
Other income (expense)		
Interest and other income	38,402	23,574
Interest expense	(40,294)	(37,280)
	(1,892)	(13,706)
Loss before income taxes	(1,884,794)	(563,981)
Consolidated net loss	(1,884,794)	(563,981)
Less: Loss attributable to the noncontrolling interest	310,293	208,673
Net loss attributable to Tecogen Inc.	$(1,574,501)	$(355,308)
Net loss per share - basic and diluted	$(0.03)	$(0.01)
Weighted average shares outstanding -basic and diluted	48,211,652	45,882,631

The accompanying notes are an integral part of these consolidated financial statements.

TECOGEN INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

For the Years Ended December 31, 2011 and 2010

	Tecogen Inc. Common Stock $0.001 Par Value	Additional Paid-In Capital	Common Stock Subscription	Shareholder Receivable	Accumulated Deficit	Noncontrolling Interest	Total
Balance at December 31, 2009	$46,516	$10,058,287	$ -	$ -	$(8,192,957)	$ 388,084	$2,299,930
Sale of common stock, net of costs	1,863	1,209,386	-	-	-	-	1,211,249
Issuance of restricted stock	77	49,871	(53)	-	-	-	49,895
Note receivable from shareholder	-	-	-	(345,000)	-	-	(345,000)
Exercise of warrants	475	142,025	-	-	-	-	142,500
Stock based compensation expense	-	192,947	-	-	-	4,139	197,086
Net loss	-	-	-	-	(355,308)	(208,673)	(563,981)
Balance at December 31, 2010	$48,931	$11,652,516	$ (53)	$(345,000)	$(8,548,265)	$ 183,550	$2,991,679
Sale of common stock, net of costs	4,717	3,606,276	-	-	-	-	3,610,993
Conversion of accrued interest on related party convertible notes to common stock	146	72,813	-	-	-	-	72,959
Issuance of restricted stock	200	-	53	-	-	-	253
Issuance of subsidiary restricted stock	-	-	-	-	-	200	200
Purchase of subsidiary common stock	-	(261,174)	-	-	-	261,174	-
Purchase of stock options	-	(12,500)	-	-	-	-	(12,500)
Stock based compensation expense	-	428,844	-	-	-	15,530	444,374
Net loss	-	-	-	-	(1,574,501)	(310,293)	(1,884,794)
	$53,994	$15,486,775	$ -	$(345,000)	$(10,122,766)	$ 150,161	$5,223,164

Balance at December
31, 2011

The accompanying notes are an integral part of these consolidated financial statements.

TECOGEN INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the Years Ended December 31, 2011 and 2010

	2011	2010
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$(1,884,794)	$(563,981)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation and amortization	158,286	88,656
Provision for losses on accounts receivable	20,600	6,658
Provision for inventory reserve	3,300	(66,500)
Stock-based compensation	444,374	197,086
Changes in operating assets and liabilities		
(Increase) decrease in:		
Short-term investments	(3,428)	-
Accounts receivable and unbilled revenue	368,491	331,581
Inventory	(1,247,871)	154,351
Due from related party	(201,509)	(98,230)
Prepaid assets	(27,613)	6,465
Other assets	-	(2,481)
Increase (decrease) in:		
Accounts payable	106,808	417,376
Accrued expenses	(95,462)	(22,138)
Deferred revenue	(18,137)	(76,439)
Interest payable, related party	(32,665)	(26,401)
Due to related party	-	(4,133)
Net cash (used in) provided by operating activities	(2,409,620)	341,870
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(115,186)	(195,955)
Purchases of intangible assets	(38,747)	(113,499)
Purchases of short-term investments	(680,000)	-
Sale of short-term investments	85,000	679,747
Net cash (used in) provided by investing activities	(748,933)	370,293
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments from issuance of notes receivable-stockholder	-	(345,000)
Payments made on demand notes payable, related party	-	(422,568)
Proceeds from issuance of demand notes payable, related party	750,000	-
Proceeds from sale of common stock, net of costs	3,610,993	1,211,249
Proceeds from issuance of restricted stock	453	49,895
Purchase of stock options	(12,500)	-
Proceeds from exercise of warrants	-	142,500

Net cash provided by financing activities	4,348,946	636,076
Net increase in cash and cash equivalents	1,190,393	1,348,239
Cash and cash equivalents, beginning of the year	1,828,173	479,934
Cash and cash equivalents, end of the year	$3,018,566	$1,828,173
Supplemental disclosures of cash flows information:		
Non-cash investing and financing activities:		
Conversion of accrued convertible debenture interest into common stock	$72,959	$-
Conversion of redeemable common stock to common stock	$500,000	$-
Interest paid	$-	$63,139

The accompanying notes are an integral part of these consolidated financial statements.

Notes to Audited Consolidated Financial Statements

Note 1 – Nature of business and operations

Tecogen, Inc. and Subsidiary (the "Company") (a Delaware Corporation) was organized on November 15, 2000, and acquired the assets and liabilities of the Tecogen Products division of Thermo Power Corporation. The Company produces commercial and industrial, natural-gas-fueled engine-driven, combined heat and power (CHP) products that reduce energy costs, decrease greenhouse gas emissions and alleviate congestion on the national power grid. Tecogen's products supply electric power or mechanical power for cooling, while heat from the engine is recovered and purposefully used at a facility. The majority of Company's customers are located in regions with the highest utility rates, typically California, the Midwest and the Northeast.

On May 4, 2009 the Company invested $8,400 in exchange for 8,400,000 shares of a newly established corporation Ilios Inc., or Ilios. The investment gave the Company a controlling financial interest in Ilios, whose business focus will be on advanced heating systems for commercial and industrial applications. On May 11, 2009 the Company sold 1,400,000 shares in Ilios at $0.50 per share to two of its existing stockholders in exchange for the extinguishment of $700,000 in demand notes payable, convertible debentures and accrued interest (see *Note 7 – Demand notes payable and convertible debentures – related party*). On July 24, 2009, Ilios sold 2,710,000 shares of common stock to accredited investors at $0.50 per share and raised $1,352,500. On June 3, 2011, Ilios sold 500,000 shares of common stock to Tecogen at $0.50 per share and raised $250,000 and on December 29, 2011, Ilios sold 1,000,000 shares of common stock to Tecogen at $0.50 per share and raised $500,000. As of December 31, 2011 the Company owns a 67.4% interest in Ilios and has consolidated Ilios into its financial statements.

The accompanying consolidated financial statements include the accounts of the Company and its majority owned subsidiary Ilios, whose business focus will be on advanced heating systems for commercial and industrial applications.

The Company's operations are comprised of one business segment. Our business is to manufacture and support highly efficient CHP products based on engines fueled by natural gas.

Note 2 – Summary of significant accounting policies

Principles of Consolidation and Basis of Presentation

The financial statements have been prepared in accordance with accounting standards set by the Financial Accounting Standards Board (FASB). The FASB sets generally accepted accounting principles (GAAP) to ensure financial condition, results of operations, and cash flows are consistently reported. References to GAAP issued by the FASB in these footnotes are to the FASB Accounting Standards Codification (ASC). The Company adopted the presentation requirements for noncontrolling interests required by ASC 810 *Consolidation*. Under ASC 810, earnings or losses attributed to the noncontrolling interests are reported as part of the consolidated earnings and not a separate component of income or expense. Noncontrolling interests in the net assets and operations of Ilios are reflected in the caption “Noncontrolling interest” in the accompanying consolidated financial statements. All intercompany transactions have been eliminated.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Concentration of Credit Risk

The Company's financial instruments that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents, short-term investments and accounts receivable. The Company maintains its cash balances in bank accounts, which at times may exceed the Federal Deposit Insurance Corporation's ("FDIC") general deposit insurance limits. The amount on deposit at December 31, 2011 and 2010 which exceeded the $250,000 federally insured limit was approximately $3,200,000 and $1,167,000, respectively. The Company has not experienced any losses in such accounts and thus believes that it is not exposed to any significant credit risk on cash and cash equivalents.

The Company has one customer who represented 14.6% of revenues for the year ended December 31, 2010. There were no customers who represented more than 10% of revenues for the year ended December 31, 2011. Included in trade accounts receivable are amounts from one and two customers who represent an aggregate of 17% and 51% of the trade accounts receivable balance as of December 31, 2011 and 2010, respectively. These customers have individual balances of 17% of trade accounts receivable at December 31, 2011 and between 24% and 27% of trade accounts receivable at December 31, 2010.

