

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

**FORM 10-K**

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

For the fiscal year ended December 31, 2024  
or

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

Commission file number 001-36103

**TECOGEN INC.**

(Exact name of Registrant as specified in its charter)

Delaware  
(State or Other Jurisdiction of Incorporation or Organization)

04-3536131  
(IRS Employer Identification No.)

76 Treble Cove Road, Bldg. 1  
North Billerica, Massachusetts 01862  
(Address of Principal Executive Offices and Zip Code)

(781) 466-6400  
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(g) of the Securities Exchange Act: **Common Stock, \$.001 par value per share**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes  No

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. Yes  No

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to (§240.10D-1(b)).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No

As of June 30, 2024, the last day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting and non-voting common equity held by non-affiliates was: \$13,555,089. Solely for purposes of this disclosure, shares of common stock held by executive officers and directors of the registrant have been excluded because such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 18, 2025, 24,985,261 shares of common stock, \$.001 par value per share, of the registrant were issued and outstanding.

#### **DOCUMENTS INCORPORATED BY REFERENCE**

Certain information required for Part III of this Annual Report on Form 10-K is incorporated by reference to Tecogen Inc.'s definitive proxy statement for its 2024 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, within 120 days following its fiscal year ended December 31, 2024.

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## CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K ("*report*") and the filings and other documents incorporated herein by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended ("*Securities Act*"), Section 21E of the Securities Exchange Act of 1934, as amended ("*Securities Exchange Act*"), the Private Securities Litigation Reform Act of 1995 and other federal securities laws that involve a number of risks and uncertainties. Forward-looking statements generally can be identified by the use of forward-looking terminology such as "believe," "expect," "anticipate," "intend," "plan," "estimate," "project," "target," "potential," "will," "should," "seek," "could," "likely," "may," "pro-forma," "anticipate," "continue" or other variations thereof (including their use in the negative), or by discussions of strategies, plans or intentions. All statements, other than statements of historical fact, included in this report regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects and plans and objectives of management are forward-looking statements.

The outcome of the events described in these forward-looking statements is subject to known and unknown risks, uncertainties and other factors that may cause us, our customers' or our industry's actual results, levels of activity, performance or achievements expressed or implied by these forward-looking statements to differ. See "*Item 1A. Risk Factors*," "*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations*," and "*Item 1. Business*," as well as other sections in this report that discuss some of the factors that could contribute to these differences.

In addition, such forward-looking statements are necessarily dependent upon assumptions and estimates that may prove to be incorrect. Although we believe that the assumptions and estimates reflected in such forward-looking statements are reasonable, we cannot guarantee that our plans, intentions, or expectations will be achieved. The information contained in this report, including the section discussing risk factors, identifies important factors that could cause such differences.

The cautionary statements made in this report are intended to be applicable to all related forward-looking statements wherever they appear in this report. The forward-looking statements made in this report relate only to events as of the date on which the statements are made. Except as required by law, we undertake no obligation to update or release any forward-looking statements as a result of new information, future events, or otherwise, and assume no obligation to update the reasons why actual results could differ materially from those anticipated in such forward-looking statements.

Our logo, trademarks and service marks are the property of Tecogen. Other trademarks or service marks appearing in this report are the property of their respective holders. Solely for convenience, the trademarks, service marks, trade names and copyrights referred to in this report may appear without the TM, SM, ® or © symbols, but such references are not intended to indicate in any way that we or any third-party will not assert, to the fullest extent under applicable law, their rights or the right of the applicable licensor to these trademarks, service marks, trade names and copyrights.

This report also contains or may contain market data related to our business and industry and any such market data may include projections that are based on certain assumptions. If these assumptions turn out to be incorrect, actual results may differ from the projections based on these assumptions. As a result, our markets may not grow at the rates projected by this data, or at all. The failure of these markets to grow at these projected rates may have a material adverse effect on our business, results of operations, financial condition, and the trading price of our common stock.

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**ANNUAL REPORT ON FORM 10-K  
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2024**

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**PART 1****Item 1. Business****The Company**

Tecogen Inc. (together with its subsidiaries, “we,” “our,” or “us,” or “Tecogen”) designs, manufactures, markets, and maintains high efficiency, ultra-clean cogeneration products including natural gas engine driven combined heat and power, chillers, air conditioning systems, and water heaters for multi-family residential, commercial, recreational and industrial use. We provide cost efficient, environmentally friendly and reliable products for distributed power generation that deliver substantial energy savings, resiliency from utility power outages, and nearly eliminate criteria pollutants including nitrogen oxide (“NOx”) and carbon monoxide (“CO”), significantly reducing customers’ carbon footprint.

Tecogen’s cogeneration systems (also known as combined heat and power or “CHP”) are efficient because they drive electric generators or compressors which reduce the amount of electricity purchased from the utility grid while recovering the engine’s waste heat for water heating, space heating, and/or providing cooling or air conditioning at the customer’s facility.

We were incorporated in the State of Delaware on September 15, 2000. We have wholly-owned subsidiaries American DG Energy, Inc. (“ADGE”) and Tecogen CHP Solutions, Inc., and we own a 51% interest in American DG New York, LLC (“ADGNY”), a joint venture. ADGE and ADGNY distribute, own, and operate clean, on-site energy systems that produce electricity, hot water, heat and cooling. ADGE and ADGNY own the equipment that is installed at customers’ facilities and sell the energy produced to the customer on a long-term contractual basis.

Our business operations is comprised of three business segments:

- *Products Segment* - designs, manufactures and sells industrial and commercial cogeneration systems;
- *Services Segment* - provides operations and maintenance (“O&M”) services for our products under long term service contracts; and
- *Energy Production Segment* - installs, operates and maintains distributed generation electricity systems that we own and sell the energy generated by such systems in the form of electricity, heat, hot water and cooling to our customers under long-term energy sales agreements.

*Products.* Typical customers for our cogeneration and chiller systems include hospitals and nursing homes, schools 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, indoor agriculture, military installations, and indoor growing facilities. Our refrigeration compressors are applied primarily to industrial applications that include cold storage, wineries, dairies, ice rinks and food processing.

Market drivers include the price of natural gas, local electricity rates, environmental regulations, and governmental energy policies, as well as customers’ desire to become more environmentally responsible. The majority of our customers are located in regions with the highest utility rates, typically California, the Midwest and the Northeast. We have shipped over 3,200 units, some of which have been operating for almost 35 years.

*Services.* Our Services business consists of maintenance services, primarily for our own CHP products, provided by our specialized technical staff through our factory service centers located in California, Connecticut, Florida, Massachusetts, Michigan, New Jersey, New York, and Toronto, Canada.

As of December 31, 2024, our Services business provided maintenance services for approximately 215 chillers and 1,046 cogeneration units pursuant to maintenance services agreements.

*Energy Production.* Our Energy Production business is conducted by our subsidiary American DG Energy Inc. (“ADGE”) which sells energy in the form of electricity, heat, hot water and cooling to customers under long-term energy sales agreements (typically with terms of 10 to 15 years). The typical sales model is to install and own energy systems in customers’ buildings and sell the energy produced by those systems back to the customers at a cost set by a negotiated formula in customer contracts.

As of December 31, 2024, ADGE owned 25 operational energy systems, representing an aggregate of approximately 1,195 kilowatts of electrical capacity from cogeneration units and 850 cooling ton capacity from chillers.

## Recent Developments

### *Vertiv Sales and Marketing Agreement - Data Center Cooling Market*

On February 28, 2025, we entered into a Sales and Marketing Agreement with Vertiv Corporation (“Vertiv”) relating to sales of Tecogen DTx chillers for data center cooling applications (the “Vertiv Agreement”). The Vertiv Agreement has a term of two years and provides that Vertiv will establish a budget for marketing activities and use commercially reasonable efforts to sell our DTx chillers for cooling applications in data centers. The Vertiv Agreement also provides the basis for the negotiation of a definitive supply agreement between us and Vertiv. We have agreed to provide Vertiv with reasonable discounts for purchases of significant volumes of our chillers, and Vertiv has agreed to use commercially reasonable efforts to assist us in securing favorable terms for engineering components and supplies for manufacturing our chillers. Pursuant to the Vertiv Agreement we have granted Vertiv the exclusive right to market and sell our DTx chillers for data center cooling applications outside the United States, and the non-exclusive right to market and sell our DTx chillers within the United States. We have also agreed to grant Vertiv the exclusive right to market and sell our DTx chillers for data center cooling applications in the United States if Vertiv achieves and maintains agreed sales levels of DTx chillers. The foregoing description of the Vertiv Agreement is not complete and is qualified in its entirety by reference to the full text thereof, a copy of which was filed as Exhibit 99.01 to our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2025, and incorporated herein by reference as Exhibit 10.30 hereto.

### *Assumption of Aegis Energy Services Maintenance Agreements*

On March 15, 2023, we entered into an agreement (“Agreement”) with Aegis Energy Services, LLC (“Aegis”) pursuant to which Aegis agreed to assign to us and we agreed to assume certain Aegis maintenance agreements, we agreed to purchase certain assets, and related matters (“Acquisition”). On April 1, 2023, the Acquisition closed. Under the Agreement, we agreed to acquire from Aegis and assume Aegis’ rights and obligations arising on or after April 1, 2023 under maintenance agreements pursuant to which Aegis provided maintenance services for approximately 200 cogeneration systems, and acquired certain vehicles and inventory used by Aegis in connection with the performance of such maintenance services, and following closing, hired eight (8) Aegis employees to provide services with respect to such maintenance agreements. At closing, we acquired eight (8) Aegis vehicles for consideration consisting of \$170,000 in cash. Also, we issued credits against outstanding accounts receivable due from Aegis in the amount of \$300,000 for the acquisition of inventory that Aegis used to provide maintenance services.

On February 1, 2024, Tecogen and Aegis amended the Agreement to add eighteen (18) additional maintenance service agreements (the “Amendment”). The Amendment includes an undertaking by Aegis to use commercially reasonable efforts to support and assist our execution of maintenance service agreements for an additional thirty-six (36) cogeneration units sold to customers by Aegis.

On May 1, 2024, Tecogen and Aegis amended the Agreement to add thirty-one (31) additional maintenance contracts (the “Second Amendment”). The Second Amendment includes an undertaking by Aegis to use commercially reasonable efforts to support and assist our execution of maintenance service agreements for an additional forty-eight (48) cogeneration units sold to customers by Aegis.

See Note 5. “Aegis Contract and Related Asset Acquisition” of the Notes to the Consolidated Financial Statements.

### *Facilities Relocation*

In April, 2024, we moved our manufacturing operations and corporate offices from 45 First Avenue, Waltham, Massachusetts to 76 Treble Cove Road, Building 1, North Billerica, Massachusetts. As a result of the relocation, product revenues were negatively impacted during 2024. The factory relocation also necessitated construction activities to install equipment test cells and comply with local regulations. We resumed manufacturing operations during the latter-half of the third quarter of 2024.

### *Impact of Anti-fossil Fuel Sentiment*

In some key markets such as New York City, the regulatory push to eliminate fossil fuels from buildings has impacted cogeneration unit sales. We believe that as regulations take into account scope 2 emissions and products like our hybrid chiller that can choose the cleanest fuel source will have a significant advantage in decarbonization efforts. The political environment following the 2024 elections in the United States may have a material impact on anti-fossil fuel sentiment and the regulatory environment that may be favorable to our business. We have also diversified our sales activities to reduce our reliance on markets like New York City.

### *Impact of Utility Power Constraints, Data Center Construction*

As more load is added to the utility grid in the form of data centers, EV charging, and other demands for power, customers are facing power constraints. Tecogen believes that these power constrained customers, in particular data centers and

industrial facilities, represent a significant opportunity for growth. The customer need is driven by the ability to expand an existing facility or open a new facility quickly while taking advantage of utility expense savings long term. Our chiller products can reduce the electrical capacity needed on-site by 30% or more. Our InVerde product can provide on-site power generation which allows customers to eliminate long lead times associated with electrical switch gear and bridge any short fall in power from the utility.

*Residual Impacts of Covid-19 Pandemic*

Supply chains were adversely impacted during Covid, resulting in significant delays or lack of availability of critical components such as engines. This has continued to have long term impact on product and service margins. The direct impact has been certain costs increasing faster than inflation. The indirect impact is from increased engine related costs in the service segment as replacements were deferred or overhauled components were used due to lack of parts. We have instituted a service price increase and have also been making engineering improvements to increase service intervals to increase gross margins.

*Tecochill Hybrid-Drive Air-Cooled Chiller Development*

During the third quarter of 2021, we began development of the Tecochill Hybrid-Drive Air-Cooled Chiller. We recognized that there were many applications where the customer wanted an easy to install roof top chiller. Using the inverter design from our InVerde e+ cogeneration module, the system can simultaneously take two inputs, one from the grid or a renewable energy source and one from our natural gas engine. This allows a customer to seek the optimum blend of operational cost savings and greenhouse gas benefits while providing added resiliency from two power sources. We introduced the Tecochill Hybrid-Drive Air-Cooled Chiller at the AHR Expo in February 2023 and received an order on February 8, 2024 for three hybrid-drive air-cooled chillers for a utility company in Florida. In March 2024, the US Patent and Trademark Office granted patent 11,936,327: "Hybrid Power System With Electric Generator and Auxiliary Power Source."

*Controlled Environment Agriculture*

On July 20, 2022, we announced our intention to focus on opportunities for the use of our cogeneration equipment in low carbon Controlled Environment Agriculture ("CEA"). We believe that CEA offers an exciting opportunity to apply our expertise in clean cooling, power generation, and greenhouse gas reduction to address critical issues affecting food and energy security.

CEA facilities enable multiple crop cycles (15 to 20 cycles) in one year compared to one or two crop cycles in conventional farming. In addition, growing produce close to the point of sale reduces food spoilage during transportation. Food crops grown in greenhouses typically have lower yields per square foot than in CEA facilities, and the push to situate facilities close to consumers in cities requires minimizing land area and maximizing yield per square foot. Yields are increased in CEA facilities by supplementing or replacing natural light with grow lights in a climate-controlled environment - which requires significant energy use.

In recent years, our cogeneration equipment has been used in numerous cannabis cultivation facilities because our systems reduce the facility's need for power, significantly reduce operating costs and the facility GHG footprint, and offer resiliency to grid outages. Our experience providing clean energy solutions to cannabis cultivation facilities has given us significant insight into requirements relating to energy-intensive indoor agriculture applications that we expect to be transferable to CEA facilities for food production.