Cash and Cash Equivalents

The Company considers all highly liquid instruments with an original maturity date, at date of purchase, of three months or less to be cash and cash equivalents.

Short-Term Investments

Short-term investments consist of certificates of deposit with maturities of greater than three months but less than one year. Certificates of deposits are recorded at fair value.

On October 26, 2011, the Company entered into an agreement with Digital Energy Corp., a customer of the Company, whereby the Company provided a letter of credit in the amount of $180,000, for the benefit of Digital Energy Corp., to satisfy a requirement of the New York Independent System Operator, Inc. A certificate of deposit for $180,000 secures the letter of credit. In exchange for providing this letter of credit, Digital Energy Corp. provided a promissory note to the Company for $180,000, with interest at 6%, payable in monthly installments of interest only. Principal would only be owed if the letter of credit was drawn upon and would become due and payable on the first anniversary date of the note.

On June 13, 2011, the Southern California Gas Company entered into an agreement with the Company to invest $500,000 in the Company's Common Stock. The agreement included certain stockholder rights and a redemption right whereby the investor may redeem the shares for cash until the earlier of, the initiation of a public offering of the Company by filing a registration statement with the SEC, or five years. A letter of credit, secured by a Certificate of Deposit, for the amount of the investment has been put in place to satisfy the contingency of the redemption right. The Certificate of Deposit is classified as a short term investment in the accompanying balance sheet. Since the Company filed a registration statement with the Securities and Exchange Commission on December 23, 2011 the redemption right is no longer valid as of the filing date.

Accounts Receivable

Accounts receivable are stated at the amount management expects to collect from outstanding balances. An allowance for doubtful accounts is provided for those accounts receivable considered to be uncollectible based upon historical experience and management's evaluation of outstanding accounts receivable at the end of the year. Bad debts are written off against the allowance when identified. At December 31, 2011 and 2010 the allowance for doubtful accounts was $96,800 and $78,300, respectively.

Inventory

Raw materials, work in process, and finished goods inventories are stated at the lower of cost, as determined by the average cost method, or net realizable value. The Company periodically reviews inventory quantities on hand for excess and/or obsolete inventory based primarily on historical usage, as well as based on estimated forecast of product demand. Any reserves that result from this review are charged to cost of sales.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Depreciation is provided using the straight-line method over the estimated useful lives of the asset, which range from three to seven years. Leasehold improvements are amortized using the straight-line method over the lesser of the estimated useful lives of the assets or the term of the related leases. Expenditures for maintenance and repairs are expensed currently, while renewals and betterments that materially extend the life of an asset are capitalized.

Intangible Assets

Intangible assets subject to amortization include costs incurred by the Company to acquire product certifications and certain patent costs. These costs are amortized on a straight-line basis over the estimated economic life of the intangible asset. The Company reviews intangible assets for impairment when the circumstances warrant.

Loss per Common Share

The Company computes basic loss per share by dividing net loss for the period by the weighted-average number of shares of Common Stock outstanding during the period. The Company computes its diluted earnings per common share using the treasury stock method. For purposes of calculating diluted earnings per share, the Company considers its shares issuable in connection with the convertible debentures, stock options and warrants to be dilutive Common Stock equivalents when the exercise/conversion price is less than the average market price of our Common Stock for the period.

Other Comprehensive Net Loss

The comprehensive net loss for the years ended December 31, 2011 and 2010 does not differ from the reported loss.

Segment Information

The Company reports segment data based on the management approach. The management approach designates the internal reporting that is used by management for making operating and investment decisions and evaluating performance as the source of the Company's reportable segments. The Company uses one measurement of profitability and does not disaggregate its business for internal reporting. The Company has determined that it operates in one business segment which manufactures and supports highly efficient CHP products based on engines fueled by natural gas.

The following table summarizes net revenue by product line and services for the years ended December 31, 2011 and 2010:

	2011	2010
Products:		
Cogeneration	$2,737,161	$4,977,595
Chiller	1,831,952	566,010
Total Product Revenue	4,569,113	5,543,605
Services	6,496,097	5,767,624
	$11,065,210	$11,311,229

Income Taxes

The Company uses the asset and liability method of accounting for income taxes. The current or deferred tax consequences of transactions are measured by applying the provisions of enacted tax laws to determine the amount of taxes payable currently or in future years. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities and expected future tax consequences of events that have been included in the financial statements or tax returns using enacted tax rates in effect for the years in which the differences are expected to reverse. Under this method, a valuation allowance is used to offset deferred taxes if, based upon the available evidence, it is more likely than not that some or all of the deferred tax assets may not be realized. Management evaluates the recoverability of deferred taxes and the adequacy of the valuation allowance annually.

The Company has adopted the provisions of the accounting standards relative to accounting for uncertainties in tax positions. These provisions provide guidance on the recognition, de-recognition and measurement of potential tax benefits associated with tax positions. The Company elected to recognize interest and penalties related to income tax matters as a component of income tax expense in the statements of operations. There was no impact on the financial statements as a result of this guidance. See *Note 15 – Income taxes*.

With few exceptions, the Company is no longer subject to possible income tax examinations by federal, state or local taxing authorities for tax years before 2008.

The Company's tax returns are open to adjustment from 2001 forward, as a result of the fact that the Company has loss carryforwards from those years, which may be adjusted in the year those losses are utilized.

Fair Value of Financial Instruments

The Company’s financial instruments are cash and cash equivalents, certificates of deposit, accounts receivable, accounts payable, capital lease obligations and notes due from related party convertible debentures. The recorded values of cash and cash equivalents, accounts receivable and accounts payable approximate their fair values based on their short-term nature. At December 31, 2011, the current value on the consolidated balance sheet of the debentures and capital lease obligations approximates fair value as the terms approximate those available for similar instruments. Certificates of deposit classified as short-term investments are recorded at fair value.

Revenue Recognition

Revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable and collectability is reasonably assured. Generally, sales of cogeneration and chiller units and parts are recognized when shipped and services are recognized over the term of the service period. Payments received in advance of services being performed are recorded as deferred revenue.

Infrequently, the Company recognizes revenue in certain circumstances before delivery has occurred (commonly referred to as bill and hold transactions). In such circumstances, among other things, risk of ownership has passed to the buyer, the buyer has made a written fixed commitment to purchase the finished goods, the buyer has requested the finished goods be held for future delivery as scheduled and designated by them, and no additional performance obligations exist by the Company. For these transactions, the finished goods are segregated from inventory and normal billing and credit terms are granted. For the years ended December 31, 2011 and 2010 no revenues were recorded as bill and hold transactions.

For those arrangements that include multiple deliverables, the Company first determines whether each service or deliverable meets the separation criteria of FASB ASC 605-25, *Revenue Recognition—Multiple-Element Arrangements*. In general, a deliverable (or a group of deliverables) meets the separation criteria if the deliverable has stand-alone value to the customer and if the arrangement includes a general right of return related to the delivered item and delivery or performance of the undelivered item(s) is considered probable and substantially in control of the Company. Each deliverable that meets the separation criteria is considered a separate ‘‘unit of accounting”. The Company allocates the total arrangement consideration to each unit of accounting using the relative fair value method. The amount of arrangement consideration that is allocated to a delivered unit of accounting is limited to the amount that is not contingent upon the delivery of another unit of accounting.

When vendor-specific objective evidence or third-party evidence is not available, adopting the relative fair value method of allocation permits the Company to recognize revenue on specific elements as completed based on the estimated selling price. The Company generally uses internal pricing lists that determine sales prices to external customers in determining its best estimate of the selling price of the various deliverables in multiple-element arrangements. Changes in judgments made in estimating the selling price of the various deliverables could significantly affect the timing or amount of revenue recognition. The Company enters into sales arrangements with customers to sell its cogeneration and chiller units and related service contracts and occasionally installation services. Based on the fact that the Company sells each deliverable to other customers on a stand-alone basis, the company has determined that each deliverable has a stand-alone value. Additionally, there are no rights of return relative to the delivered items; therefore, each deliverable is considered a separate unit of accounting.

After the arrangement consideration has been allocated to each unit of accounting, the Company applies the appropriate revenue recognition method for each unit of accounting based on the nature of the arrangement and the services included in each unit of accounting. Cogeneration and chiller units are recognized when shipped and services are recognized over the term of the applicable agreement, as provided when on a time and materials basis or upon completion and acceptance when on a completed contract basis.

Presentation of Sales Taxes

The Company reports revenues net of any revenue-based taxes assessed by governmental authorities that are imposed on and concurrent with specific revenue-producing transactions.

Shipping and Handling Costs

The Company classifies freight billed to customers as sales revenue and the related freight costs as cost of sales.

Advertising Costs

The Company expenses the costs of advertising as incurred. For the years ended December 31, 2011 and 2010, advertising expense was approximately $86,700 and $14,900, respectively.

Research and Development Costs

Internal research and development expenditures are expensed as incurred. Proceeds from certain grants and contracts with governmental agencies and their contractors to conduct research and development for new CHP technologies or to improve or enhance existing technology is recorded as an offset to the related research and development expenses. These grants and contracts are paid on a cost reimbursement basis provided in the agreed upon budget. Amounts received totaled $239,000 and $917,000 in fiscal years 2011 and 2010, respectively, which offset the Company’s total R&D expenditures for each of the respective years.

Stock-Based Compensation

Stock-based compensation cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as an expense in the statements of operations over the requisite service period.

Pursuant to ASC 505-50, *Equity Based Payments to Non-Employees*, the fair value of restricted Common Stock and stock options issued to nonemployees is revalued at each reporting period until the ultimate measurement date, as defined by ASC 505-50. The Company records the value of the instruments at the time services are provided and the instruments vest. Accordingly, the ultimate expense is not fixed until such instruments are fully vested.

The determination of the fair value of share-based payment awards is affected by the Company's stock price. Since the Company is not publicly traded, the Company considered the sales price of the Common Stock in private placements to unrelated third parties as a measure of the fair value of its Common Stock.

The Company utilizes an estimated forfeiture rate when calculating the expense for the period. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Stock-based compensation expense recognized is based on awards that are ultimately expected to vest. The Company evaluates the assumptions used to value awards regularly and if factors change and different assumptions are employed, stock-based compensation expense may differ significantly from what has been recorded in the past. If there are any modifications or cancellations of the underlying unvested securities, the Company may be required to accelerate, increase or cancel any remaining unearned stock-based compensation expense.

Common Stock Subscriptions

Outstanding proceeds for Common Stock transactions appear as Common Stock subscriptions in the accompanying consolidated balance sheets and consolidated statements of changes in stockholders' equity until received.

Recent Accounting Pronouncements

In May 2011, the FASB issued updated accounting guidance related to fair value measurements and disclosures that result in common fair value measurements and disclosures between U.S. GAAP and International Financial Reporting Standards. This guidance includes amendments that clarify the application of existing fair value measurement requirements, in addition to other amendments that change principles or requirements for measuring fair value and for disclosing information about fair value measurements. This guidance is effective during interim and annual periods beginning after December 15, 2011. The adoption of this guidance is not expected to have a material effect on the Company's consolidated financial statements.

In January 2010, The FASB issued ASU No. 2010-06, *Improving Disclosures about Fair Value Measurements*. This amends ASC 820 (formerly FAS 157-4) to require additional disclosures. The guidance requires entities to disclose

transfers of assets in and out of Levels 1 and 2 of the fair value hierarchy, and the reasons for those transfers. ASU No. 2010-06 is effective January 2010. In addition, the guidance requires separate presentation of purchases and sales in the Level 3 asset reconciliation which will be effective for the year ending December 31, 2011. The adoption of the effective portions of this guidance did not have a material impact on the Company’s consolidated financial statement position, results of operations or cash flows.

In June 2009, the FASB issued new guidance on consolidations which became effective for Tecogen, Inc. on January 1, 2010. This guidance changes the definition of a variable interest entity and changes the methodology to determine who is the primary beneficiary of, or in other words, who consolidates, a variable interest entity. The guidance replaces the quantitative-based risks and rewards calculation for determining which enterprise, if any, has a controlling financial interest in a variable interest entity with an approach focused on identifying which enterprise has the power to direct the activities of a variable interest entity that most significantly affect the entity's economic performance and (i) the obligation to absorb losses of the entity or (ii) the right to receive benefits from the entity. The adoption of this new guidance did not have an impact on the Company’s consolidated financial statement position, results of operations or cash flows.

Reclassifications

Certain prior period balances have been reclassified to conform with current period presentation.

Note 3 – Loss per common share:

Basic and diluted earnings per share for the years ended December 31, 2011 and 2010, respectively, were as follows:

	2011	2010
Loss available to stockholders	$(1,574,501)	$(355,308)
Weighted average shares outstanding - Basic and diluted	48,211,652	45,882,631
Basic and diluted loss per share	$(0.03)	$(0.01)
Anti-dilutive shares underlying stock options outstanding	4,381,000	2,480,000
Anti-dilutive convertible debentures	636,557	636,557

Note 4 – Inventory

Inventories at December 31, 2011 and 2010 consisted of the following.

	2011	2010
Gross raw materials	$2,701,496	$1,675,141
Less - reserves	(358,800)	(355,500)
Net raw materials	2,342,696	1,319,641
Work-in-process	119,640	4,774
Finished goods	106,650	-
	$2,568,986	$1,324,415

Note 5 – Intangible assets

The Company capitalized $22,036 and $62,309 of product certification costs during the years ended December 31, 2011 and 2010, respectively. Also included in intangible assets are the costs incurred by the Company to acquire certain patents. These patents, once in service, will be amortized on a straight-line basis over the estimated economic life of the associated product, which range from approximately 7-10 years. The Company capitalized $16,712 and $51,190 of patent-related costs during the years ended December 31, 2011 and 2010, respectively. Intangible assets at December 31, 2011 and 2010 consist of the following:

	Product Certifications	Patents	Total
Balance at December 31, 2011			
Intangible assets	$ 218,168	$67,902	$286,070
Less - accumulated amortization	(38,254)	(6,195)	(44,449)
	$ 179,914	$61,707	$241,621
Balance at December 31, 2010			
Intangible assets	$ 196,132	$51,190	$247,322
Less - accumulated amortization	(20,457)	-	(20,457)
	$ 175,675	$51,190	$226,865

Amortization expense was $23,992 and $11,309 during the years ended December 31, 2011 and 2010, respectively. Estimated amortization expense at December 31, 2011 for each of the five succeeding years is as follows:

2012	$33,628
2013	31,517
2014	31,517
2015	31,517
2016	31,517
Thereafter	81,925
	$241,621

Note 6 – Property and equipment

Property and equipment at December 31, 2011 and 2010 consisted of the following:

	Estimated Useful Life (in Years)	2011	2010
Machinery and equipment	5 - 7 years	$355,985	$268,713
Furniture and fixtures	5 years	48,157	41,487
Computer software	3 - 5 years	46,355	44,291
Leasehold improvements	*	245,441	226,261
		695,938	580,752
Less - accumulated depreciation and amortization		(310,159)	(175,864)
Net property, plant and equipment		$385,779	$404,888

* Lesser of estimated useful life of asset or lease term

Depreciation and amortization expense on property and equipment for the years ended December 31, 2011 and 2010 was $134,295 and $77,346, respectively.

Note 7 – Demand notes payable and convertible debentures – related party

Demand notes payable to related parties consist of various demand notes outstanding to stockholders totaling $1,037,500 and $287,500 at December 31, 2011 and 2010, respectively. The primary lender is John N. Hatsopoulos, the company's Chief Executive Officer, who holds $1,000,000 and $250,000 of the demand notes as of December 31, 2011 and 2010, respectively. The demand notes accrue interest annually at rates ranging from 5% to 6%. Unpaid principal and interest on the demand notes is due upon demand by the lender.

On September 24, 2001, the Company entered into subscription agreements with three investors for the sale of convertible debentures in the aggregate principal amount of $330,000. The primary investors were George N. Hatsopoulos, a member of the board of directors, who subscribed for $200,000 of the debentures and John N. Hatsopoulos, the Company's Chief Executive Officer, who subscribed for $100,000 of the debentures. The debentures accrue interest at a rate of 6% per annum and are due six years from issuance date. The debentures are convertible, at the option of the holder, into a number of shares of Common Stock as determined by dividing the original principal amount plus accrued and unpaid interest by a conversion price of $0.30. On September 24, 2011 the remaining holders of the Company's convertible debentures agreed to amend the terms of the debentures and extend the due date from

September 24, 2011 to September 24, 2013.

On May 11, 2009 the Company sold 1,400,000 shares in Ilios at $0.50 per share to George Hatsopoulos and John Hatsopoulos in exchange for the extinguishment of $427,432 in demand notes payable, $109,033 in convertible debentures and $163,535 in accrued interest. The difference between the Company's purchase price of the Ilios shares and the amount of debt forgiveness was recorded as additional paid-in capital. At December 31, 2011 and 2010, there were 636,557 shares of common stock issuable upon conversion of the Company's outstanding convertible debentures. At December 31, 2011 and 2010, the principal amount of the Company's convertible debentures was $190,967 which is due on September 24, 2013.