*Impact of Geopolitical Tensions*

We have no operations or customers in Russia, the Ukraine, or in the Middle East. The higher energy prices for natural gas as a result of the war may affect the performance of our Energy Production Segment and the cost differential between grid generated energy and natural gas sourced energy using our cogeneration equipment. However, we have also seen higher electricity prices as much of the electricity production in the United States is generated from fossil fuels. If the electricity prices continue to rise, the economic savings generated by our products are likely to increase. In addition to the direct result of changes in natural gas and electricity prices, the war in Ukraine and the conflict in the Middle East may result in higher cybersecurity risks, increased or ongoing supply chain challenges, and volatility related to the trading prices of commodities.

*Impact of Tariffs*

The majority of our vendors are domestic. Although we have some exposure to Chinese and European suppliers, we do not anticipate any increases in tariffs to materially affect our operations.

*Related Party Notes*

On October 9, 2023, we entered into note subscription agreements with each of John N. Hatsopoulos and Earl R. Lewis, III, each a director and shareholder of Tecogen, pursuant to which Mr. Hatsopoulos agreed to provide financing to us of up to \$1 million, and Mr. Lewis agreed to provide financing to us of \$500,000, and at his discretion an additional \$500,000. On October 10, 2023, we borrowed \$500,000 from Mr. Hatsopoulos and issued a one-year promissory note with interest accruing at 5.12% per annum. On July 23, 2024, we borrowed an additional \$500,000 from Mr. Hatsopoulos, and executed a one-year promissory note with interest accruing at 5.06% per annum. On March 21, 2024, John H. Hatsopoulos amended the terms of the promissory note, dated October 10, 2023, extending the maturity date by one year, making the maturity date October 10, 2025. On September 18, 2024, we borrowed \$500,000 from Mr. Lewis and issued a one-year promissory note with interest accruing at 4.57% per annum.

On January 14, 2025 we agreed to permit Mr. Lewis to either receive repayment of his note in cash or, at his discretion, convert the balance of the promissory note into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance due under the promissory note by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

On February 18, 2025 we amended the promissory notes with Mr. Hatsopoulos to extend the maturity dates for both promissory notes to July 31, 2026. We also agreed to permit Mr. Hatsopoulos to either receive repayment of his notes in cash, or, at his discretion, convert the balances of one or both of the promissory notes into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance(s) due under the promissory note(s) by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

See Note 11. "Related Party Notes" of the Notes to the Consolidated Financial Statements.

**Overview of Our Business**

Our operations are comprised of three business segments. Our Products segment designs, manufactures and sells industrial and commercial cogeneration systems. Our Services segment provides O&M services for our products under long term service contracts. Our Energy Production segment sells energy in the form of electricity, heat, hot water and cooling to our customers under long-term sales agreements.

**Products**

Our products offer customers energy savings, resiliency and a cleaner environmental footprint. Our cogeneration, chiller, and heat pump systems use an engine to generate electricity or shaft work and recover the waste heat from the engine. Our systems are greater than 88% efficient compared to typical electrical grid efficiencies of 40% to 50%. As a result, our greenhouse gas (GHG) emissions are typically half that of the electrical grid. Our systems generate electricity and hot water or in the case of our Tecochill product, both chilled water and hot water. Our products are expected to run on Renewable Natural Gas (RNG) as it is introduced into the US gas pipeline infrastructure.

Our natural gas-powered cogeneration systems (also known as combined heat and power or "CHP") are efficient because they drive electric generators or compressors, which reduce the amount of electricity purchased from the utility while recovering the engine's waste heat for water heating, space heating, and/or air conditioning at the customer's building.

Our commercial product lines include:

- the InVerde e+<sup>®</sup> and TecoPower<sup>®</sup> cogeneration units that supply electricity and hot water;
- Tecochill<sup>®</sup> air-conditioning and refrigeration chillers that produce chilled water and hot water;
- Tecochill<sup>®</sup> hybrid-drive air-cooled chiller; gas engine-driven chillers that provide air conditioning and hot water;
- Tecofrost<sup>®</sup> gas engine-driven refrigeration compressors that circulate refrigerant and provide hot water as a byproduct; and,
- Ultera<sup>®</sup> emissions control technology.

Typical customers for our InVerde and TecoPower cogeneration products have a simultaneous need for electrical power and hot water. These include hospitals, nursing homes, schools, universities, health clubs, spas, hotels and motels, office and multi-unit residential buildings. Our Tecochill chiller products benefit customers who have a simultaneous need for cooling and hot water which is typical in sites such as hospitals, ice rinks, indoor agriculture and food processing. Our Tecofrost refrigeration compressors are applied primarily to industrial applications that include cold storage, wineries, dairies, ice rinks and food processing. The factors that drive the demand for such products include the price of natural gas, local electricity rates,

environmental regulations, and governmental energy policies, as well as customers' desire to become more environmentally responsible.

Our Tecochill and Tecofrost cooling and refrigeration products provide both cooling and make use of high-grade waste heat. This is of particular advantage in facilities that control both temperature and humidity. In such facilities, climate control is achieved by cooling the facility to remove humidity and then reheating to the required temperature. Using engine waste heat to perform the reheat while utilizing natural gas to generate the cooling provides significant economic and environmental benefits. As a result our products have significant competitive advantages in applications that operate year-round such as controlled environment agriculture, indoor ice rinks, and hospitals.

Our CHP products are designed as compact modular units that are intended to be installed in multiples. This approach has significant advantages over utilizing a single larger cogeneration or chiller unit, allowing placement in constrained urban settings and redundancy to mitigate service outages. Redundancy is particularly relevant in regions where the electric utility has formulated tariff structures that include high "peak demand" charges. Such tariffs are common in many areas of the country, and are applied by such utilities as Southern California Edison, Pacific Gas and Electric, Consolidated Edison of New York, and National Grid of Massachusetts. Because these tariffs are assessed based on customers' peak monthly demand charge over a very short interval, typically only 15 minutes, a brief service outage for a system comprised of a single unit can create a high demand charge, and therefore be highly detrimental to the monthly savings of the system. Multiple unit sites dramatically reduce the likelihood of a full system outage that would result in a high demand charge, giving customers with multiple units a greater probability of capturing peak demand savings.

Our products are sold directly to customers by our in-house marketing team and by established independent sales agents and representatives.

*Ultra Low Emissions Technology.*

All of our CHP products are available with the patented Ultra low-emissions technology as an equipment option. This breakthrough technology was developed in 2009 and 2010 as part of a research effort partially funded by the California Energy Commission and Southern California Gas Company in response to the changing regulatory requirements for stationary engines to economically remove air pollutants from engine exhaust. United States and foreign patents for the technology were granted beginning in October 2013 and additional domestic and foreign patents granted or applications are pending. Branded Ultra®, this ultra-clean emissions technology repositions our engine driven products in the marketplace, making them comparable environmentally with other technologies such as fuel cells, but at a much lower cost and greater efficiency.

Multiple Tecogen CHP modules fitted with the patented Ultra emissions control technology have been permitted under the current regulatory limits in the Los Angeles area for unrestricted operation, the first natural gas engines to do so without operating time limits or other exemption. These engines were permitted to levels matching the California Air Resources Board ("CARB") stringent 2007 emissions requirements, the same emissions standard used to certify fuel cells, and the same emissions levels as a state-of-the-art central power plant. As of December 31, 2024, our Ultra CHP, and fuel cell technologies, are the only technologies we are aware of that comply with California's air quality standards for CO and NOx, the world's strictest air quality standards.

We offer our Ultra emissions control technology as standard on all our products or as a stand-alone application for retrofitting other rich-burn spark-ignited reciprocating internal combustion engines such as the engine-generators described above. As demand response programs become more economically attractive and air quality regulations become more stringent, there could be increased demand for retrofitting standby generators with our Ultra emissions control technology to provide a cost-effective solution to keep the installed base of standby generators operational and in compliance with regulatory requirements. Our engine-generators have also been used in California to power dispersed loads in a fire-prone area where frequent de-energizing of the electric overhead power lines is required for safety.

**Services**

Through our factory service centers in California, Connecticut, Florida, Massachusetts, Michigan, New Jersey, New York, and Ontario, Canada, our specialized technical staff maintains our products via long-term service contracts. To date we have shipped over 3,200 units, some of which have been operating for almost 35 years. We established a service center in Toronto, Canada in August 2020 to support our existing fleet of chillers and cogeneration units including 26 cogeneration units sold in this territory during 2020 to serve public housing facilities.

We provide service maintenance contracts, parts sales, and installation for our products through a network of eleven well-established field service centers in California, the Midwest, the Northeast, the Southeast and in Toronto, Canada. These centers are staffed by our full-time technicians, working from local leased facilities which provide office and warehouse space

for inventory. Most of our service revenue is in the form of annual service contracts which typically provide all-inclusive “bumper-to-bumper” coverage, with service fees based on equipment operating hours for the relevant period. Customers are therefore invoiced in level, predictable amounts without unforeseen add-ons for unscheduled repairs or engine replacements.

We strive to maintain product service contracts for many years and work to maintain the integrity and performance of our equipment. Our products have 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 their “availability,” which is the amount of time a unit is running or is ready to run. In 2017, we improved our remote monitoring system capability through the introduction of a cloud-based system called CHPInsight. The CHPInsight platform allows us to collect, analyze and manage data regarding equipment operation continuously and in real time, providing improved insight into the functionality of our CHP fleet. Our factory service agreements have directly impacted these positive results and represent an important long-term annuity-like stream of revenue for us.

New equipment sold beginning in 2016 and select upgrades to the existing installed equipment fleet includes an industrial internet solution which enables Tecogen to collect, analyze, and manage valuable asset data continuously and in real-time. This provides the service team with improved insight into the functionality of our installed CHP fleet. Specifically, it enables the service department to perform remote monitoring and diagnostics and to view system results in real time via a computer, smart phone or tablet. Consequently, we can utilize monitoring data better, ensuring customers are capturing maximum possible savings and efficiencies from their installation. Through constant monitoring and analysis of equipment data, Tecogen expects to enhance the performance of installed equipment by ensuring machinery consistently operates at peak performance and is available to deliver maximum potential value for customers. In 2018, we migrated our cloud-based system from a third-party system to our CHP Insight® system developed in-house to access and store operating data on the cloud and provide user interface features specific to CHP operation as well as sophisticated data analysis tools.

### **Energy Production**

Our wholly owned subsidiary, ADGE, distributes, owns and operates clean, on-site energy systems that produce electricity, hot water, heat, and cooling. ADGE owns the equipment that it installs at customers' facilities and sells the energy produced by these systems to customers on a long-term contractual basis. ADGE utilizes energy equipment supplied by Tecogen and other cogeneration manufacturers. Our cogeneration systems produce electricity from an internal combustion engine driving a generator, while the heat from the engine and exhaust is recovered and typically used to produce heat and hot water for use on-site. ADGE also distributes and operates water chiller systems for building cooling applications that operate in a similar manner, except that the engines in the water chiller systems drive a large air-conditioning compressor while recovering heat for hot water.

Cogeneration systems reduce the amount of electricity that a customer must purchase from the local utility and produce valuable heat and hot water on-site to use as required. By simultaneously providing electricity, hot water, and heat, cogeneration systems also have a significant positive impact on the environment by reducing the carbon dioxide, or CO<sub>2</sub>, produced by replacing a portion of the traditional energy supplied by the electric grid and conventional hot water boilers. Distributed generation of electricity, or DG, often referred to as cogeneration systems or combined heat and power systems, or CHP, is an attractive option for reducing energy costs and increasing the reliability of available energy.

We believe that the primary opportunity for our cogeneration and chiller DG systems are in regions of the U.S. where commercial electricity rates range between \$0.14 and \$0.28 per kW hour, or kWh, which are predominantly in the Northeast, Mid-Atlantic, Florida, California, and parts of Canada. Attractive DG economics are currently attainable in applications that include hospitals, nursing homes, multi-tenant residential housing, hotels, schools and colleges, recreational facilities, food processing plants, dairies, and other light industrial facilities. We also believe that the largest number of potential DG users in the U.S. require less than 1 MW of electric power and less than 1,200 tons of cooling capacity. We are able to design our systems to suit a particular customer's needs because of our ability to place multiple units at a site. This approach is part of what allows our products and services to meet changing power and cooling demands throughout the day (also from season-to-season) and greatly improves efficiency.

Our Energy Production segment sells energy in the form of electricity, heat, hot water and cooling to our customers under long-term sales agreements which represented 9.3% of our consolidated revenues for the years ended December 31, 2024 and 2023. See Note 18. "Segments" of the Notes to the Consolidated Financial Statements.

### **Sales & Distribution**

Our products are sold directly to end-users by our sales team and by established independent sales agents and representatives. We have entered into agreements with manufacturers' representatives and outside sales representatives who are

compensated on a commission basis for designated territories and product lines. During the years ended December 31, 2024 and December 31, 2023, no customer accounted for more than 10% of our revenues. We typically sell our chiller products through our manufacturing representatives with assistance from our internal sales team. Our combined heat and power products are typically sold direct to end customers by our internal sales team.

### Markets and Customers

Worldwide, stationary power generation applications vary from huge central stationary generating facilities (traditional electric utility providers) to back-up generators as small as 2 kW. Historically, power generation in most developed countries such as the United States has been part of a regulated central utility system utilizing high-temperature steam turbines powered by fossil-fuels. This turbine technology, though steadily refined over the years, reached a maximum efficiency (where efficiency means electrical energy output per unit of fuel energy input) of approximately 40% to 50%.

Distributed power generation (“DG”) has been successfully implemented by others in large industrial installations over 10 Megawatts (“MW”), where the market has been growing for a number of years and is increasingly being accepted in smaller sized units because of technology improvements, increased energy costs, and better DG economics. We believe that our target market for DG, users of up to 1 MW, has been barely penetrated and that the reduced reliability of the utility grid and increasing cost pressures experienced by energy users will drive our near-term growth and penetration of this market.

Most potential new customers in the U.S. require less than 1 MW of electric power and less than 1,200 tons of cooling capacity. We are targeting customers in states with high electricity rates in the commercial sector, such as California, Connecticut, Massachusetts, New Hampshire, New Jersey, and New York. Most of these states also have high peak demand rates, which favor utilization of our modular units in groups so as to assure redundancy and peak demand savings. Governmental agencies in some of these regions may also provide generous rebates that can improve the economic viability of our systems.