Note 8 – Commitments and contingencies

Operating Lease Obligations

The Company leases office space and warehouse facilities under various lease agreements which expire through March 2015. The Company subleases portions of its corporate offices and manufacturing facility to sub-tenants under annual sublease agreements, on a calendar year basis (see *Note 13 – Related party transactions*). Total rent expense for the years ended December 31, 2011 and 2010 amounted to $579,836 and $535,092, offset by $185,596 and $196,466 in rent paid by sub-lessees for a net amount of $394,240 and $338,626.

The Company leases one service vehicle under a lease agreement which expires January 2012. Vehicle rent expense amounted to $4,639 during each of the years ended December 31, 2011 and 2010.

Future minimum lease payments under all non-cancelable operating leases as of December 31, 2011 consist of the following:

Years Ending December 31,	Amount
2012	$574,676
2013	546,042
2014	164,843
2015	10,130
2016	-
2017 and thereafter	-
Total	$1,295,691

On October 26, 2011, the Company entered into an agreement with Digital Energy Corp., a customer of the Company, whereby the Company provided a letter of credit in the amount of $180,000, for the benefit of Digital Energy Corp., to satisfy a requirement of the New York Independent System Operator, Inc. A certificate of deposit for $180,000 secures the letter of credit. In exchange for providing this letter of credit, Digital Energy Corp. provided a promissory note to the Company for $180,000, with interest at 6%, payable in monthly installments of interest only. Principal would only be owed if the letter of credit was drawn upon and would become due and payable on the first anniversary date of the note.

Legal Proceedings

From time to time the Company may be involved in various claims and other legal proceedings which arise in the normal course of business. Such matters are subject to many uncertainties and outcomes that are not predictable. Based on the information available to the Company and after discussions with legal counsel, the Company does not believe any such proceedings will have a material adverse effect on the business, results of operations, financial position or liquidity.

Note 9 – Product warranty

The Company reserves an estimate of its exposure to warranty claims based on both current and historical product sales data and warranty costs incurred. The majority of the Company’s products carry a one-year warranty. The

Company assesses the adequacy of its recorded warranty liability annually and adjusts the amount as necessary. The warranty liability is included in accrued expenses on the accompanying consolidated balance sheets.

Changes in the Company's warranty reserve were as follows:

Warranty reserve, December 31, 2009	$82,600
Warranty provision for units sold	42,847
Costs of warranty incurred	(72,447)
Warranty reserve, December 31, 2010	53,000
Warranty provision for units sold	76,637
Costs of warranty incurred	(72,637)
Warranty reserve, December 31, 2011	$57,000

Note 10 – Stockholders' equity

Common Stock

In 2011 and 2010 the Company raised additional funds through private placements of common stock to a limited number of accredited investors. In connection with the 2011 private placements the Company sold an aggregate of 4,716,919 shares of common stock at a purchase price ranging from $0.65 to $0.80 per share, resulting in net cash proceeds of $3,610,993. In connection with the 2010 private placements the Company sold an aggregate of 1,863,461 shares of common stock at a purchase price of $0.65 per share, resulting in net cash proceeds of $1,211,249.

On June 13, 2011, the Southern California Gas Company entered into an agreement with the Company to invest $500,000 in the Company's Common Stock. The agreement included certain stockholder rights and a redemption right whereby the investor may redeem the shares for cash until the earlier of, the initiation of a public offering of the Company by filing a registration statement with the SEC, or five years. A letter of credit, secured by a Certificate of Deposit, for the amount of the investment has been put in place to satisfy the contingency of the redemption right. The Certificate of Deposit is classified as a short term investment in the accompanying balance sheet. The Common Stock was classified outside of permanent equity because of the redemption right. The filing of our registration statement on Form S-1 on December 22, 2011, resulted in the expiration of the rights and preferences of the Southern California Gas Company; therefore as of the date of this prospectus we do not have any rights or preferences outstanding. As a result, we have reclassified this investment from Redeemable Common Stock, to permanent equity in the accompanying balance sheet as of December 31, 2011.

The holders of Common Stock have the right to vote their interest on a per share basis. At December 31, 2011 and 2010 there were 53,993,882 and 48,931,046 shares of Common Stock outstanding, respectively.

Receivable from Shareholder

On June 3, 2010 the Company issued a promissory note to an investor in the amount of $345,000. The note is due in full on June 3, 2012 and bears interest at the Bank Prime Rate plus three percent. Accrued interest is paid on a quarterly basis. The note is secured by 1,150,000 shares of Tecogen Common Stock.

Warrants

At January 1, 2009 the Company had 500,000 warrants outstanding. Each warrant represents the right to purchase one share of Common Stock at a price of $0.30. These warrants had been issued on April 5, 2005 in connection with a private placement of the Company's Common Stock to a limited number of accredited investors.

During the year ended December 31, 2010, investors exercised 475,000 warrants, providing gross proceeds to the Company of $142,500. During 2010, 25,000 warrants expired. As of December 31, 2011 and 2010 there were no warrants outstanding.

Stock-Based Compensation

In 2006, the Company adopted the 2006 Stock Option and Incentive Plan ("the Plan"), under which the board of directors may grant incentive or non-qualified stock options and stock grants to key employees, directors, advisors and consultants of the Company. On October 1, 2008 the board unanimously amended the Plan, to increase the reserved shares of common stock issuable under the Plan from 4,000,000 to 5,000,000 (the "Amended Plan"). On February 18, 2010, the board unanimously amended the Plan, to increase the reserved shares of common stock issuable under the Plan from 5,000,000 to 7,000,000 (the "Amended Plan" as of February 18, 2010). On November 10, 2011 the board unanimously amended the Plan, to increase the reserved shares of common stock issuable under the Plan from 7,000,000 to 7,355,000 (the "Amended Plan" as of November 10, 2011).

Stock options vest based upon the terms within the individual option grants, with an acceleration of the unvested portion of such options upon a change in control event, as defined in the Amended Plan. The options are not transferable except by will or domestic relations order. The option price per share under the Amended Plan cannot be less than the fair market value of the underlying shares on the date of the grant. The number of shares remaining available for future issuance under the Amended Plan as of December 31, 2011 and 2010 was 645,732 and 2,886,732, respectively.

In 2010, the company granted nonqualified options to purchase an aggregate of 100,000 shares of common stock at $0.65 per share. These options have a vesting schedule of four years and expire in five years. The fair value of the options issued in 2010 was $24,446. The weighted-average grant date fair value of stock options granted during 2010 was $0.24 per option.

In 2011, the company granted nonqualified options to purchase an aggregate of 1,921,000 shares of common stock at $0.65 per share and 125,000 shares of common stock at $0.70 per share. These options have a vesting schedule of four years and expire in ten years. The fair value of the options issued in 2011 was $508,586. The weighted-average grant date fair value of stock options granted during 2011 was $0.25 and $0.28 per option. Stock option activity for the year ended December 31, 2011 and 2010 was as follows:

Common Stock Options	Number of Options	Exercise Price Per Share	Weighted Average Exercise Price	Weighted Average Remaining Life	Aggregate Intrinsic Value
Outstanding, December 31, 2009	2,380,000	$0.03-$0.50	$ 0.32	4.27 years	$793,500
Granted	100,000	0.65	0.65		
Exercised	-	-	-		
Canceled and forfeited	-	-	-		
Expired	-	-	-		
Outstanding, December 31, 2010	2,480,000	$0.03-$0.65	$ 0.30	3.30 years	$793,500
Exercisable, December 31, 2010	1,230,000		$ 0.28		$451,000
Vested and expected to vest, December 31, 2010	2,480,000		$ 0.30		$793,500
Outstanding, December 31, 2010	2,480,000	$0.03-$0.65	$ 0.30	3.30 years	$793,500
Granted	2,046,000	0.65-0.70	0.65		
Exercised	-	-	-		
Canceled and forfeited	-	-	-		
Repurchased	(50,000)	0.25	0.25		
Expired	(95,000)	0.30-0.65	0.37		
Outstanding, December 31, 2011	4,381,000	$0.03-$0.70	$ 0.48	5.53 years	$1,387,150
Exercisable, December 31, 2011	1,673,750		$ 0.31		$815,125
Vested and expected to vest, December 31, 2011	4,381,000		$ 0.48		$1,387,150

The Company does not expect any forfeitures and the table above represents all stock options expected to vest. The Company uses the Black-Scholes option pricing model to determine the fair value of stock options granted. Use of a valuation model requires management to make certain assumptions with respect to selected model inputs. Expected volatility was calculated based on the average volatility of four comparable publicly traded companies. The average expected life was estimated using the simplified method for “plain vanilla” options as permitted by SEC Staff Accounting Bulletin No. 107, or SAB No. 107. The simplified method determines the expected life in years based on the vesting period and contractual terms as set forth when the award is made. The Company continues to use the simplified method for awards of stock-based compensation after January 1, 2008 as permitted by SEC Staff

Accounting Bulletin No. 110, or SAB No. 110, since it does not have the necessary historical exercise data to determine an expected life for stock options. The Company uses a single weighted-average expected life to value option awards and recognizes compensation on a straight-line basis over the requisite service period for each separately vesting portion of the awards. The risk-free interest rate is based on U.S. Treasury zero-coupon issues with a remaining term which approximates the expected life assumed at the date of grant. When options are exercised the Company normally issues new shares.

In 2011, the Company purchased 50,000 options from a consultant at $0.25 per share. These options were due to expire on December 10, 2011 and would have allowed the holder to purchase shares of common stock of Tecogen for $0.03. The Company had no obligation to repurchase these shares. At December 10, 2010, the fair value of Tecogen's common stock was $0.80. Since these options were purchased at below their estimated fair value, the price paid by Tecogen of $12,500 was charged to Stockholders' equity.

The weighted average assumptions used in the Black-Scholes option pricing model for options granted in 2011 and 2010 are as follows:

	2011	2010
Stock option awards:		
Expected life	6.25 years	5 years
Risk-free interest rate	2.46 %	2.46 %
Expected volatility	33.8% - 35.5 %	33.30 %

In 2010, the Company made restricted stock grants to certain employees by permitting them to purchase an aggregate of 76,843 shares of common stock at a price of $0.001 per share. These shares vest 100% six months after an initial public offering. The related compensation expense is being recorded based on an anticipated initial public offering date.

In 2011, the Company made restricted stock grants to certain employees by permitting them to purchase an aggregate of 200,000 shares of common stock at a price of $0.001 per share. These shares vest over four years beginning six months after an initial public offering. The related compensation expense is being recorded based on an anticipated initial public offering date.

Restricted stock activity for the years ended December 31, 2011 and 2010 was as follows:

	Number of Restricted Stock	Weighted Average Grant Date Fair Value
Unvested, December 31, 2009	1,656,425	$ 0.31
Granted	76,843	0.65
Vested	-	-
Forfeited	-	-
Unvested, December 31, 2010	1,733,268	$ 0.32
Unvested, December 31, 2010	1,733,268	$ 0.32
Granted	200,000	0.65
Vested	-	-
Forfeited	-	-
Unvested, December 31, 2011	1,933,268	$ 0.36

During the years ended December 31, 2011 and 2010, the Company recognized stock-based compensation of $396,724 and $185,901, respectively, related to the issuance of stock options and restricted stock. No tax benefit was recognized related to the stock-based compensation recorded during the years. At December 31, 2011 and 2010 there were 1,933,268 and 1,733,268 unvested shares of restricted stock outstanding, respectively. At December 31, 2011 and 2010 the total compensation cost related to unvested restricted stock awards and stock option awards not yet recognized is $537,540 and $141,859, respectively. This amount will be recognized over a weighted average period of 2.12 years.

Stock Based Compensation - Ilios

In 2009, Ilios adopted the 2009 Stock Incentive Plan (“the Plan”) under which the board of directors may grant incentive or non-qualified stock options and stock grants to key employees, directors, advisors and consultants of the company. The maximum number of shares allowable for issuance under the Plan is 2,000,000 shares of common stock.

Stock options vest based upon the terms within the individual option grants, with an acceleration of the unvested portion of such options upon a change in control event, as defined in the Plan. The options are not transferable except by will or domestic relations order. The option price per share under the Plan cannot be less than the fair market value of the underlying shares on the date of the grant.

During the years ended December 31, 2011 and 2010 Ilios recognized stock-based compensation of $47,648 and $11,185, related to the issuance of stock options and restricted stock, respectively. No tax benefit was recognized related to the stock-based compensation recorded during the year. At December 31, 2011 and 2010 there were 560,000 and 360,000 unvested shares of restricted stock outstanding, respectively. At December 31, 2011 and 2010 the total compensation cost related to unvested restricted stock awards and stock option awards not yet recognized is $122,056 and $27,839, respectively. This amount will be recognized over the weighted average period of 2.45 years.

In 2011, the company granted nonqualified options to purchase an aggregate of 225,000 shares of common stock to certain employees at $0.50 per share. These options have a vesting schedule of four years and expire in ten years. The total fair value of the options issued in 2011 was $42,065. The weighted-average grant date fair value of stock options granted during 2011 was $0.19.

Stock option activity for the year ended December 31, 2011 and 2010 was as follows:

Common Stock Options	Number of Options	Exercise Price Per Share	Weighted Average Exercise Price	Weighted Average Remaining Life	Aggregate Intrinsic Value
Outstanding, December 31, 2009	300,000	$0.10	$ 0.10	9.34 years	$ 120,000
Granted	-	-	-		
Exercised	-	-	-		
Canceled and forfeited	-	-	-		
Expired	-	-	-		
Outstanding, December 31, 2010	300,000	$0.10	$ 0.10	8.34 years	$ 120,000
Exercisable, December 31, 2010	-		$ -		$ -
Vested and expected to vest, December 31, 2010	300,000		$ 0.10		$ 120,000
Outstanding, December 31, 2010	300,000	$0.10	$ 0.10	8.34 years	$ 120,000
Granted	225,000	0.50	0.50		
Exercised	-	-	-		
Canceled and forfeited	-	-	-		
Expired	-	-	-		
Outstanding, December 31, 2011	525,000	$0.10-$0.50	$ 0.27	8.23 years	$ 120,000

Exercisable, December 31, 2011	-	$ -	$ -
Vested and expected to vest, December 31, 2011	525,000	$ 0.27	$ 120,000

Ilios does not expect any forfeitures and the table above represents all stock options expected to vest. Ilios uses the Black-Scholes option pricing model to determine the fair value of stock options granted. Expected volatility was calculated based on the average volatility of comparable publicly traded companies, the expected life of the options was calculated using the “simplified method”, and the risk-free interest rate is based on U.S. Treasury zero-coupon issues with a remaining term which approximates the expected life assumed at the date of grant. The Company uses a single weighted-average expected life to value option awards and recognizes compensation on a straight-line basis over the requisite service period for each separately vesting portion of the awards.

The weighted average assumptions used in the Black-Scholes option pricing model for options granted in 2011 are as follows:

Stock option awards:		
Expected life	6.25 years	
Risk-free interest rate	2.03	%
Expected volatility	34.2	%

In 2011, Ilios made restricted stock grants to a certain Ilios employee by permitting him to purchase an aggregate of 200,000 shares of common stock at a price of $0.001 per share. These shares vest 25% one hundred eighty (180) days after an initial public offering of Ilios and 25% for three years thereafter. The related compensation expense is being recorded based on an anticipated initial public offering date.

Restricted stock activity for the period ended December 31, 2011 was as follows:

	Number of Restricted Stock	Weighted Average Grant Date Fair Value
Unvested, December 31, 2009	360,000	$ 0.10
Granted	-	-
Vested	-	-
Forfeited	-	-
Unvested, December 31, 2010	360,000	$ 0.10
Unvested, December 31, 2010	360,000	$ 0.10
Granted	200,000	0.50
Vested	-	-
Forfeited	-	-
Unvested, December 31, 2011	560,000	$ 0.24

Note 11 – Noncontrolling interests

As of December 31, 2010 Tecogen owned 63.0% of Ilios. During the year ended December 31, 2011 Tecogen purchased 1,500,000 shares of Ilios common stock at $0.50 per share for an aggregate amount of $750,000 which increased Tecogen's ownership interest to 67.4%. The table below presents the changes in equity resulting from net loss attributable to Tecogen and transfers to or from noncontrolling interests for the years ended December 31, 2011 and 2010.