Developments related primarily to the deregulation of the utility industry as well as significant technological advances have broadened the range of power supply choices available to all types of customers. Cogeneration, which harnesses waste energy from power generation processes and puts it to work for other uses on-site, can boost the energy conversion efficiency to nearly 90%, a better than two-fold improvement over the average efficiency of a fossil fuel plant. Generating power at the point of consumption rather than through central plants eliminates the cost, complexity, inefficiency, and risks associated with electric transmission and distribution. The implications of the CHP distributed generation approach are significant. Management believes that if cogeneration were applied on a large scale, global fuel usage might be dramatically curtailed and the utility grid made more resilient.

Our CHP products address inherent inefficiency limitations of central power plants by siting generation closer to the loads being served. This allows customers with energy intensive building or processes to reduce energy costs and operate with a lower carbon footprint. Furthermore, with technology we have introduced, like the Ultera low-emissions technology, our products can now contribute to better air quality at the local level while complying with the strictest air quality regulations in the United States.

Cogeneration and chiller products can often reduce the customer’s operating costs (for the portion of the facility loads to which they are applied) by approximately 30% to 60% based on management estimates, which provides an excellent rate of return on the equipment’s capital cost in many areas of the country with high electricity rates. Our chillers are especially suited to regions where utilities impose extra charges during times of peak usage, commonly called “demand” charges. In these cases, the gas-fueled chiller reduces the use of electricity during the summer, the costliest time of year.

On-site CHP not only eliminates the loss of electric power during transmission but also offsets the capital expense of upgrading or expanding the utility infrastructure. Decentralizing power generation or reducing energy requirements at a customer’s site not only relieves the capacity burden on existing power plants, but also lessens the burden on transmission and distribution lines. This ultimately improves the grid’s reliability and reduces the need for costly upgrades.

Traditional markets for CHP systems are buildings with long hours of operation and with corresponding demand for electricity or cooling and heat. Traditional customers for our cogeneration systems include controlled environment agriculture, hospitals, nursing homes, colleges, universities, health clubs, spas, hotels, 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, refrigeration compressors and heat pumps overlap with those for our cogeneration systems. Engine-driven chillers are often used as replacements for aging electric chillers because they both occupy similar amounts of floor space and require similar maintenance schedules. This is also the case with refrigeration compressors.

The Inflation Reduction Act of 2022 increased Federal tax credits, including the investment tax credit (ITC), to up to thirty percent (30%) of the project cost for projects incorporating certain low emission technologies, including CHP equipment, that begin construction before January 1, 2025 and provides for an additional ten percent (10%) credit if the taxpayer satisfies additional requirements relating to domestic content. State and local governments and tax-exempt entities may also benefit from certain tax credits through direct payments or transfers of tax credits to unrelated third parties. This particular new direct pay option is especially impactful given the fact that many ideal facilities for CHP systems are not-for-profit, including many healthcare and hospital facilities, schools and universities, as well as recreation centers. These customers historically have not been able to benefit from previous iterations of the ITC. Under the federal definition for CHP systems, all of our products, including our air-conditioning and cooling models (Tecochill and Tecofrost) qualify for the tax credit when heat recovery is incorporated into the system design.

As more load is added to the utility grid in the form of data centers, EV charging, and other demands for power, customers are facing power constraints. We believe that these power constrained customers, in particular data centers and industrial facilities represent a significant new market for growth opportunity.

### **Competition**

The markets for our products are highly competitive, although we believe that we offer customers a suite of premier best-in-class clean energy and thermal solutions.

#### *InVerde and Tecopower*

Our combined heat and power products that produce electricity and hot water compete with the utility grid, existing technologies such as other reciprocating engines and microturbine CHP systems, and other emerging distributed generation technologies including solar power, wind-powered systems, and fuel cells. Our products are highly competitive between 60KW and 1.5MW in electrical generation capacity. In this size range we have other reciprocating engine competitors, although we have strong competitive advantages when it comes to ease of utility interconnection, ease of installation in tight spaces and our microgrid capabilities. We believe that Capstone Turbine Corporation is the only microturbine manufacturer with a commercial presence in CHP.

Although operating solar and wind powered systems produce no emissions, the main drawbacks to these renewable powered systems are their dependence on weather conditions, their need for energy storage systems or reliance on backup utility grid-provided power, and high capital costs that can often make these systems uneconomical without government subsidies. Similarly, while the market for fuel cells is still developing, a number of fuel cell companies are focused on markets similar to ours. Fuel cells, like solar and wind powered systems, have received higher levels of incentives for the same type of applications as CHP systems in many territories. We believe that, notwithstanding these higher government incentives, our CHP solutions provide a better value and more robust solution to end users in most applications.

Additionally, our patents relating to the Ultera ultra-low emissions technology give our products a strong competitive advantage in markets where severe emissions limits are imposed or where very clean power is favored, such as New Jersey, California, and Massachusetts.

Overall, we compete with end users' other options for electrical power, heating, and cooling on the basis of our technology's ability to:

- Provide a more efficient solution that results in operational savings for a facility's energy needs including cooling, electricity and hot water;
- Provide power when a utility grid is not available or goes out of service;
- Reduce emissions of criteria pollutants (NOx and CO) to near-zero levels and cut the emission of greenhouse gases such as carbon dioxide due to increased efficiencies compared to the electric grid;
- Provide reliable on-site power generation, heating and cooling services.

We believe that no other company has developed a product that provides the features and benefits provided by our inverter-based InVerde e+, which offers UL-certified grid connection and sophisticated off-grid and microgrid capabilities. An inverter-based product with at least some of these features has been introduced by others, but we believe that they face serious challenges in duplicating all the unique features of the InVerde e+. Competitors' product development time and costs could be significant. We have exclusive license rights to Microgrid algorithms developed by the University of Wisconsin researchers through July 26, 2027. We have exclusive rights for engine-driven systems utilizing natural gas or diesel fuel in the application of power generation where the per-unit output is less than 500kW. The software allows our products to be integrated as a Microgrid, where multiple InVerde e+ units can be seamlessly isolated from the main utility grid in the event of an outage and re-connected to it afterward. We expect that our patents and license for Microgrid software will deter others from offering certain important functions. See "*Business-Intellectual Property*."

Similarly, in the growing Microgrid segment, neither fuel cells nor microturbines can respond to changing energy loads when the system is disconnected from the utility grid. Engines such as those used in our equipment inherently have a fast-dynamic response to step load changes, which is why they are the primary choice for emergency generators. Fuel cells and microturbines require additional energy storage systems to be utilized for time-limited off-grid operation, giving our engine-driven solutions an advantage for Microgrid and resiliency applications.

#### *Tecochill Chillers*

Our Tecochill line of chillers are the only gas-engine-driven chillers available on the market. Natural gas can also fuel absorption chillers, which use fluids to transfer heat without an engine drive. However, engine driven chillers continue to have an efficiency advantage over absorption machines. Tecochill chillers reach efficiencies well above levels achieved by similarly sized absorption systems. Low natural gas prices in the United States improve the economics of natural gas-fueled chillers while their minimal electric demand on backup power systems make them ideal for facilities requiring critical precision climate control. In 2023, we expanded our Tecochill range of products with the introduction of a hybrid air cooled chiller based on the inverter design used in the InVerde. The hybrid-drive air-cooled chiller will take simultaneous inputs from the electrical grid and the natural gas engine so that it can operate with the lowest cost and/or greenhouse gas footprint at any time based on changing conditions. We anticipate initial delivery of our hybrid air cooled chiller in the first half of fiscal 2025.

#### **Research & Development**

Our long and rich research and development tradition and sustained programs have allowed us to cultivate deep engineering expertise. We have strong core technical knowledge that is critical to product support and continuous product improvement efforts. Our TecoDrive engine, permanent magnet generator, cogeneration and chiller products, InVerde, pumps, Ultra emissions control system, and our hybrid-drive air-cooled chiller were all created and optimized in-house with support from third-parties.

We continue to seek alliances with utilities, government agencies, universities, research facilities, and manufacturers. We have succeeded in developing new technologies and products in collaboration with several entities, including:

- Sacramento Municipal Utility District has provided test sites to us since 2010.
- Southern California Gas Company and San Diego Gas & Electric Company, each a Sempra Energy subsidiary, have granted us research and development contracts since 2004.
- Department of Energy's Lawrence Berkeley National Laboratory, with whom we have had research and development contracts since 2005, including ongoing Microgrid development work related to the InVerde.
- Eastern Municipal Water District in Southern California has co-sponsored demonstration projects to retrofit both a natural-gas powered municipal water pump engine and a biofuel powered pumping station engine with the Ultra low emissions technology since 2012.
- Consortium for Electric Reliability Technology Solutions executed research and development contracts with us, and has provided a test site to us since 2005.
- California Energy Commission with whom we had a research and development contract from 2004 until March 2013.
- The AVL California Technology Center performed a support role in research and development contracts as well as internal research and development on our Ultra emission control system from August 2009 to November 2011. In addition, the Center supported our research on emissions from gasoline vehicles from January of 2016 through October 2017. AVL researchers collaborated with our engineers on several peer reviewed papers published by technology association SAE International in 2017 and 2018.

Also, we continue to leverage our resources with government and industry funding, which has yielded a number of successful developments, including the Ultra low-emissions technology, sponsored by the California Energy Commission and Southern California Gas Company. Pursuant to the terms of the grants from the California Energy Commission, the California Energy Commission has a royalty-free, perpetual, non-exclusive license to these technologies for government purposes.

Our current internal R&D efforts are focused on the hybrid-drive air-cooled chiller that utilizes the basic inverter design used in the InVerde e+. Management believes that this chiller will address a significant market segment that is currently not addressed by our existing Tecochill product. For the years ended December 31, 2024 and 2023, we spent \$961,837 and \$840,011, respectively, on research and development activities.

## Intellectual Property

Currently, we hold thirteen United States patents for our technologies:

- 10,774,720: "NOx Reduction Without Urea Using a Dual-Stage Catalyst System with Intercooling in Vehicle Gasoline Engines." This patent, granted in September 2020, improves the removal of Non-Methane Organic Gases (NMOG) and Carbon Monoxide (CO) from vehicle emissions. The improved performance, consisting of up to 90% reductions in NMOG and CO results from increased oxidation of NMOG and CO due to a lower temperature environment in the second stage catalyst.
- 10,774,724: "Dual Stage Internal Combustion Engine Aftertreatment System Using Exhaust Gas Intercooling and Charger Driven Air Ejector." This patent, granted in September 2020, relates to the use of turbo compressors and exhaust gas intercoolers in turbocharged engines to reduce the complexity and cost of Ultra emissions reduction systems.
- 9,995,195: "Emissions control systems and methods for vehicles." This patent, granted in June 2018, is a method for vehicle cold start to enhance the removal of CO and hydrocarbons emissions, which are extremely problematic for cold engines. Air is injected in the exhaust between the engine's close-coupled catalyst and underbody catalyst. Once the engine is warmed (> 500 F exhaust) this air stream is shut off. This method synergizes well with the Ultra system by utilizing the injection air feed for an alternative purpose during engine start.
- 9,956,526: "Poison-Resistant Catalyst and Systems Containing Same." This patent, granted in May 2018, relates to a special catalyst formulation that is resistant to contaminant induced corrosion in conditions like those of the Ultra second stage. These poisons or contaminants are most commonly sulfur compounds.
- 9,702,306: "Internal Combustion Engine Controller." This patent granted in July of 2017 relates to the unique control methodology used in the InVerde e+ CHP unit that maximizes engine fuel economy under variable speed operation.
- 9,470,126: "Assembly and method for reducing ammonia in exhaust of internal combustion engines." This patent, granted in October 2016, is related to the Ultra emission control system applicable to all our products.
- 9,856,767: "Systems and methods for reducing emissions in exhaust of vehicles and producing electricity." This patent, filed in November 2015 and published in March 2016, relates to the development of the Ultra emission control system for vehicle applications.
- 9,121,326: "Assembly and method for reducing nitrogen oxides, carbon monoxide and hydrocarbons in exhausts of internal combustion engines." This patent, granted in September 2015, is related to the Ultra emission control system applicable to all our products.
- 9,631,534: "Assembly and Method for reducing nitrogen oxides, carbon monoxide, hydrocarbons and hydrocarbon gas in exhausts of internal combustion engines and producing and electrical output." This patent granted in April 2017, is related to the Ultra emission control system applicable to all our products.
- 8,578,704: "Assembly and method for reducing nitrogen oxides, carbon monoxide, and hydrocarbons in exhausts of internal combustion engines." This patent, granted in November 2013, is for the Ultra emission control system applicable to all our products.
- 7,243,017: "Method for controlling internal combustion engine emissions." This patent, granted in July 2007, applies to the specific algorithms used in our engine controller for metering fuel usage to obtain the correct combustion mixture and is technology used by most of our engines.
- 7,239,034: "Engine driven power inverter system with cogeneration." This patent granted in July 2007, pertains to the utilization of an engine-driven CHP module combined with an inverter and applies to our InVerde product specifically.
- 11,936,327: "Hybrid Power System With Electric Generator and Auxiliary Power Source." This patent, granted in March 2024, pertains to joining two power sources to optimize power use from the grid or another source by way of a proprietary DC-DC voltage converter, inverter and controller circuits.

Our patents expire between 2025 and 2042.

In addition, we have licensed specific rights to Microgrid software algorithms developed by University of Wisconsin researchers for which we pay royalties to the assignee, The Wisconsin Alumni Research Foundation (WARF). Pursuant to U.S. Patent 7,687,937, and titled “Control of Small Distributed Energy Resources”, granted in 2010 and expires on July 26, 2027. Our exclusive rights are for engine-driven systems utilizing natural gas or diesel fuel in the application of power generation where the per-unit output is less than 500 kW. The software allows our products to be integrated as a Microgrid, where multiple InVerde units can be seamlessly isolated from the main utility grid in the event of an outage and re-connected to it afterward. The licensed software allows us to implement such a Microgrid with minimal control devices and associated complexity and cost. We consider the Microgrid software algorithm licensed from WARF to be a key feature of our InVerde product, and one that would be difficult to duplicate outside the patent. We pay WARF a royalty for each cogeneration module sold using the licensed technology. Such royalty payments have been in the range of \$5,000 to \$15,000 on an annual basis through the year ended December 31, 2024. In addition, WARF reserved the right to grant non-profit research institutions and governmental agencies non-exclusive licenses to practice and use, for non-commercial research purposes, the technology developed by us that is based on the licensed software.

We consider our patents and licensed intellectual property to be important in the operation of our business. The expiration, termination, or invalidity of one or more of these patents may have a material adverse effect on our business.