Net loss Attributable to Tecogen Inc. and

Transfers (to) from the Noncontrolling Interest

Years ended December 31,

	2011	2010
Net loss attributable to Tecogen Inc.	$(1,574,501)	$(355,308)
Transfers (to) from the noncontrolling interest		
Decrease in Tecogen's paid-in capital for purchase of 1,500,000 Ilios common shares	(261,174)	
Net transfers to noncontrolling interest	(261,174)	-
Change from net loss attributable to Tecogen Inc. and transfers to noncontrolling interest	$(1,835,675)	$(355,308)

Note 12 – Retirement plans

The Company has a defined contribution retirement plan (the “Plan”), which qualifies under Section 401(k) of the Internal Revenue Code (IRC). Under the Plan, employees meeting certain requirements may elect to contribute a percentage of their salary up to the maximum allowed by the IRC. The Company matches a variable amount based on participant contributions up to a maximum of 4.5% of each participant’s salary. The Company contributed approximately $115,120 and $111,100 to the Plan for the years ended December 31, 2011 and 2010.

Note 13 – Related party transactions

The Company has three affiliated companies, namely American DG Energy Inc., or American DG Energy, EuroSite Power Inc., or EuroSite Power, and GlenRose Instruments Inc., or GlenRose Instruments. These companies are affiliates because several of the major stockholders of those companies, have a significant ownership position in the Company. American DG Energy, EuroSite Power and GlenRose Instruments do not own any shares of the Company, and the Company does not own any shares of American DG Energy, EuroSite Power or GlenRose Instruments. The business of GlenRose Instruments is not related to the business of the Company, American DG Energy and their other corporate affiliates.

American DG Energy, EuroSite Power and GlenRose Instruments are affiliated companies by virtue of common ownership. The common stockholders include:

- John N. Hatsopoulos, the Company's Chief Executive Officer who is also: (a) the Chief Executive Officer and a director of American DG Energy and holds 12.1% of the company's Common Stock, (b) the Chairman of EuroSite Power, (c) a director of Ilios and holds 7.3% of the company's Common Stock, and (d) the Chairman of GlenRose Instruments and holds 15.7% of the company's Common Stock.

- Dr. George N. Hatsopoulos, who is John N. Hatsopoulos' brother, and is also: (a) a director of American DG Energy and holds 14.7% of the company's Common Stock, (b) an investor in Ilios and holds 2.9% of the company's Common Stock and (c) an investor of GlenRose Instruments and holds 15.7% of the company's Common Stock.

Additionally, the following related persons had or may have a direct or indirect material interest in our transactions with our affiliated companies:

- Barry J. Sanders, who is: (a) the President and Chief Operating Officer of American DG Energy, (b) the Chief Executive Officer and a director of EuroSite Power and (c) the Chairman of Ilios.

- Anthony S. Loumidis, the Company's Vice President and Treasurer who is: (a) the Chief Financial Officer Secretary and Treasurer of American DG Energy, (b) the Chief Financial Officer Secretary and Treasurer of EuroSite Power, (c) the Chief Financial Officer Secretary and Treasurer of GlenRose Instruments and (d) the Treasurer of Ilios.

American DG Energy has sales representation rights to the Company's products and services in New England, and the Company has sales representation rights to the American DG Energy On-Site Utility solution in California. Revenue from sales of cogeneration and chiller systems, parts and service to American DG Energy during the years ended December 31, 2011 and 2010 amounted to $713,267 and $1,658,471, respectively.

On October 20, 2009, American DG Energy, in the ordinary course of its business, signed a Sales Representative Agreement with Ilios to promote, sell and service the Ilios high-efficiency heating products, such as the high efficiency water heater, in the marketing territory of the New England States, including Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and Maine. The marketing territory also includes all of the nations in the European Union. The initial term of this Agreement is for five years, after which it may be renewed for successive one-year terms upon mutual written agreement.

On September 24, 2001, the Company entered into subscription agreements with investors for the sale of convertible debentures. The primary investors were George N. Hatsopoulos, who subscribed for $200,000 of the debentures, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children, who subscribed for a total amount of $100,000 of the debentures. The debentures accrue interest at a rate of 6% per annum and are due on September 24, 2007. The debentures are convertible, at the option of George N. Hatsopoulos, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children, into shares of Common Stock at a conversion price of $0.30 per share.

On September 24, 2007, George N. Hatsopoulos, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children agreed to extend the debenture term to September 24, 2011. On May 11, 2009, George N. Hatsopoulos converted a portion of the principal in the amount of $109,033 of the debentures and accrued interest in the amount of $90,967 into 400,000 shares of Common Stock in the Company's newly formed subsidiary, Ilios, at $0.50 per share. Also, on May 11, 2009, John N. Hatsopoulos converted principal amount of $427,432 in demand notes payable and accrued interest in the amount of $72,567 into 1,000,000 shares of Ilios Common Stock at $0.50 per share. The difference between the Company's purchase price of the Ilios shares and the amount of debt forgiveness was recorded as additional paid-in capital.

On September 30, 2009, Joseph J. Ritchie elected to convert $30,000 of the outstanding principal amount of the debenture, plus accrued interest of $14,433, into 148,111 shares of Common Stock at a conversion price of $0.30 per share. On September 24, 2011, George N. Hatsopoulos, and the John N. Hatsopoulos 1989 Family Trust for the benefit of Mr. Hatsopoulos' adult children, agreed to extend their term to September 24, 2013 and requested that accrued interest in the amount of $72,959 be converted into the Company's Common Stock at $0.50 per share (which was the average price of the Company's stock from September 24, 2001 to September 24, 2011).

On September 10, 2008 the Company entered into a demand note agreement with John N. Hatsopoulos, in the principal amount of $250,000 at an annual interest rate of 5%. On September 7, 2011 the Company entered into an additional demand note agreement with John N. Hatsopoulos, in the principal amount of $750,000 at an annual interest rate of 6%. Unpaid principal and interest on the demand notes is due upon demand.

For additional disclosure on the Company's debt see *Note 7 – Demand notes payable and convertible debentures – related party.*

John N. Hatsopoulos' salary is $1.00 per year. On average, Mr. Hatsopoulos spends approximately 20% of his business time on the affairs of the Company; however such amount varies widely depending on the needs of the business and is expected to increase as the business of the Company develops.

The Company signed a Facilities and Support Services Agreement with American DG Energy on January 1, 2006, as amended, included as Exhibit 10.6 hereto. The term of the agreement commences as of the start of each year and certain portions of the agreement, including office space allocation, get renewed annually upon mutual written agreement.

The Company subleases portions of its corporate offices and manufacturing facility to sub-tenants, several of which are affiliated companies, under annual sublease agreements. For the years ended December 31, 2011 and 2010, the Company received $185,596 and $196,466, respectively, from American DG Energy, Levitronix LLC and Alexandros

Partners LLC. In addition, for the years ended December 31, 2011 and 2010, the Company received from the same affiliated companies, $224,700 and $142,050, respectively, to offset common operating expenses incurred in the administration and maintenance of its corporate office and warehouse facility.

The Company's headquarters are located in Waltham, Massachusetts and consist of 24,000 square feet of office and storage space that are shared with American DG Energy and other tenants. The lease expires on March 31, 2014. We believe that our facilities are appropriate and adequate for our current needs.

Revenue from sales of cogeneration and chiller systems, parts and service to American DG Energy during the years ended December 31, 2011 and 2010 amounted to $713,267 and $1,658,471, respectively. In addition, Tecogen pays certain operating expenses, including benefits and insurance, on behalf of American DG Energy. Tecogen was reimbursed for these costs. As of December 31, 2011 and 2010, the total amount due from American DG Energy was $299,739 and $98,230, respectively.

Note 14 – Fair value measurements

The Company has categorized its financial assets and liabilities, based on the priority of the inputs to the valuation technique, into a three-level fair value hierarchy as set forth below. If the inputs used to measure the financial instruments fall within different levels of the hierarchy, the categorization is based on the lowest level input that is significant to the fair value measurement the instrument. The three levels of the hierarchy are defined as follows:

Level 1 - Unadjusted quoted prices in active markets for identical assets or liabilities. We currently do not have any Level 1 financial assets or liabilities.

Level 2 - Observable inputs other than quoted prices included in Level 1. Level 2 inputs include quoted prices for identical assets or liabilities in non-active markets, quoted prices for similar assets or liabilities in active markets and inputs other than quoted prices that are observable for substantially the full-term of the asset or liability.

Level 3 - Unobservable inputs reflecting management's own assumptions about the input used in pricing the asset or liability. We currently do not have any Level 3 financial assets or liabilities.

The following table presents the input level used to determine the fair values of the Company's financial instruments measured at fair value on a recurring basis for the years ended December 31, 2011 and 2010:

	December 31, 2011	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Certificates of deposit	683,428	-	683,428	-
Total Assets	$ 683,428	$ -	$ 683,428	$ -

	December 31, 2010	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Certificates of deposit	85,000	-	85,000	-
Total Assets	$ 85,000	$ -	$ 85,000	$ -

The Company determines the fair value of certificates of deposits using information provided by the issuing bank which includes discounted expected cash flow estimates using current market rates offered for deposits with similar remaining maturities.