One other company has developed a product that seeks to compete with our inverter-based InVerde, although it does not offer all of the same benefits and features offered by our InVerde products. We anticipate that an inverter-based product with at least some of the features offered by our InVerde products will be introduced by others, but we believe that our competitors will face serious challenges in duplicating the InVerde and that product development time and costs would likely be significant.

In 2013, we purchased rights to designs and technology, including patents granted or pending for our permanent magnet generators. A key component of our InVerde module uses this acquired technology.

Our patents for the Ultra low-emissions control technology applies to all our gas engine-driven products and may have applications to other rich-burn spark-ignited internal combustion engines. We have been granted patents for this technology in Europe, Australia, Brazil, Canada, Japan, Mexico, Korea and Singapore.

#### *Copyrights*

Our control software is protected by copyright laws or through an exclusive license agreement.

#### *Trademarks*

We have registered the brand names of our equipment and logos used on our equipment. These registered and pending trademarks include Tecogen, Tecochill, Tecopower, Ultra, InVerde, InVerde e+ and the associated logos. We will continue to trademark our product names and symbols.

We rely on treatment of our technology as trade secrets through confidentiality agreements, which our employees and vendors are required to sign. Also, we rely on non-disclosure agreements with others that have or may have access to confidential information to protect our trade secrets and proprietary knowledge.

#### **Sourcing & Manufacturing**

We are focused on continuously strengthening our manufacturing processes and increasing operational efficiencies. Many of the components used in the manufacture of our highly-efficient clean energy equipment are readily fabricated from commonly available raw materials or are standard available parts sourced from multiple suppliers. We believe that adequate supplies exist to meet our near to medium term manufacturing needs. We have an on-going focus on developing and implementing new systems to simplify our manufacturing processes, product sourcing methods, and our supply chain.

On March 31, 2023, we entered into two lease agreements for two adjacent buildings, located in North Billerica, Massachusetts, containing approximately 26,412 square feet of manufacturing, storage and office space to serve as our headquarters and manufacturing facilities. In April, 2024, we relocated our manufacturing operations and corporate offices to 76 Treble Cove Road, North Billerica, MA. We have a total of approximately 21,000 square feet of manufacturing and warehouse space at the North Billerica, Massachusetts facility. The lease agreements which commenced on January 1, 2024, provide for initial lease terms of five (5) years, expiring on December 31, 2028, with two successive options to renew for additional terms of five (5) years.

#### **Government & Regulation**

Several kinds of federal, state and local government regulations affect our products and services, including but not exclusive to:

- product safety certifications and interconnection requirements;

- air pollution regulations which govern the emissions allowed in engine exhaust;
- state and federal incentives for CHP technology;
- various local building and permitting codes and third-party certifications;
- electric utility pricing and related regulations; and
- federal and state laws regarding the legalization of cannabis for medicinal and recreational use.

Our markets can be positively or negatively impacted by the effects of governmental and regulatory matters. We are impacted not only by energy policy, laws, regulations and incentives of governments in the markets in which we sell, but also by rules, regulations and costs imposed by utilities. Utility companies or governmental entities may place barriers on the installation or interconnection of our products with the electric grid. Further, utility companies may charge additional fees to customers who install on-site power generation to reduce the electricity they take from the utility and to preserve electric capacity available 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 product or increase the cost to our potential customers for using our systems. This could make our systems less desirable, adversely impacting our revenue and profitability. In addition, utility rate reductions can make our products less competitive, causing a material adverse effect on our operations. These costs, incentives and rules are not always the same as those faced by technologies with which we compete.

Similarly, rules, regulations, laws and incentives could also provide an advantage to our distributed generation solutions as compared with competing technologies because they enable compliance in a lower cost, more efficient manner with reduced emissions and higher fuel efficiency which helps our customers combat the effects of global warming. We may benefit from increased government regulations that impose tighter emission and fuel efficiency standards. We encourage investors and potential investors to carefully consider the risks described under "Item 1A. Risk Factors" below regarding various aspects of the regulatory environment and other related risks.

Our products are well-suited to meet the needs of the rapidly emerging indoor agriculture market, including cannabis and other high volume leafy greens. To date our focus in the indoor agricultural market has primarily involved cannabis, a product with high revenue generating potential. However, we have sold to other indoor agricultural growers, and we believe that the indoor food production market will provide significant opportunities for us. The indoor agriculture market in particular has the potential to be a major driver of growth as states move to legalize the use of cannabis for medicinal purposes and recreational use. However, under the Controlled Substances Act (CSA) cannabis continues to be categorized as a Schedule I drug, so that cannabis growers continue to face significant uncertainty regarding their ability to conduct business.

First passed by Congress in 2014, the Rohrabacher-Farr Amendment is an amendment to the annual appropriations bill that, among other things, funds the Department of Justice. It prohibits the US Attorney General from using funds to prosecute the medical use of cannabis. It does not address recreational use. On January 4, 2018, US Attorney General Jeff Sessions rescinded the Cole memo. Written in 2013, the Cole memo had directed US Attorneys not to allocate resources to prosecute "individuals whose actions are in clear and unambiguous compliance with existing state laws" regarding the cannabis market. As of the date of the filing of this report, we are not aware of any US Attorney who has taken action against participants in the recreational cannabis market operating in accordance with state law. The uncertainty we face regarding the potential for growth from the sales to the cannabis industry is due in part to uncertainty regarding prosecutorial priorities of the current Presidential administration as well as the ability of cannabis growers to obtain funding in an environment where national bankers are not permitted to fund cannabis growth facilities.

Our Energy Production segment is subject to extensive government regulation. We are required to file for local construction permits (electrical, mechanical and the like) and utility interconnects, and are required to make various local and state filings related to environmental emissions.

In the past, many electric utility companies have raised opposition to distributed generation of energy, a critical element of our business model. Such resistance has generally taken the form of stringent standards for interconnection and the use of target rate structures as disincentives to combined generation of on-site power and heating or cooling services. A distributed generation facility's ability to obtain reliable and affordable back-up power through interconnection with the grid is essential to our business model. Utility policies and regulations in most states often do not accommodate widespread on-site generation. Barriers erected by electric utility companies and unfavorable regulations, where applicable, make our ability to connect to the electric grid at customer sites more difficult or uneconomic and is an impediment to the growth of our business. The development of our business could be adversely affected by any slowdown or reversal in the utility deregulation process or by difficulties in negotiating back-up power supply agreements with electric providers in the areas where we seek to do business.

## Environmental Matters

We are regulated by federal, state and international environmental laws governing our use, transport and disposal of substances and control of emissions. In addition to governing our manufacturing and service operations, these laws often impact the development of our products, including, but not limited to, required compliance with air emissions standards applicable to internal combustion engines. We have made, and will continue to make, the necessary research and development and capital expenditures to comply with these emissions standards.

## Human Capital Resources

We believe our success in delivering energy efficient, ultra clean cogeneration systems, chillers and energy production services relies on our culture, values, and the creativity and commitment of our people. We strive to maintain healthy, safe, and secure working conditions and a workplace where our employees are treated with respect and dignity. Our vision is to create an inclusive, diverse and authentic community that inspires collaboration, integrity, engagement, and innovation. We are striving to create employee experience that offers opportunity for personal and professional growth, and enables work-life balance that aligns with our core values.

### *Employee Health and Safety*

Employee health and safety continues to be a priority in every aspect of our business. We have taken a common-sense approach to safety that helps us understand and reduce hazards in our business. Training, risk assessment, safety coaching, and employee engagement are all programs that help us consistently manage our facility and employee safety. As resources are available, we expect to continue to expand and evolve our safety programs to better meet our employee needs and workplace conditions as our business grows.

We understand the benefits of employee health and safety and continue to invest in programs, products, and resources. We also understand the environment of trust and fairness that exists when information is openly shared. We also continue to invest in products and services to meet the health and safety needs of our customers and communities.

### *Talent Acquisition and Development*

Our values are integral to our employment process and serve as guideposts for leadership. The ultimate goal is straightforward: find great people, ask them to join, and give them a reason to stay. Reasons include fair compensation, a complete array of employee benefits to include: health, dental and life insurance; short-term and long-term disability insurance; HSA account funding; generous time off benefits; and the grant of options or awards to purchase shares of our common stock. We use web-based training for all of our employees.

### **Employees**

As of December 31, 2024, we employed 91 full-time employees and 1 part-time employee, including 5 sales and marketing personnel, 61 service personnel, 17 manufacturing personnel and 9 finance and administrative personnel. Eleven of our New Jersey service employees are represented by a collective bargaining agreement which expires on December 31, 2025 and thereafter renews annually unless terminated by either party by written notice within sixty days prior to the expiration date.

## Working Capital Requirements

Our ability to maintain sufficient working capital is highly dependent upon achieving expected operating results and cash flows. Failure to achieve the operating results could have a material adverse effect on our working capital, our ability to obtain financing, and our operations in the future.

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles assuming that we will continue as a going concern, which contemplates the realization of assets and the settlement of obligations in the normal course of business. As of December 31, 2024, our cash and cash equivalents were \$5,405,233, compared to \$1,351,270 at December 31, 2023, an increase of \$4,053,963. For the year ended December 31, 2024 we generated \$4,060,547 in cash from operations and net operating losses of \$4,534,087, due to a decrease in Products revenue and gross margin. Working capital at December 31, 2024 was \$5,329,650, compared to \$9,822,546 at December 31, 2023, a decrease of \$4,492,896, and our accumulated deficit was \$47,639,894.

As a result of the above factors, management has performed an analysis to evaluate our ability to continue as a going concern for one year after the financial statements issuance date. Management's analysis includes forecasting future revenues, expenditures and cash flows, taking into consideration past performance as well as key initiatives recently undertaken. Our forecasts are dependent on our ability to maintain margins based on the our ability to close on anticipated new business, leverage existing working capital, and effectively manage expenses. Anticipated new business includes the sale of newly developed hybrid-drive air-cooled chillers and the acquisition of additional maintenance service contracts in February 2024 and

May 2024 (see Note 5. "Aegis Contract and Related Asset Acquisition"). We also anticipate the expansion of markets served by our chiller products into the data center market, which is currently experiencing power constraints.

Our backlog at December 31, 2024 was \$12,336,248. We have drawn \$1,500,000 under the note subscription agreements with related parties (see Note 11. "Related Party Notes") to finance our facilities move to North Billerica, Massachusetts, continued development of the hybrid-drive air-cooled chiller product, and marketing expenses associated with identifying opportunities in the data center market.

Based on management's analysis, we believe that cash flows from operations will be sufficient to fund operations over the next twelve months.

Our liquidity and cash flows are discussed in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

#### **Available Information**

Our internet website address is <http://www.tecogen.com>. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other reports and filings with the SEC are available free of charge on our website as soon as reasonably practicable after the reports are filed with, or furnished to, the SEC. Information contained on our website is not incorporated by reference into this Annual Report on Form 10-K or our other securities filings with the SEC. The SEC maintains an internet website at [www.sec.gov](http://www.sec.gov) which contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

#### **Item 1A. Risk Factors**

*Our business operations, financial condition, results of operations and stock price may be affected by a number of factors. In addition to the other information in this Annual Report on Form 10-K, the following factors and the information contained under the heading "Cautionary Note Concerning Forward-Looking Statements" should be considered in evaluating our company and our business. The risks described below may not be the only risks we face. Additional risks that we do not yet know of, or that we currently think are immaterial, may also impair our business operations or financial results. If any of the events or circumstances described in the following risk factors occur, our business, financial condition and results of operations could suffer and the trading price of our common stock could decline.*

#### **Risks Relating to Our Business and Financial Condition**

##### **Our operating history is characterized by losses and there can be no assurance we will be able to increase our sales and sustain profitability in the future.**

We have historically incurred annual net losses, including net loss of \$4,760,238 in 2024. We have an accumulated deficit as of December 31, 2024 of \$47,639,894 and working capital of \$5,329,650. Our business is capital intensive and, because our products generally are built to order with customized configurations, the lead time to build and deliver a unit can be significant. We may be required to purchase key components long before we can deliver a unit and receive payment. Changes in customer orders or lack of demand may also impact our profitability. There can be no assurance we will be able to increase our sales and achieve and sustain profitability in the future.

**We may need to raise additional financing if the cash generated from our operations is insufficient to fund our continued operations, which additional capital may result in restrictions on our operations or substantial dilution to our stockholders, and which capital may not be available to us or on terms acceptable to us or at all.**

During the year ended December 31, 2024, our revenues were negatively impacted due to supply chain issues, project deferrals and the reduced manufacturing capacity due to our plant relocation in 2024.

During 2024, we have funded our operations through cash generated from our operations and through financing transactions, including related party loans from our directors. See Note 11. "Related Party Notes" of the Notes to the Consolidated Financial Statements. We cannot be certain if our operations will generate sufficient cash to fund our ongoing operations or the growth of our business. To the extent cash generated from operations in the future is insufficient to fund our operating requirements, we will be required to seek additional outside financing. Our inability to obtain necessary capital or financing to fund these working capital needs may adversely affect our ability to expand our operations.

Our business is capital intensive and, because our products are built to order with customized configurations, the lead time to build and deliver a unit can be significant. We may be required to purchase key components long before we can deliver a unit and receive payment. Changes in customer orders or lack of demand may also impact our profitability. There can be no assurance we will be able to increase our sales and achieve and sustain profitability in the future. Based on management's analysis and our operating and cash flow plans, we believe that anticipated cash flows from operations will be sufficient to meet our current working capital needs and fund operations over the next twelve months. There can, however, be no assurance we will be able to do so. If our cash flows from operations are insufficient to fund our business we must continue to rely upon financing provided by related parties to help fund our operations and we may need to raise additional capital through a debt or equity financing to meet our need for capital to fund operations and future growth. Furthermore, any debt financing is likely to include financial and other covenants that may impede our ability to react to changes in the economy or industry. If adequate financing is not available when needed, we may be required to implement cost-cutting strategies, delay production, curtail research and development efforts, or implement other measures, which may adversely affect our results of operations and financial conditions and the price of our stock.

**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 penetrate the market rapidly, we may be unable to deliver large volumes of products or components to our customers on a timely basis and at a reasonable cost to us. We have never ramped up our manufacturing capabilities to meet significant large-scale production requirements. If we were to commit to deliver large volumes of products, we may not be able to satisfy these commitments on a timely and cost-effective basis.

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

We use third-party suppliers for components in all of our products. Our engines and generators required in our cogeneration products (other than the InVerde), and the compressor and vessel sets in our chillers, are all purchased from large multinational equipment manufacturers. The loss of one or more of our suppliers could materially and adversely affect our business if we are unable to replace them. While alternate suppliers for the manufacture of our engine, generators and compressors have been identified, should the need arise, there can be no assurance that alternate suppliers will be available and able to provide such items on acceptable terms or on a timely basis.

From time to time, shipments of components for our products can be delayed because of industry-wide or other shortages of necessary materials and components from third-party suppliers, as well as shipping delays at points of importation. 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 depend on a small number of customers for a substantial portion of our product revenues. The loss of one or more of these customers, or our inability to collect outstanding receivables from such customers could have a material adverse effect on our financial results.**

Although we are seeking to increase and diversify our customer base and reduce our reliance upon sales to a small number of customers, we expect sales to such customers to continue to constitute a significant portion of our revenues in the near term because we actively pursue large contracts and projects. The loss of any one or more of such customers or an inability to collect resulting accounts receivables could have a material adverse effect on our business, financial condition and results of operations.

For the years ended December 31, 2024 and December 31, 2023, no customer represented more than 10% of revenues for the respective years, and one customer represented 12% of the accounts receivable balance as of December 31, 2024, and one customer represented 14% of the accounts receivable balance as of December 31, 2023. The loss of any one or more of our major customers or our inability to collect on outstanding accounts receivable from one or more of these customers could have a material adverse effect on our business and financial condition. Our provision for credit losses decreased to \$146,010 in the year ended December 31, 2024, compared to \$902,432 in the year ended December 31, 2023, due to the write down of certain install receivables which were deemed uncollectible in the year ended December 31, 2023. Our allowance for credit losses increased \$145,940 to \$295,932 in the year ended December 31, 2024, compared to the year ended December 31, 2023.

**The amount of our backlog is subject to fluctuation due to our customers' experiencing unexpected delays in financing, permitting, or modifications in specifications of the equipment.**

Our backlog as of December 31, 2024 was \$12,336,248 compared to \$7,388,145 as of December 31, 2023. Although we expect our customers to issue definitive purchase orders with respect to such backlog, there can be no assurance that such amounts will not be subject to modification in the event customers experience unexpected delays in obtaining permits, interconnection agreements, or financing. We have experienced order delays and deferrals for our products due to business closures or the inability to obtain government issued permits to conduct product installations. Any of such events may result in

customers modifying the equipment or the terms or timing of the expected installation, which may result in changes to the amount of backlog attributed to those projects.

**We experience significant fluctuations in revenues and product mix from quarter to quarter on our product sales which may make period to period comparisons difficult.**

We have low volume, high dollar sales for projects that are generally non-recurring, and therefore our sales have fluctuated significantly from period to period. Fluctuations cannot be predicted because they are affected by the purchasing decisions and timing requirements of our customers, which are unpredictable. Such fluctuations may make quarter to quarter and year to year comparisons difficult.

**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. 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, and therefore, there can be no assurance that we will be successful in this competitive environment.

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

We may 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 can make no assurance that we will be able to achieve any such production cost reductions. Our failure to do so could have a material adverse effect on our business and results of operations.

**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 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 natural gas and other fuel and electricity, and the variability of these prices creates a risk that our projects will not be economically viable and that potential customers will avoid such energy price risks.**

The economic viability of our CHP products depends on the spread between natural gas fuel and electricity prices. Volatility in one component of the spread, such as the cost of natural gas and other fuels (e.g., propane or distillate oil), can be managed to some extent by means of futures contracts. However, the regional rates charged for both base load and peak electricity may decline periodically due to excess generating capacity or general economic recessions, and both the cost of natural gas and the cost of electricity for base load and peak load may be adversely affected by market forces and geopolitical disruptions such as Russian expansion into the Ukraine and political and other responses to such activity.

Our products and on-site utility service could become less competitive if electric rates were to fall substantially in the future, although, historically, electric rates have not experienced any sustained decline in price. Potential customers may perceive the risk of unpredictable swings in natural gas and electricity prices as a risk of investing in on-site CHP, and may decide not to purchase CHP products.

**We may make acquisitions or take other corporate strategic actions that could harm our financial performance.**

To expedite the development of our business, including with regard to equipment installation and service functions, we anticipate investigating and potentially pursuing future acquisitions of complementary businesses, and may engage in discussions with respect to possible acquisitions, sale of assets, business combinations, and joint ventures intended to complement or expand our business, some of which may be significant transactions for us. Regardless of whether we consummate any such transaction, the negotiation of a potential transaction could require us to incur significant costs, including

as a result of professional fees and due diligence efforts, and cause diversion of management's time and resources. In addition, we may be unable to identify suitable acquisition or strategic investment opportunities or may be unable to obtain any required financing or regulatory approvals and therefore may be unable to complete such acquisitions or strategic investments on favorable terms, if at all. We may decide to pursue acquisitions with which our investors may not agree, and we cannot assure investors that any acquisition or investment will be successful or otherwise provide a favorable return on investment. In addition, acquisitions and the integration thereof require significant time and resources and place significant demands on our management, as well as on our operational and financial infrastructure. If we fail to successfully close transactions or integrate new teams, or integrate the products and technologies associated with these acquisitions into our company, our business could be seriously harmed. In addition, acquisitions may expose us to operational challenges and risks, including:

- the ability to profitably manage acquired businesses or successfully integrate the acquired businesses' operations, personnel, financial reporting, accounting and internal controls, technologies and products into the our business;
- increased indebtedness and the expense of integrating acquired businesses, including significant administrative, operational, economic, geographic or cultural challenges in managing and integrating the expanded or combined operations;
- entry into jurisdictions or acquisition of products or technologies with which we have limited or no prior experience, and the potential of increased competition with new or existing competitors as a result of such acquisitions;
- diversion of management's attention and the over-extension of our operating infrastructure and our management systems, information technology systems, and internal controls and procedures, which may be inadequate to support growth;
- the ability to fund our capital needs and any cash flow shortages that may occur if anticipated revenue is not realized or is delayed, whether by general economic or market conditions, or unforeseen internal difficulties; and
- the ability to retain or hire qualified personnel required for expanded operations.

Our acquisition strategy may not succeed if we are unable to remain attractive to target companies or expeditiously close transactions. Issuing securities to fund an acquisition would cause dilution to existing shareholders. If we develop a reputation for being a difficult acquirer or target companies view our shares unfavorably, we may be unable to consummate key acquisition transactions essential to our corporate strategy and our business may be seriously harmed.

In addition, integrating any business that we acquire may be distracting to our management and disruptive to our business and may result in significant costs to us. We could face several challenges in the consolidation and integration of information technology, accounting systems, personnel and operations. Any such transaction could also result in the impairment of goodwill and other intangibles, development write-offs and other related expenses. Any of the foregoing could have a material adverse effect on our business, financial condition, operating results, liquidity and prospects.

**Expiring customer contracts may lead to decreases in revenue and increases in expenses.**

Each year, a portion of our customer contracts expire and need to be renewed or replaced. We may not be able to renew or extend contracts with existing customers or obtain replacement contracts at attractive rates or for the same term as the expiring contracts. To the extent we are unable to extend customer contracts prior to their expiration dates, energy production revenue will decline due to decreased billing for maintenance services and energy production. Expiring customer contracts can also lead to an increase in expenses because we are obligated to remove the equipment from the customer location at our own expense at the end of the customer contract. The investment required to obtain replacement contracts, including the manufacture and installation of the cogeneration or chiller equipment and the costs to incorporate this equipment into a facility are significant. To the extent that we do not have sufficient liquidity, our ability to add new contracts with energy production sites may be adversely impacted.

**Our revenue from energy billing may be adversely impacted by increases in the price of natural gas, reductions in utility rates for electrical power, weather conditions, or by an increase in remote work and study environments, all of which could reduce our revenue.**

Over the past several years electric rates have fluctuated, and in some instances rates have decreased, subsequent to customer contract dates, causing the billable value of the electrical power generated by our systems to decrease which has an adverse effect on our results of operations. In warmer months the customers do not use as much thermal energy because they do not have as much demand for heat at their locations. Due to lower demand in warmer months, our revenue from thermal energy billing during those periods. In addition, increases in the cost of natural gas may increase the cost of power generation in comparison to the cost of power from the electric grid, and may result in decreased revenue and adversely affect our results of operation.

**We may be affected by global climate change or by legal, regulatory, or market responses to such change.**

The growing political and scientific sentiment is that global weather patterns are being influenced by increased levels of greenhouse gases in the earth's atmosphere. This growing sentiment and the concern over climate change have led to legislative and regulatory initiatives aimed at reducing greenhouse gas emissions which warm the earth's atmosphere. These warmer weather conditions could result in a decrease in demand for our products in general. Moreover, proposals that would impose mandatory requirements on greenhouse gas emissions continue to be considered by policy makers in the United States. Laws enacted that could impact demand for the products we sell could adversely affect our business, financial condition, results of operations and cash flows. Significant increases in federal, state or municipal restrictions on emissions of carbon dioxide that may be imposed on gas-driven cogeneration and chillers could adversely affect demand for our product. Our inability to respond to such changes could adversely impact the demand for our products and our business, financial condition, results of operations or cash flows.

**Our financial condition and results of operations could suffer if there is an impairment of goodwill or intangible assets.**

We are required to test intangible assets with indefinite lives, including goodwill, annually or, in certain instances, more frequently, and may be required to record impairment charges, which would reduce any earnings or increase any loss for the period in which the impairment was determined to have occurred. Our goodwill impairment analysis is sensitive to changes in key assumptions used in our analysis. If the assumptions used in our analysis are not realized, it is possible that an impairment charge may need to be recorded in the future. We cannot accurately predict the amount and timing of any impairment of goodwill or other intangible assets. However, any such impairment would have an adverse effect on our results of operations.

As of December 31, 2024, our goodwill was \$2,346,566, and our intangible assets were \$2,513,189. We performed a goodwill impairment test at December 31, 2024, and determined that the carrying value of our energy production business assets exceeded the estimated fair value of the energy production business assets based on a discounted cash flow analysis, and we recognized goodwill impairment relating to our energy production segment of \$217,295 for the year ended December 31, 2024. The fair value of the Aegis maintenance service contracts based on a discounted cash flow analysis exceeded the carrying value of the assets, and we did not recognize goodwill impairment relating to our services segment for the year ended December 31, 2024.

**Increased costs of labor and employee health and welfare benefits may impact our results of operations.**

Labor is a primary component in the cost of operating our business. Increased labor costs, due to competition, inflationary pressures, increased federal, state, local or foreign minimum wage requirements and increased employee benefit costs, including health care costs and social security benefits, could adversely impact our operating expenses. Because payroll costs are a major component of the operating expenses, a shortage of skilled labor could require higher wages that would increase labor costs, which could adversely affect our results of operations and cash flows.

**We are dependent on the continued contributions of our senior management and other key employees, and the loss of any of whom could adversely affect our business, operating results, and financial condition.**

Our future performance depends on the continued contributions of our senior management, including our Chief Executive Officer and Chief Financial Officer, Abinand Rangesh, our President and Chief Operating Officer, Robert Panora, and other key employees, to execute on our business plan, develop new products and services, source new customers, and enter into new partnerships. In addition, our success, in part, depends on our ability to attract and retain qualified member of our board and our board committees. The failure to properly manage succession plans or the loss of services of senior management, other key employees or members of our board could significantly delay or prevent the achievement of our strategic objectives. From time to time, there may be changes in our senior management team resulting from the hiring or departure of executives, which could disrupt our business. We do not currently maintain key person life insurance policies on any of our employees. The loss of the services of one or more of our senior management or other key employees for any reason could adversely affect our business, financial condition, and operating results, and require significant amounts of time, training, and resources to recruit suitable replacements and integrate them within our business and could affect our corporate culture.

**Risks Related to Our Technologies****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 continue to develop and provide innovative products and product enhancements that meet the increasingly sophisticated needs of our customers. However, this requires that we successfully anticipate and respond to technological changes in design and manufacturing processes in a cost-effective and timely manner. 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.

The introduction of products embodying new technologies and the shifting of customer demands or changing industry standards could render our existing products obsolete and unmarketable. 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 products offered by our competitors.

### **Legal, Regulatory and Compliance Risks**

#### **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, manufacture, or improper use of products by end users. We currently maintain product liability insurance, but 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 limited warranties. There can be no assurance that the provision in our financial statements for estimated product warranty expense will be sufficient. There can be no assurance that our efforts to reduce our risk through warranty disclaimers will effectively limit our liability. Any significant occurrence 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 offer such programs in the future, such actions could result in significant costs.

#### **Changes in regulations applicable to our businesses may impair the profitability of our businesses, and our failure to comply with applicable laws and regulations may increase our costs, reduce our earnings or limit our growth.**

We may be required to incur costs to comply with regulatory requirements, such as those relating to employment practices, environmental requirements, and other regulatory matters, and the costs of compliance, investigation, remediation, litigation, and resolution of regulatory matters could be substantial. We are subject to extensive federal and state employment laws and regulations, including wage and hour laws and other pay practices and employee record-keeping requirements. We may periodically have to defend against lawsuits asserting non-compliance. Such lawsuits can be costly, time consuming and distract management, and adverse rulings in these types of claims could negatively affect our businesses, financial condition or results.

In addition, we are subject to audit or review by federal or state regulatory authorities as a result of applying for and obtaining a Paycheck Protection Program loan pursuant to the Coronavirus Aid, Relief and Economic Security Act, and for obtaining forgiveness of the loan. If we were to be audited or reviewed and receive an adverse determination or finding in such an audit or review, we could be required to return or repay the full amount of the applicable loan and could be subject to fines or penalties, which could reduce our liquidity and adversely affect our business, financial condition and results of operations.

Changes in any of these regulations or regulatory activities in any of these areas, or others, may require us to spend additional amounts to comply with the regulations, or may restrict our ability to offer products and services in ways that are profitable.

#### **Agreements with our customers may include potential liquidated damages relating to construction delays or performance guaranties.**

Construction contracts involving our products may contain liquidated damages provisions resulting from failure to achieve agreed milestones relating to construction activity. Agreements relating to the sale of equipment or energy may include performance and other obligations that may result in payment obligations to customers.

#### **Utilities or governmental entities could hinder our entry into and growth in the marketplace, and we may not be able to effectively sell our products.**

Utilities or governmental entities on occasion have placed barriers to the installation of our products or their interconnection with the electric grid, and they may continue to do so. Utilities may charge additional fees to customers who install on-site CHP and rely on the grid for back-up power. These types of restrictions, fees, or charges could make it harder for customers to install our products or use them effectively, as well as increase costs to potential customers. This could make our systems less desirable, thereby adversely affecting our revenue and other operating results.