Note 15 – Income taxes

A reconciliation of the federal statutory income tax provision to the Company's actual provision for the years ended December 31, 2011 and 2010 is as follows:

	2011	2010
Benefit at federal statutory tax rate	$648,000	$185,000
Unbenefited operating losses	(648,000)	(185,000)
Income tax provision	$-	$-

The components of net deferred tax assets recognized in the accompanying consolidated balance sheets at December 31, 2011 and 2010 are as follows:

	2011	2010
Net operating loss carryforwards	$2,896,000	$2,867,000
Accrued expenses and other	588,000	30,000
Accounts receivable	37,000	-
Inventory	139,000	-
Depreciation	184,000	13,000
	3,844,000	2,910,000
Valuation allowance	(3,844,000)	(2,910,000)
Net deferred tax asset	$-	$-

As of December 31, 2011, the company has federal loss carryforwards of approximately $7,248,000, which expire beginning in 2021 through 2031. In addition, the Company has varying amounts of state net operating losses, expiring at various dates starting in 2012 through 2031. The federal net operating losses include approximately $1,303,000 attributable to the Company’s majority owned subsidiary, which can only be used against income of that entity.

During the year, the Company made adjustments to its cumulative temporary differences. This resulted in an increase in total deferred tax assets of $609,000, with a corresponding increase in the valuation allowance. There was no overall effect of this adjustment on the Company's net deferred tax assets.

Management has determined that it is more likely than not that the company will not recognize the benefits of the federal and state deferred tax assets and as a result has recorded a valuation allowance against the entire net deferred tax asset. The valuation allowance has increased by $934,000 during the year ended December 31, 2011. If the company should generate sustained future taxable income, against which these tax attributes may be recognized, some portion or all of the valuation allowance would be reversed.

The Company did not record a benefit for income taxes related to its operating losses for the years ended December 31, 2011 and 2010.

The Company has analyzed its current tax return compliance positions and has determined that no uncertain tax positions have been taken that would require recognition.

Note 16 – Subsequent events

On January 19, 2012, Ilios sold 1,000,000 shares of common stock through a private placement to an accredited investor at $0.50 per share for net proceeds of $500,000. As of the date of this prospectus, Tecogen owns a 62.5% interest in Ilios.

On April 12, 2012, Tecogen raised additional funds through a private placement of common stock to an accredited investor. In connection with the private placement, Tecogen sold 250,000 shares of common stock at $0.80 per share, for net proceeds of $200,000.

The Company has evaluated subsequent events through the date of this filing and determined that no additional subsequent events occurred that would require recognition in the consolidated financial statements or disclosure in the notes thereto.

PART II - INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth our expenses in connection with this registration statement. All of such amounts are estimates, other than the fee payable to the Securities and Exchange Commission.

	Amount
Securities and Exchange Commission registration fee	$3,244
Legal fees and expenses	50,000
Accounting fees and expenses	34,000
Printing and miscellaneous	10,000
Total	$97,244

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 102 of the Delaware General Corporation Law allows a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. We have included such a provision in our amended and restated charter.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against amounts paid and expenses incurred in connection with an action or proceeding to which he is or she is threatened to be made a party by reason of such position, if such person shall have acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal proceeding, if such person had no reasonable cause to believe his conduct was unlawful; *provided that,* in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that such indemnification is proper under the circumstances.

Our amended and restated charter includes a provision that eliminates the personal liability of our directors for monetary damages for breach of fiduciary duty as a director, except for liability:

- for any breach of the director's duty of loyalty to the Company or its stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- under section 174 of the Delaware General Corporation Law regarding unlawful dividends and stock purchases; or
- for any transaction from which the director derived an improper personal benefit.

Our amended and restated charter also provides that:

- we must indemnify our directors and officers to the fullest extent permitted by Delaware law;
- we may, to the extent authorized from time to time by our Board of Directors, indemnify our other employees and agents to the same extent that we indemnified our officers and directors; and
- in the event we do not assume the defense in a legal proceeding, we must advance expenses, as incurred, to our directors and executive officers in connection with a legal proceeding to the fullest extent permitted by Delaware law.

The indemnification provisions contained in our amended and restated charter and bylaws are not exclusive of any other rights to which a person may be entitled by law, agreement, vote of stockholders, or disinterested directors or otherwise.

In addition to the indemnification provided for in our restated charter and bylaws, we intend to enter into indemnification agreements with each of our directors and executive officers. Each indemnification agreement will provide that we will indemnify the director or executive officer to the fullest extent permitted by law for claims arising in his or her capacity as our director, officer, employee or agent, provided that he or she acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful. In the event that we do not assume the defense of a claim against a director or executive officer, we are required to advance his or her expenses in connection with his or her defense, provided that he or she undertakes to repay all amounts advanced if it is ultimately determined that he or she is not entitled to be indemnified by us.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our Company pursuant to the foregoing provisions, the opinion of the SEC is that such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

In addition, we may maintain insurance on behalf of our directors and executive officers insuring them against any liability asserted against them in their capacities as directors or officers or arising out of such status.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES.

Set forth below is information regarding Common Stock issued, warrants issued and stock options granted by the Company during fiscal years 2009 through 2011. Also included is the consideration, if any, we received and information relating to the section of the Securities Act, or rule of the SEC, under which exemption from registration was claimed.

Common Stock and Warrants

On June 17, 2009, the Company raised $490,000 in a private placement of 980,000 shares of common stock at a price of $0.50 per share. The private placement was done exclusively by eight accredited investors, representing 2.2% of the total shares then outstanding. Prior to this transaction the company had 45,017,631 shares of common stock outstanding. Included in those shares are 600,000 shares to T.F Richter & Co. LTD, 200,000 shares to Anthony B. Low-Beer, 100,000 shares to Armen Partners, L.P, 20,000 shares to Ernest Aloi, 20,000 shares to Anthony Bellantoni, 20,000 shares to Anthony Ajello, 15,000 shares to Henry Nalbandian, and 5,000 shares to Paul D. Riddle & Rosemarie A. Riddle. Such transactions were exempt from registration under Section 4(2) of the Securities Act and/or under Rule 506 of Regulation D.

On September 4, 2009, the Company raised $208,000 in a private placement of 320,000 shares of common stock at a price of $0.65 per share. The private placement was done exclusively by two accredited investors, representing 0.7% of the total shares then outstanding. Prior to this transaction the company had 45,997,631 shares of common stock outstanding. Included in those shares are 300,000 shares to John Paguidas & Vasiliki Paguaidas and 20,000 shares to Robert and Lucy Lasseter. Such transactions were exempt from registration under Section 4(2) of the Securities Act and/or under Rule 506 of Regulation D.

On September 30, 2009, Joseph J. Ritchie, a holder of the Company’s convertible debentures elected to convert $30,000 of the outstanding principal amount of the debenture, plus accrued interest of $14,433, into 148,111 shares of common stock at a conversion price of $0.30 per share. The conversion of the debenture into shares of common stock represented 0.3% of the total shares then outstanding. Prior to this transaction the company had 46,367,631 shares of common stock outstanding. Such transaction was exempt from registration under Section 3(a)(9) of the Securities Act and/or under Rule 506 of Regulation D.

On March 26, 2010, the Company raised $142,500 through the exercise of 475,000 warrants of common stock at a price of $0.30 per share. The warrant exercise was done by three accredited investors representing 1.0% of the total shares then outstanding. Prior to this transaction the company had 46,515,742 shares of common stock outstanding. Included in those shares are 225,000 shares to George N. Hatsopoulos, 225,000 shares to John N. Hatsopoulos and 25,000 shares to Ravinder K. Sakhuja. Such transactions were exempt from registration under Section 4(2) of the

Securities Act and/or under Rule 506 of Regulation D.

On October 20, 2010, the Company raised $1,211,250 in a private placement of 1,863,461 shares of common stock at a price of $0.65 per share. The private placement was done exclusively by eight accredited investors, representing 4.0% of the total shares then outstanding. Prior to this transaction the company had 46,990,742 shares of common stock outstanding. Included in those shares are 769,231 shares to Nettlestone Enterprises Limited, 769,230 shares to RBC cees Nominees Limited, 150,000 shares to Stephen B. Brodeaur, 100,000 shares to Kenneth G. Eisner, 25,000 shares to Ernest Aloi and Joseph Aloi, 25,000 shares to Ernest Aloi and Catherine Aloi and 25,000 shares to Ernest Aloi and Karen Mauro. Such transactions were exempt from registration under Section 4(2) of the Securities Act and/or under Rule 506 of Regulation D.