**The reduction, elimination or expiration of government and economic incentives for applications of our equipment could reduce demand for our equipment and harm our business.**

The market for cogeneration equipment depends in part on the availability and size of government and economic incentives that vary by geographic market. Because our sales to customers are typically into geographic areas with such incentives, elimination, or expiration of government subsidies and economic incentives for cogeneration equipment may negatively affect the competitiveness of our equipment relative to other sources of electricity, heating, and cooling equipment, and could harm or halt the growth of the cogeneration industry and our business.

We may incorporate price reductions on equipment sold to customers based on the anticipated receipt of governmental economic incentive payments and apply and collect the incentives payments. If such incentives become unavailable to us our financial condition may be adversely affected.

Competing sources of electricity, heating, and cooling equipment may successfully lobby for changes in the relevant legislation in their markets that are harmful to the cogeneration industry. Reductions in, or eliminations or expirations of, governmental incentives in regions where we focus our sales efforts could result in decreased demand for and lower revenue from cogeneration equipment there, which would adversely affect us. In addition, our ability to successfully penetrate new geographic markets may depend on new geographic areas adopting and maintaining incentives to promote cogeneration, to the extent such incentives are not currently in place. Additionally, electric utility companies may establish pricing structures or interconnection requirements that could adversely affect our sales and be harmful to cogeneration.

**We may be exposed to substantial liability claims if we fail to fulfill our obligations to our customers or our on-site equipment malfunctions.**

We enter into contracts with large commercial and not-for-profit customers under which we assume responsibility for meeting a portion of the customers' building energy demand and equipment installation. We may be exposed to substantial liability claims if we fail to fulfill our obligations to such customers. If the equipment malfunctions, it may be costly to repair or replace. There can be no assurance that we will not be vulnerable to claims by customers and by third parties that are beyond any contractual protections that we are able to negotiate. As a result, liability claims could cause us significant financial harm.

**Losses or unauthorized access to or releases of confidential information, including personal information, could subject us to significant reputational, financial, legal and operational consequences.**

Our business requires us to use and store confidential information, including personal information, with respect to our customers and employees and also requires us to share confidential information with suppliers and other third parties. We rely on suppliers that are also exposed to ransomware and other malicious attacks that can disrupt business operations. Although we take steps to secure confidential information that is provided to or accessible by third parties working on our behalf, such measures may not always be effective and losses or unauthorized access to or releases of confidential information may occur. Such incidents and other malicious attacks could materially adversely affect our business, reputation, results of operations and financial condition.

We have implemented systems and processes intended to secure our information technology systems and prevent unauthorized access to or loss of sensitive data, and mitigate the impact of unauthorized access, including through the use of encryption and authentication technologies and we continue to undertake regular reviews of our IT infrastructure and have investigated improved software and hardware cyber threat protection solutions. These measures cannot provide absolute security, and losses or unauthorized access to or releases of confidential information may occur and could materially adversely affect our business, reputation, results of operations and financial condition.

We have experienced malicious attacks and other attempts to gain unauthorized access to our systems, including the ransomware attack on our computer network which occurred on April 28, 2023 which required that we limit user access, remove the hard drives from two affected workstations from service and restore network files from systems backups. Our network returned to full operation on May 1, 2023. Since this incident, we have implemented changes to user access passwords, conducted a full audit of user accounts and implemented multi-factor authentication for network and workstation access. These attacks seek to compromise the confidentiality, integrity or availability of confidential information, or disrupt normal business operations, and could, among other things, impair our ability to attract and retain customers for our products and services, impact our stock price, materially damage commercial relationships, and expose us to litigation or government investigations, which could result in penalties, fines, or judgments against us. Globally, attacks are expected to continue accelerating in both frequency and sophistication with increasing use by actors of tools and techniques that are designed to circumvent controls, avoid detection, and remove or obfuscate forensic evidence, all of which hinders our ability to identify, investigate and recover from incidents.

**Credit and Liquidity Risks****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 may be unable to accept delivery or that they will be unable to make payment at the time of delivery or within agreed upon payment terms. We have experienced customer payment delays due to COVID-19, which are attributable to temporary business shutdowns, resulting in declines in revenues and cash flows from our customers and delays in project completion due to delays in government project inspections and a general slowdown in business activity and in some cases, customers ceasing business activities altogether.

Our provision for credit losses decreased to \$146,010 in the year ended December 31, 2024, compared to \$902,432 in the year ended December 31, 2023, due to the write down of certain install receivables which were deemed uncollectible in the year ended December 31, 2023. Our allowance for credit losses was \$295,932 as of December 31, 2024, an increase of \$145,940 when compared to the provision for doubtful accounts as of December 31, 2023.

**We received short-term debt financing from directors and shareholders to fund our business and ongoing operations. If we are unable to generate sufficient funds from operations or obtain additional financing, we may not be able to repay the loans when they become due.**

On October 9, 2023, we entered into note subscription agreements with each of John N. Hatsopoulos and Earl R. Lewis, III, each a director and shareholder of Tecogen, pursuant to which Mr. Hatsopoulos agreed to provide financing to us of up to \$1,000,000, and Mr. Lewis agreed to provide financing to us of \$500,000, and potentially, an additional \$500,000 at his discretion. On October 10, 2023, we borrowed \$500,000 from Mr. Hatsopoulos and issued him a one-year promissory note with interest accruing at 5.12% per annum. On July 23, 2024, we borrowed an additional \$500,000 from Mr. Hatsopoulos, and issued a one-year promissory note with interest accruing at 5.06% per annum. On September 18, 2024, we borrowed \$500,000 from Mr. Lewis and issued him a one-year promissory note with interest accruing at 4.57% per annum.

On January 14, 2025, we agreed to permit Mr. Lewis to convert the balance of the promissory note to him to cash or, at his discretion, the number of shares of Tecogen common stock determined by dividing the balance of the promissory note by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

On February 18, 2025 we amended the promissory notes with Mr. Hatsopoulos to extend the maturity dates for both promissory notes to July 31, 2026, and to permit Mr. Hatsopoulos to convert the balances of one or both of the promissory notes to cash, or at his discretion, the number of shares of Tecogen common stock determined by dividing the balance of the promissory note by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

The loans are required to be repaid in the event of a change of control of the company and upon the occurrence of an event of default under the note, including upon a failure to pay when due the principal and interest when due, or the commencement of voluntary or involuntary bankruptcy or insolvency proceeding.

See Note 11. "Related Party Notes" of the Notes to the Consolidated Financial Statements.

As of December 31, 2024, we have outstanding accounts payable of \$4,142,678, other accrued expenses of \$2,890,886, lease obligations of \$2,183,052, and acquisition liabilities of \$1,911,312. If we are unable to generate sufficient funds from operations or raise additional financing, we may have insufficient funds to repay the loans from Messrs. Hatsopoulos and Lewis when they become due unless Mr. Hatsopoulos and Mr. Lewis are willing to extend the terms of the loan or renegotiate the terms, or accept payment by conversion to our shares, of which there can be no assurance.

**Risks Relating to Ownership of our Common Stock****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. The market price of shares of our common stock could be subject to wide fluctuations in response to many risk factors listed in this section, and others beyond our control, including:

- results and timing of our product development;
- results of the development of our competitors' products;
- regulatory actions with respect to our products or our competitors' products;
- actual or anticipated fluctuations in our financial condition and operating results;
- actual or anticipated changes in our growth rate relative to our competitors;

- actual or anticipated fluctuations in our competitors' operating results or changes in their growth rate;
- competition from existing products or new products that may emerge;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations, or capital commitments;
- issuance of new or updated research or reports by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- additions or departures of key management or personnel;
- disputes or other developments related to proprietary rights, including patents, litigation matters, and our ability to obtain, maintain, defend or enforce proprietary rights relating to our products and technologies;
- announcement or expectation of additional financing efforts;
- sales of our shares by us, our insiders, or our other stockholders;
- political events, war, terrorism, public health issues, natural disasters and other circumstances;
- lawsuits threatened or filed against us; and
- general economic and market conditions.

Furthermore, the U.S. stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political, and market conditions such as recessions, interest rate changes, or international currency fluctuations may negatively impact the market price of shares of our common stock. In addition, such fluctuations could subject us to securities class action litigation, which could result in substantial costs and divert our management's attention from other business concerns, which could potentially harm our business.

Additionally, selling short is a technique used by a stockholder to take advantage of an anticipated decline in the price of a security. A significant number of short sales or a large volume of other sales within a relatively short period of time can create downward pressure on the market price of a security. Holders of our securities could, therefore, experience a decline in the value of their investment as a result of short sales or a high volume of selling of our shares.

**If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our share price and trading volume could decline.**

The trading market for our shares will depend on the research and reports that securities or industry analysts publish about us or our business. There can be no assurance that analysts will cover us or provide favorable coverage. If one or more analysts downgrade our shares or change their opinion of our share price our share price may decline. In addition, if one or more analysts cease coverage of us or fails to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

**Because our directors and executive officers are among our largest stockholders, they can exert influence over our business and affairs and have actual or potential interests that may differ from other stockholders or investors.**

As of the date of this report, our directors and executive officers and related parties directly, indirectly, and through trusts for the benefit of family members, collectively beneficially own approximately 43.0% of our issued and outstanding shares. Additionally, the holdings of our directors and executive officers may increase in the future upon vesting or exercise of the options or other stock awards they may hold or in the future may be granted or if they otherwise acquire additional shares in the open market or otherwise. The interests of such persons may differ from the interests of our other stockholders. As a result, in addition to their board seats and offices, such persons will have influence over corporate actions requiring shareholder approval. These matters would include the election of directors and the approval of mergers or other business combination transactions. Such persons' stock ownership may discourage a potential acquirer from making a tender offer or otherwise attempting to acquire us, which in turn could reduce our stock price or prevent our stockholders from realizing a premium over our stock price.

**Current stock holdings may be diluted if we make future equity issuances or if outstanding options are exercised for shares of our common stock.**

"Dilution" refers to the reduction in the voting effect and proportionate ownership interest of a given number of shares of common stock as the total number of shares increases. Our issuance of additional common stock, preferred stock, or

convertible debt may result in dilution to the interests of shareholders and may also result in the reduction of our stock price. The sale of a substantial number of shares into the market, or even the perception that sales could occur, could depress the price of our common stock. Also, the exercise of options may result in additional dilution.

The holders of outstanding options, warrants and convertible securities or derivatives, if any, have the opportunity to profit from a rise in the market price of our shares, if any, without assuming the risk of ownership, with a resulting dilution in the interests of other stockholders. We may find it more difficult to raise additional equity capital if it should be needed for our business while options, warrants, or convertible securities are outstanding.

**Future sales of our shares by our existing stockholders may cause our stock price to fall.**

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

**Because we have not and do not intend to pay cash dividends, our stockholders 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 our future earnings, if any, to fund the operation and expansion of our business, and therefore do not anticipate paying any cash dividends in the foreseeable future. As a result, capital appreciation, if any, of our common stock could be the sole source of gain for our stockholders for the foreseeable future.

**We incur substantial costs to operate as a public reporting company.**

We incur substantial legal, financial, accounting and other costs and expenses to operate as a public reporting company. We believe that these costs are a disproportionately larger percentage of our revenues than they are for many larger companies. In addition, the rules and regulations of the SEC impose significant requirements on public companies, including ongoing disclosure obligations and mandatory corporate governance practices. Our senior management and other personnel need to devote a substantial amount of time to ensure ongoing compliance with these requirements. Our common stock is currently quoted on the OTC Markets Group Inc.'s OTCQX Best Market tier. Under the OTC Markets Group Inc.'s OTCQX continued qualification requirements, we are required to have a minimum bid price of \$0.10 per share as of the close of business for at least one of every 30 consecutive calendar days, a market capitalization of at least \$5 million for at least one of every 30 consecutive calendar days, and at least two market makers. Also, we must be current in our SEC reporting obligations. If we seek to list our stock for trading on a national securities exchange or be quoted on the Nasdaq Stock Market, we will be subject to additional disclosure and governance obligations. There can be no assurance that we will continue to meet all of the public company requirements to which we are subject on a timely basis, or at all, or that our compliance costs will not continue to be material.

**Because our common stock is not traded on a national securities exchange, our stock has limited liquidity and our ability to raise capital is impaired.**

On June 19, 2020, we voluntarily delisted our common stock from Nasdaq and transitioned the quotation of our shares to OTC Markets Group Inc.'s OTCQX Best Market. Our common stock has been quoted on the OTC Markets Group Inc.'s OTCQX Best Market since June 19, 2020, under the symbol "TGEN". We believe that trading "over the counter" has limited our stock's liquidity and may impair our ability to raise additional capital. Also, and as a result, relatively small trades in our stock could have a disproportionate effect on our stock price.

**As a public reporting company, we are subject to rules and regulations established from time to time by the SEC and Public Company Accounting Oversight Board ("PCAOB") regarding our internal control over financial reporting. If we fail to establish and maintain effective internal control over financial reporting and disclosure controls and procedures, we may not be able to accurately report our financial results or report them in a timely manner. Investor confidence in the price of our stock may be adversely affected if we are unable to comply with such rules and regulations.**

As a public reporting company under the Securities Exchange Act, we are subject to the rules and regulations established from time to time by the SEC and the PCAOB. These rules and regulations require, among other things, that we establish and periodically evaluate procedures with respect to our internal control over financial reporting. In addition, as a public company we are required to document and test our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley Act") so that our management can certify as to the effectiveness of our internal control over financial reporting, which requires us to document and our internal control over financial reporting.

Our Chief Executive Officer and Chief Financial Officer ("certifying officer") is responsible for establishing and maintaining our disclosure controls and procedures (as defined in Securities Exchange Act Rule 13a-15(e) and Rule 15d-15(e)).