On June 10, 2011, the Company raised $666,075 in a private placement of 1,024,731 shares of common stock at a price of $0.65 per share. The private placement was done exclusively by twelve accredited investors, representing 2.1% of the total shares then outstanding. Prior to this transaction the company had 48,931,046 shares of common stock outstanding. Included in those shares are 769,231 shares to the Southern California Gas Company, 100,000 shares to Giordano Venzi, 20,000 shares to Ioannis Retsos, 20,000 shares Vasileios Kakoulidis, 20,000 shares to Sandro Reginelli, 20,000 shares to Jean Skeparnias, 15,000 shares to Franco Venzi, 15,000 shares to Nicola Bianchi, 15,000 shares to Charlotte Maier, 15,000 shares to Fermin Alou, 10,000 shares to Stephano Venzi and 5,500 shares to Athanasios Kyranis. Such transactions were exempt from registration under Section 4(2) of the Securities Act and/or under Rule 506 of Regulation D.

On May 31, 2011, the Company raised $14,000 in a private placement of 20,000 shares of common stock at a price of $0.70 per share. The private placement was done by Michael Zuk, Jr. & Gayle Line Zuk JTWROS, an accredited investor representing 0.04% of the total shares then outstanding. Prior to this transaction the company had 49,955,777 shares of common stock outstanding. Such transaction was exempt from registration under Section 4(2) of the Securities Act and/or under Rule 506 of Regulation D.

On September 24, 2011, holders of the Company's convertible debentures elected to convert accrued interest of $72,959, into 145,917 shares of Common Stock at a conversion price of $0.50 per share. The conversion was done exclusively by three accredited investors, representing 0.3% of the total shares then outstanding. Prior to this transaction the company had 50,175,777 shares of common stock outstanding. Included in those shares are 25,895 shares to George N. Hatsopoulos, 60,011 shares to Paris and Aliki Nikolaidis, trustees for the John N. Hatsopoulos 1989 Family Trust f/b/o Nia Marie Hatsopoulos and 60,011 shares to Paris and Aliki Nikolaidis, trustees for the John N. Hatsopoulos 1989 Family Trust f/b/o Alexander John Hatsopoulos. Such transaction was exempt from registration under Section 3(a)(9) of the Securities Act and/or under Rule 506 of Regulation D.

On November 30, 2011, the Company raised $2,937,750 in a private placement of 3,672,188 shares of Common Stock at a price of $0.80 per share. The private placement was sold exclusively to three accredited investors representing 7.3% of the total shares then outstanding. Prior to this transaction the company had 50,321,694 shares of common stock outstanding. Included in those shares are 2,847,188 shares to RBC cees Nominees Limited, 625,000 shares to Nettlestone Enterprises Limited and 200,000 shares to Jeremy Benjamin. Such transactions were exempt from registration under Section 4(2) of the Securities Act and/or under Rule 506 of Regulation D.

Restricted Stock Grants

On May 4, 2009, the Company made a restricted stock grant to a consultant by granting him the right to purchase an aggregate of 50,000 shares of Common Stock at a price of $0.001 per share. Such transaction was exempt from registration under Section 4(2) of the Securities Act.

On September 15, 2010, the Company made restricted stock grants to three employees by permitting them to purchase an aggregate of 76,843 shares of Common Stock at a price of $0.001 per share. Such transactions were exempt from registration under Section 4(2) of the Securities Act.

On June 20, 2011, the Company made a restricted stock grant to an employee by granting him the right to purchase an aggregate of 200,000 shares of Common Stock at a price of $0.001 per share. Such transaction was exempt from registration under the Securities Act under Section 4(2).

Stock Options

On March 11, 2009, the Company granted nonqualified options to purchase 400,000 shares of Common Stock to two employees at $0.50 per share. The grant of such options was exempt from registration under Rule 701 under the Securities Act.

On February 18, 2010, the Company granted nonqualified options to purchase 100,000 shares of Common Stock to one employee at $0.65 per share. The grant of such options was exempt from registration under Rule 701 under the Securities Act.

On February 15, 2011, the Company granted nonqualified options to purchase 1,921,000 shares of the Common Stock to 28 employees at $0.65 per share. The grant of such options was exempt from registration under Rule 701 under the Securities Act.

No underwriters were involved in the foregoing sales of securities. All purchasers represented to us in connection with their purchase that they were accredited investors and made other customary investment representations. All of the foregoing securities were deemed restricted securities when granted for purposes of the Securities Act.

ITEM 16. EXHIBITS.

The exhibits to the Registration Statement are listed in the Exhibit Index attached hereto and incorporated by reference herein.

ITEM 17. UNDERTAKINGS.

(a) The undersigned registration hereby undertakes as follows:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material changes to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(ii) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A (§ 230.430A of this chapter), shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(h) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised 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. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will,

unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in Waltham, Massachusetts on April 27, 2012.

TECOGEN INC.

By: /s/ John N. Hatsopoulos
John N. Hatsopoulos
Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

The undersigned officers and directors of the Company hereby constitute and appoint John N. Hatsopoulos, Bonnie Brown and Anthony S. Loumidis, and each of them singly, with full power of substitution, our true and lawful attorneys-in-fact and agents to take any actions to enable the Company to comply with the Securities Act, and any rules, regulations and requirements of the SEC, in connection with this registration statement on Form S-1, including the power and authority to sign for us in our names in the capacities indicated below any and all further amendments to this registration statement and any other registration statement filed pursuant to the provisions of Rule 462 under the Securities Act.

Pursuant to the requirements of the Securities Act of 1933, this registration statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

April 27, 2012

Signature	Title	Date
/s/ Angelina M. Galiteva Angelina M. Galiteva	Chairman of the Board	April 27, 2012
/s/ John N. Hatsopoulos John N. Hatsopoulos	Chief Executive Officer (Principal Executive Officer) & Director	April 27, 2012

/s/ Bonnie J. Brown Bonnie J. Brown	Chief Financial Officer (Principal Financial and Accounting Officer)	April 27, 2012
/s/ George N. Hatsopoulos George N. Hatsopoulos	Director	April 27, 2012
/s/ Charles T. Maxwell Charles T. Maxwell	Director	April 27, 2012
/s/ Ahmed F. Ghoniem Ahmed F. Ghoniem	Director	April 27, 2012
/s/ Joseph E. Aoun Joseph E. Aoun	Director	April 27, 2012

EXIBIT INDEX

Exhibit Number	Description
3.1	Certificate of Incorporation as currently in effect.
3.2*	Certificate of Incorporation to be in effect upon effectiveness of this registration statement.
3.3	Bylaws as currently in effect.
3.4*	Bylaws to be in effect upon effectiveness of this registration statement.
4.1*	Specimen Common Stock Certificate of Tecogen Inc.
4.2	Form of Restricted Stock Purchase Agreement.
4.3#+	Form of Stock Option Agreement.
4.4#+	Indenture and Form of 6% Convertible Debenture Due 2004, dated September 24, 2001.
5.1*	Opinion of Sullivan & Worcester LLP.
10.4+	Tecogen Inc. 2006 Stock Incentive Plan, as amended on November 10, 2011.
10.5	Form of Tecogen Inc. Subscription Agreement for private placement of Common Stock.
10.6##	Facilities, Support Services and Business Agreement between American DG Energy Inc. and Tecogen Inc., dated January 1, 2006.
10.7##	General Motors LLC, Customer Care and Aftersales Agreement, dated November 15, 2011.
10.8#	Lease Agreement between Atlantic-Waltham Investment II, LLC, and Tecogen Inc., dated May 14, 2008.
10.9#+	Demand Note Agreement with John N. Hatsopoulos.
14.1	Code of Business Conduct and Ethics to be in effect upon effectiveness of this registration statement.
21.1	List of subsidiaries.
23.1#	Consent of McGladrey and Pullen LLP.
24.1	Power of Attorney (included on signature page).
99.1*	Audit Committee Charter.

99.2* Compensation Committee Charter.

99.3* Nominating and Governance Committee Charter.

*	To be filed by amendment
#	Filed herewith
##	Confidential treatment has been requested for portions of this document. The confidential portions will be omitted and filed separately, on a confidential basis, with the Securities and Exchange Commission.
+	Management contract or compensatory plan or arrangement.