Our certifying officer designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under his supervision, to ensure that information required to be disclosed by us in the reports we file or submit under the Securities Exchange Act is recorded, processed, summarized and reported, within the time periods specified by the SEC's rules and forms, and is made known to management (including the certifying officer) by others within the company, including our subsidiaries. We regularly evaluate the effectiveness of our disclosure controls and procedures and report our conclusions about the effectiveness of the disclosure controls quarterly in our Quarterly Reports on Form 10-Q and annually in our Annual Reports on Form 10-K. In completing such reporting, we disclose, as appropriate, any significant change in our internal control over financial reporting that occurred during our most recent fiscal period that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Also, as a public company, we are subject to rules adopted by the SEC pursuant to Section 404 of the Sarbanes-Oxley Act, which require us to include in our annual report on Form 10-K our management's report on, and assessment of the effectiveness of, our internal control over financial reporting ("management's report"). If we fail to achieve and maintain the adequacy of our disclosure control or internal control over financial reporting, there is a risk that we will not comply with all of the requirements imposed by Section 404. Moreover, effective internal control over financial reporting, particularly that relate to revenue recognition, is necessary for us to produce reliable financial reports and is important in helping to prevent financial fraud. Any of these possible outcomes could result in an adverse reaction in the financial marketplace due to a loss in investor confidence in the reliability of our financial statements, which ultimately could harm our business and could negatively impact on the market price of our common stock. Investor confidence and the price of our common stock may be adversely affected if we are unable to comply with Section 404 of the Sarbanes-Oxley Act.

**As of the end of the period covered by our Annual Report on Form 10-K for the year ended December 31, 2024, our principal executive officer and principal financial officer has concluded that there is a material weakness in our disclosure controls and procedures and our internal control over financial reporting. If we are unable to remediate these material weaknesses, if management identifies additional material weaknesses in the future, or if we otherwise fail to maintain effective internal controls over financial reporting, we may not be able to accurately or timely report our financial position or results of operations, which may adversely affect our business and stock price or cause our access to the capital markets to be impaired.**

As of the end of the period covered by our Annual Report on Form 10-K for the year ended December 31, 2024, our certifying officer performed an evaluation of our disclosure controls and procedures and concluded that our controls were not effective to provide reasonable assurance that information required to be disclosed by us in reports that we file under the Securities Exchange Act, is recorded, processed, summarized and reported when required. We 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.

We continue to develop and refine our disclosure controls and other procedures designed to ensure that information required to be disclosed by us in the reports we will file with the SEC is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and that information required to be disclosed in our reports under the Securities Exchange Act is accumulated and communicated to our principal executive and financial officer. We are continuing to improve our internal control over financial reporting which may require us to hire additional accounting and financial personnel to implement such processes and controls and to provide additional training for our existing personnel. We expect to incur costs related to implementing our internal audit and compliance function in the upcoming years to further improve our internal control environment. If we identify further deficiencies in our internal control over financial reporting in the future or if we are unable to comply with the demands that will be placed upon us as a public company, including the requirements of Section 404 of the Sarbanes-Oxley Act, in a timely manner, we may be unable to accurately report our financial results, or report them within the timeframes required by the SEC. We also could become subject to sanctions or investigations by the SEC or other regulatory authorities. In addition, if we are unable to assert that our internal control over financial reporting is effective, investors may lose confidence in the accuracy and completeness of our financial reports, we may face restricted access to the capital markets, and our stock price may be adversely affected.

Our current controls and any new controls that we develop may also become inadequate because of changes in our business, and weaknesses in our disclosure controls and internal control over financial reporting may be discovered in the future. Any failure to develop or maintain effective controls or any difficulties encountered in their implementation or improvement could cause us to fail to meet our reporting obligations, result in a restatement of our financial statements for prior periods, undermine investor confidence in us, and adversely affect the trading price of our common stock.

**We are a “smaller reporting company” within the meaning of the Securities Act and Securities Exchange Act and we intend to take advantage of certain exemptions from disclosure requirements available to smaller reporting companies which could make our securities less attractive to investors and may make it more difficult to compare our performance with that of other public companies.**

We are a “smaller reporting company” as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (i) the market value of the shares of common stock held by non-affiliates exceeds \$250 million as of the prior June 30, and (ii) our annual revenue exceeded \$100 million during such completed fiscal year or the market value of the shares of common stock held by non-affiliates exceeds \$700 million as of the prior June 30. To the extent we take advantage of such reduced disclosure obligations, it may also make comparison of our financial statements with other public companies difficult or impossible.

**Delaware law and our certificate of incorporation and bylaws contain certain provisions, including anti-takeover provisions that limit the ability of stockholders to take certain actions and could delay or discourage takeover attempts that stockholders may consider favorable.**

Our certificate of incorporation, bylaws and the Delaware General Corporations Law (“DGCL”) contain provisions that could have the effect of rendering more difficult, delaying or preventing an acquisition that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of common stock and therefore depress the trading price. These provisions could also make it difficult for stockholders to take certain actions, including electing directors who are not nominated by the incumbent members of the board of directors or taking other corporate actions, including effecting changes in our management. Among other things, our certificate of incorporation and bylaws includes provisions that:

- permit the board to issue shares of preferred stock, including “*blank check*” preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer
- prohibit cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates
- limit the liability of, and provide for the indemnification of, our directors and officers
- permit the board to amend our bylaws, which may allow the board to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquirer to amend the bylaws to facilitate an unsolicited takeover attempt
- require a supermajority vote of stockholders to amend certain provisions of our certificate of incorporation and a supermajority vote of stockholders in order to amend our bylaws
- limit our ability to engage in business combinations with certain interested stockholders without certain approvals
- permit only the board, the chief executive officer of the company or the chairperson of the board to call special stockholder meetings;
- mandate advance notice procedures with which stockholders must comply in order to nominate candidates to the board or to propose matters to be acted upon at a stockholders’ meeting, which could preclude stockholders from bringing matters before annual or special meetings of stockholders and delay changes in the board and also may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer’s own slate of directors or otherwise attempting to obtain control of our company, and
- provide that directors may be removed only for cause and only by a supermajority vote of our stockholders

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our board or management.

### **General Business Risks**

#### **Our intellectual property may not be adequately protected.**

We seek to protect our intellectual property rights through patents, trademarks, copyrights, trade secret laws, confidentiality agreements, and licensing arrangements, but we cannot ensure that we will be able to adequately protect our technology from misappropriation or infringement. We cannot ensure that our existing intellectual property rights will not be invalidated, circumvented, challenged, or rendered unenforceable.

Our competitors may successfully challenge the validity of our patents, design non-infringing products, or deliberately infringe our patents. There can be no assurance that other companies are not investigating or developing other similar technologies. In addition, our intellectual property rights may not provide a competitive advantage to us or ensure that our products and technology will be adequately covered by our patents and other intellectual property. Any of these factors or the expiration, termination, or invalidity of one or more of our patents may have a material adverse effect on our business.

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

We may be subject to infringement claims from time to time. 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. 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 would suffer either from reductions in revenues through our inability to serve customers or from increases in costs to license third-party technologies.

**Our business and financial performance may be adversely affected by information systems interruptions, cybersecurity attacks or other disruptions which could have a material adverse effect on our business and results from operations.**

We depend upon information technology, infrastructure, including network, hardware and software systems to conduct our business. Despite our implementation of security measures, there are numerous and evolving risks to cybersecurity and privacy, including risks originating from intentional acts of criminal hackers, nation states and competitors, intentional and unintentional acts or omissions of customers, vendors, contractors, employees and other third parties that may result in damage, breakdown, or interruption from computer viruses, ransomware, malware, phishing, social engineering, fraudulent inducement, electronic fraud, wire fraud, human error or malfeasance, unauthorized access, natural disasters, and telecommunications and electrical failures. We directly or indirectly store, collect and transmit sensitive data, including intellectual property, confidential information, proprietary business information, and customer or personal data. The secure processing of such data, maintenance, and transmission of such data is important to our operations. We face increased cybersecurity risks due to our reliance on internet technology, among other things, to monitor our installed products or systems remotely. We may not be able to anticipate all types of security threats or be able to implement security measures effective against all such threats or implement preventive measures effective against all such threats. The techniques used by cybercriminals change frequently and may not be recognized until launched and can originate from a wide variety of sources. Even if identified, we may not be able to adequately investigate or remediate incidents or breaches due to attacks increasingly using tools and techniques that are designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence. Accordingly, our data protection efforts and related security measures may not be adequate to protect against highly targeted sophisticated cyber-attacks, or other improper disclosures of confidential and/or sensitive information. Additionally, we may have access to confidential or other sensitive information of our customers or suppliers, which despite our efforts to protect, may be vulnerable to security breaches, theft, or improper disclosure, any of which could have a material adverse effect on our competitive position, results of operations, cash flows, or financial condition. The increase in personnel working remotely during and after the Covid-19 pandemic has increased the risk of our and our vendors and suppliers' security breaches and incidents. If a security breach or other incident results in unauthorized access to, or use, disclosure, release, or other processing of confidential or proprietary information, we could incur liability, and it may be necessary to notify persons, governmental authorities, supervisory bodies, the media and other parties pursuant to privacy and security laws. Any such access, disclosure or other loss of information could result in legal claims, proceedings, liability under laws that protect the privacy of personal information of our employees or others, and any such event could disrupt our operations, damage our reputation, and cause a loss of confidence in us. Our contracts with our customers and suppliers may not contain limitation of liability and there can be no assurance that limitations of liability in our contracts are sufficient to protect us from liabilities, damages, or claims related to privacy, data protection, or data security. Further, we can give no assurance that our insurance coverage will be adequate or sufficient to cover the financial, legal, business or reputational losses that may result from an interruption or breach of our systems, that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

**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 on our ability to operate and grow our business successfully.

**Our business may be impacted by political events, war, terrorism, public health issues, natural disasters and other circumstances that are not within our control.**

War, terrorism, geopolitical uncertainties, public health issues, and other business interruptions have caused and could cause damage or disruption to international commerce and the global economy, and thus could have a material adverse effect on us, our suppliers, and manufacturing vendors. Our business operations are subject to interruption by natural disasters, fire, power shortages, nuclear power plant accidents, terrorist attacks, and other hostile acts, labor disputes, public health issues, and other events beyond our control. Such events could decrease demand for our products, make it difficult or impossible for us to make and deliver products to our customers, or to receive products from our manufacturers and suppliers, and create delays and inefficiencies in our supply chain. If major public health issues, including pandemics, arise, we could be adversely affected by more stringent employee travel restrictions, limitations in freight services, governmental actions limiting the movement of products between regions, delays in production ramps of new products, and disruptions in the operations of our manufacturing vendors and suppliers. In the event of such issues, we could incur significant losses, require substantial recovery time and experience significant expenditures in order to resume operations.

**We may be subject to litigation, including securities class action litigation, which may harm our business and operating results.**

Our share price may be volatile and in the past companies that have experienced volatility in the market price of their stock have been subject to an increased incidence of securities class action litigation. Securities litigation against us could result in substantial costs and damages and divert our management's attention from other business concerns, which could seriously harm our business, results of operations, financial condition or cash flows.

Although we maintain directors' and officers' insurance coverage, there can be no assurances that this insurance coverage will be sufficient to cover the substantial fees and expenses of lawyers and other professional advisors relating to any future litigation, our obligations to indemnify our officers and directors who are or may become parties to such pending and future actions, or the amount of any judgments or settlements that we may be obligated to pay in connection with such actions. We may be required to make material payments in connection with the defense of or to settle such litigation or to satisfy any adverse judgment. In addition, actions that arise in the future could be excluded from coverage or, if covered, could exceed our deductibles and/or the coverage provided. In addition, an adverse outcome in any such litigation could cause our insurance premiums and retention amounts to increase in the future. Any of these consequences could have a material adverse effect on our business, financial condition and results of operations. For more information regarding litigation, see "Item 3. Legal Proceedings" and Note 12 "Commitments and Contingencies" in the Notes to our Consolidated Financial Statements included elsewhere herein.

We may also be called on to defend against lawsuits relating to our business operations. Some of these claims may seek significant damages amounts. Due to the inherent uncertainties of litigation, the ultimate outcome of any such proceedings cannot be accurately predicted. A future unfavorable outcome in a legal proceeding could have an adverse impact on our business, financial condition and results of operations.

In addition, current and future litigation, regardless of its merits, could result in substantial legal fees, settlements or judgment costs and a diversion of our management's attention and resources that are needed to successfully run our business.

**Item 1B. Unresolved Staff Comments.**

None.

**Item 1C. Cybersecurity**

**Risk Management Strategy**

Our business is dependent upon our information technology ("IT") systems, devices and networks to collect, process and store the data necessary to conduct our business and record and report our business and financial information. We recognize the importance of developing, implementing, and maintaining effective cybersecurity measures to safeguard our IT systems and protect the confidentiality, integrity, and availability of our confidential and personal data, including with respect to our customers, suppliers, and employees, as well as our intellectual property.

We maintain a cybersecurity risk management program to identify, assess, manage, mitigate, and respond to cybersecurity threats. Our cybersecurity risk management program incorporates various mechanisms to detect and monitor unusual network activity, as well as containment and incident response tools. We monitor issues that are internally discovered or externally reported that may affect our business and have processes to assess those issues for potential cybersecurity impact or risk.

We have integrated our cybersecurity risk management program into our broader enterprise risk management program. This integration is designed to make cybersecurity considerations an integral part of our decision-making processes at every level and we believe that this integration allows cybersecurity risks to be evaluated and addressed in alignment with our business objectives and operational needs. While we work to maintain our information security program and risk management efforts, there can be no assurance that such actions will be sufficient to prevent cybersecurity incidents or mitigate all potential risks to our systems, networks, and data or those of our third-party providers.

We rely on suppliers that are also exposed to ransomware and other malicious attacks that can disrupt business operations. Although we take steps to secure confidential information that is provided to or accessible by third parties, such measures may not always be effective and losses or unauthorized access to, or releases of, confidential information occur. Such incidents and other malicious attacks could materially adversely affect our business, reputation, results of operations and financial condition.

We have experienced malicious attacks and other attempts to gain unauthorized access to our systems, including a ransomware attack on our computer network which occurred on April 28, 2023. Following remediation, our network returned to full operation on May 1, 2023.

We have engaged a third-party consultant in connection with our risk management and assessment processes. Our consultant assists us in the design and implementation of our cybersecurity policies and procedures, as well as the monitoring and testing of our safeguards. In the event of a cybersecurity incident, our incident response plan outlines the steps to be followed from incident detection to mitigation, recovery and notification, and involves notifying senior management, our legal department, and the board of directors and/or our audit committee, if appropriate, and mitigation and remediation steps by our third-party consultant.

#### **Governance**

Our board of directors has overall responsibility for informed oversight of our risk management process, including risks from cybersecurity threats. Our board of directors is responsible for monitoring and assessing strategic risk exposure. Our executive officers are responsible for the day-to-day management of the material risks we face. Our board of directors has delegated to our audit committee its cybersecurity risk oversight processes, including oversight and mitigation of risks from cybersecurity threats.

Our audit committee receives periodic reports from management regarding our cybersecurity risks and is notified of any significant cybersecurity threat or incident. The audit committee reports to the board of directors regarding its activities, including with respect to cybersecurity matters and the occurrence of any material cybersecurity incident, if appropriate.

We have engaged a third-party consultant to manage risks associated with network protection and workstation management. Our consultant performs an annual assessment of our cybersecurity risk policies and procedures.

Our cybersecurity risk management and strategy processes are jointly led by our embedded software engineer and Chief Executive Officer, in conjunction with a third-party consultant we have engaged to assist with cybersecurity risks assessment and monitoring. Our embedded software engineer is informed about and monitors the prevention, mitigation, detection, and remediation of cybersecurity incidents through their management of the cybersecurity risk management and strategy processes described above, including our incident response plan. Together with the General Counsel, Chief Executive Officer and outside consultant that comprise our cybersecurity management team, we collectively possess significant experience in evaluating, managing, and mitigating security and other risks, including cybersecurity risks.

Our embedded software engineer possesses significant information systems experience.

#### **Item 2. Properties.**

Our headquarters are located in North Billerica, Massachusetts, consisting of approximately 26,412 square feet of manufacturing, storage and office space, of which approximately 21,000 square feet is dedicated to manufacturing and warehousing.

#### **Facilities Relocation**

On March 31, 2023, we entered into two lease agreements for two adjacent buildings located in North Billerica, Massachusetts, to serve as our headquarters and manufacturing facilities. The lease agreements provide for initial lease terms of five (5) years with two successive options to renew for additional terms of five (5) years. Both lease agreements commenced on January 1, 2024, and require payment of the base rent, real estate taxes, common maintenance expenses, and aggregate security deposits in the amount of \$38,200. Our costs for initial improvements required to the leased premises is estimated to range between \$900,000 and \$1,000,000. The estimated straight-line monthly rent expense for the initial term of the lease is approximately \$26,962 per month. In accordance with ASC 842-20-30-1, we recognized and recorded the lease liability and

right-of-use asset using the discount rate for the lease upon the lease commencement date, January 1, 2024. We believe that our facilities are appropriate and adequate for our current needs.

#### **Service Centers**

Our eleven leased service centers can be categorized into two different sizes. The larger leased spaces have office space to accommodate administrative, sales and engineering personnel, and warehouse space to stock parts in support of our service contracts. As of December 31, 2024, the service centers that fit this larger category are based in Piscataway, New Jersey and Valley Stream and Buchanan, New York to service the Metro New York City and the Mid-Atlantic region. The San Francisco Bay area and Northern California are served by such a center in Hayward, California. A portion of the corporate headquarters in North Billerica, Massachusetts are used in this manner to service all of our satellite service centers. The smaller service centers are parts depots or warehouses for the stocking of parts in support of our service contracts. These centers are located in Easton, Massachusetts, Los Angeles, California, Sterling Heights, Michigan, Newark, New York, East Windsor, Connecticut, East Syracuse, New York, Toronto, Ontario and Wellesley Chapel, Florida.

#### **Item 3. Legal Proceedings.**

Except as described below, we and our subsidiaries and our properties are not parties to any material pending legal proceedings, other than ordinary routine litigation incidental to our business.

On November 23, 2022, we were served with a suit filed against us on August 24, 2022 in the Ontario Superior Court of Justice by The Corporation of the Town of Milton, Milton Energy Generation Solutions Inc. and Milton Hydro Distribution Inc. (the "Plaintiffs"), all of whom are municipal corporations incorporated in the Province of Ontario. The plaintiffs sued for damages in the amount of CDN \$1,000,000, prejudgment and post-judgment interest, and legal fees, alleging breach of contract, breach of warranty, negligent misrepresentations and nuisance. Plaintiffs allege that on or about July 10, 2022, a Tecogen cogeneration unit installed by us at the plaintiffs facility caught fire, causing damage to the cogeneration unit and the plaintiff's facility. We filed a response denying liability and are represented by Canadian counsel. For the year ended December 31, 2022, we reserved \$150,000 for anticipated damages which may not be covered by our insurance and maintained the reserve at December 31, 2024. On January 13, 2025, Tecogen and our insurers entered into a Settlement Agreement and Full and Final Release from any and all claims, obligations and liabilities, arising from the July 10, 2022 fire in the amount of CDN \$400,000, of which we were responsible for CDN \$100,000. On February 7, 2025, we remitted CDN \$100,000, or \$70,994, representing payment in full of our liability relating to this matter.

#### **Item 4. Mine Safety Disclosures.**

Not applicable.

### **PART II**

#### **Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.**

##### **Market for Our Shares**

Our common stock is quoted on the OTC Markets Group's OTCQX Best Market tier and trades under the symbol TGEN. As of March 18, 2025, there were 57 holders of record of our common stock. Any over-the-market quotations reflect inter-dealer prices, without mark-up, markdown or commission and may not necessarily represent actual transactions.

##### **Dividends**

We have never declared or paid a cash dividend on our common stock and do not anticipate paying cash dividends on our common stock in the foreseeable future. Payment of future cash dividends, if any, will be at the discretion of our board of directors and will depend on our financial condition, results of operations, contractual restrictions and covenants included under any bank or other indebtedness that we may enter into, capital requirements, business prospects and other factors that our board of directors considers relevant.

##### **Equity Compensation Plan Information**

We adopted our 2006 Stock Incentive Plan (as amended, the "2006 Plan") in December 2005. Under the plan our board of directors may grant or award incentive stock options to our officers and employees and non-qualified stock grants and awards, and restricted stock to our employees, officers, directors, and consultants. On November 1, 2016, the 2006 Plan was amended by the Board of Directors to increase the reserved shares of common stock issuable under the 2006 Plan to 3,838,750 and to extend the termination date of the 2006 Plan to January 1, 2026. Our stockholders approved the amendment in June 2017 and ratified all of our option grants after January 1, 2016.

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 2006 Plan. The options are not transferable except by will or domestic relations order. The option price per share under the 2006 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 2006 Plan as of December 31, 2024 and 2023 were 1,108,168 and 243,818, respectively.

We adopted the 2022 Stock Incentive Plan (the "2022 Plan") on March 8, 2022, and it was approved by our stockholders on June 9, 2022. Under the plan, the Board of Directors may grant or award incentive stock options to employees and officers and non-qualified stock options, restricted stock grants, and common stock to our employees, officers, directors, and consultants. We have reserved 3,800,000 shares of our common stock for issuance pursuant to awards under the 2022 Plan.

Under the 2022 Plan, 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 2022 Plan. The options are not transferable except by will or domestic relations order. The option price per share under the 2022 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 2022 Plan as of December 31, 2024 and 2023 were 2,950,000 and 3,068,750, respectively.

The following table provides information as of December 31, 2024, regarding Common Stock that may be issued under the 2006 Plan and the 2022 Plan.

	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 first column)
Equity compensation plans approved by security holders	2,752,962	\$ 1.14	4,058,168
Equity compensation plans not approved by security holders	—	—	—
Total	2,752,962	\$ 1.14	4,058,168

#### **Item 6. [Reserved].**

#### **Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.**

*You should read the following Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") together with our consolidated financial statements and related notes thereto appearing elsewhere in this report. Some of the information contained in this MD&A or set forth elsewhere in this report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review the "Risk Factors" in this report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following MD&A. Except as required by federal securities law or other disclosure requirements applicable to us, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Our historical results are not necessarily indicative of the results that may be expected for any period in the future.*

##### **Overview**

Tecogen designs, manufactures, markets, and maintains high efficiency, ultra-clean cogeneration products. These include natural gas engine driven combined heat and power (CHP) systems, chillers and heat pumps for multi-family residential, commercial, recreational and industrial use. We are known for products that provide customers with substantial energy savings, resiliency from utility power outages and for significantly reducing a customer's carbon footprint. Our products are sold with our patented Ultera technology which nearly eliminates all criteria pollutants such as NOx and CO. Our systems are greater than 88% efficient compared to typical electrical grid efficiencies of 40% to 50%. As a result, our greenhouse gas (GHG) emissions are typically half that of the electrical grid. Our systems generate electricity and hot water or in the case of our Tecochill product, both chilled water and hot water. These result in savings of energy related costs of up to 60% for our customers. Our products are expected to run on Renewable Natural Gas (RNG) as it is introduced into the US gas pipeline infrastructure.

Our products are sold directly to end-users by our in-house sales team and by established sales agents and representatives. We have agreements in place with distributors and sales representatives. 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, military installations and indoor growing facilities. To date we have shipped over 3,200 units, some of which have been operating for almost 35 years.

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 revenue from those customers. Our product revenue is such that customers may make a large purchase once and may not ever make a purchase again. Our equipment is built to last 30 or more years. Therefore, our product revenue model is not dependent on recurring sales transactions from the same customer. Our service revenue does lend itself to recurring revenue from particular customers.

For the last two fiscal years, more than half of our revenue was generated from long-term maintenance and energy production contracts, which provides us with a predictable revenue stream, especially during the summer months. We experience a slight surge of activity from May through September as our “chiller season” is in full swing. Our O&M service revenue which has grown from year to year since 2005, with our New York City/New Jersey and New England systems experiencing the majority of the growth, was positively impacted by the Aegis maintenance agreement acquisition in 2023. Our installation service related revenue has decreased and is likely to continue to remain low due to our strategy to focus on higher margin segments of our business. Our service margins are generally predictable as we service hundreds of long-term contracts with relatively low dollar, high volume sales.

During the years ended December 31, 2024 and 2023, our revenues were negatively impacted due to supply chain issues, customer order delays or deferrals; service delays due to customer facility closures and reduced manufacturing capacity due to our plant relocation in 2024.

Our product revenue is derived from the sale of the various cogeneration modules, such as the InVerde, InVerde e+, the Tecopower, and Tecochill products. In 2019, we also reintroduced our TecoFrost refrigeration line. The sales cycle varies between 6 months to a year or more. Therefore, our product revenue can be difficult to predict and the expected margin can vary. In most cases we work with consulting engineers who specify our product in new and retrofit applications.

Our cogeneration, heat pump, and chiller modules are built to order and revenue is recognized upon shipment. The lead time to build and deliver a unit depends on its customized configuration and is approximately 12 to 14 weeks for a chiller and 6 to 8 weeks for a cogeneration system or heat pump, from time of purchase order. As revenue is recognized upon shipment, our work-in-process is an important factor in understanding our financial condition in any given quarter.

Our operations are comprised of three business segments, as follows:

- Products segment - designs, manufactures and sells industrial and commercial cogeneration systems;
- Services segment - provides maintenance services for Tecogen supplied products at customer sites; and,
- Energy Production segment - sells energy in the form of electricity, heat, hot water, and cooling to our customers under long-term sales agreements.

## **Recent Developments**

### *Vertiv Sales and Marketing Agreement - Data Center Cooling Market*

On February 28, 2025, we entered into a Sales and Marketing Agreement with Vertiv Corporation (“Vertiv”) relating to sales of Tecogen DTx chillers for data center cooling applications (the “Vertiv Agreement”). The Vertiv Agreement has a term of two years and provides that Vertiv will establish a budget for marketing activities and use commercially reasonable efforts to sell our DTx chillers for cooling applications in data centers. The Vertiv Agreement also provides the basis for the negotiation of a definitive supply agreement between us and Vertiv. We have agreed to provide Vertiv with reasonable discounts for purchases of significant volumes of our chillers, and Vertiv has agreed to use commercially reasonable efforts to assist us in securing favorable terms for engineering components and supplies for manufacturing our chillers. Pursuant to the Vertiv Agreement we have granted Vertiv the exclusive right to market and sell our DTx chillers for data center cooling applications outside the United States, and the non-exclusive right to market and sell our DTx chillers within the United States. We have also agreed to grant Vertiv the exclusive right to market and sell our DTx chillers for data center cooling applications in the United States if Vertiv achieves and maintains agreed sales levels of DTx chillers. The foregoing description of the Vertiv Agreement is not complete and is qualified in its entirety by reference to the full text thereof, a copy of which is filed as Exhibit 99.01 to our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2025, and incorporated by reference as Exhibit 10.30 hereto.

### *Assumption of Aegis Energy Services Maintenance Agreements*

On March 15, 2023, we entered into an agreement (“Agreement”) with Aegis Energy Services, LLC (“Aegis”) pursuant to which Aegis agreed to assign to us and we agreed to assume certain Aegis maintenance agreements, we agreed to

purchase certain assets, and related matters ("Acquisition"). On April 1, 2023, the Acquisition closed. Under the Agreement, we agreed to acquire from Aegis and assume Aegis' rights and obligations arising on or after April 1, 2023 under maintenance agreements pursuant to which Aegis provided maintenance services for approximately 200 cogeneration systems, and acquired certain vehicles and inventory used by Aegis in connection with the performance of such maintenance services, and following closing, hired eight (8) Aegis employees to provide services with respect to such maintenance agreements. At closing, we acquired eight (8) Aegis vehicles for consideration consisting of \$170,000 in cash. Also, we issued credits against outstanding accounts receivable due from Aegis in the amount of \$300,000 for the acquisition of inventory that Aegis used to provide maintenance services.

On February 1, 2024, Tecogen and Aegis amended the Agreement to add eighteen (18) additional maintenance service agreements (the "Amendment"). The Amendment includes an undertaking by Aegis to use commercially reasonable efforts to support and assist our execution of maintenance service agreements for an additional thirty-six (36) cogeneration units sold to customers by Aegis.

On May 1, 2024, Tecogen and Aegis amended the Agreement to add thirty-one (31) additional maintenance contracts (the "Second Amendment"). The Second Amendment includes an undertaking by Aegis to use commercially reasonable efforts to support and assist our execution of maintenance service agreements for an additional forty-eight (48) cogeneration units sold to customers by Aegis.

See Note 5. "Aegis Contract and Related Asset Acquisition" of the Notes to the Consolidated Financial Statements.

#### *Facilities Relocation*

In April, 2024, we moved our manufacturing operations and corporate offices from 45 First Avenue, Waltham, Massachusetts to 76 Treble Cove Road, Building 1, North Billerica, Massachusetts. As a result of the relocation, product revenues were impacted during the second and third quarters of 2024. The factory relocation also necessitated construction activities to install equipment test cells and comply with local regulations. We resumed manufacturing operations during the latter-half of the third quarter of 2024.

#### *Impact of Anti-fossil Fuel Sentiment*

In some key markets such as New York City, the regulatory push to eliminate fossil fuels from buildings has impacted cogeneration unit sales. We believe that as regulations take into account scope 2 emissions (site versus source emissions), products like our hybrid chiller that can choose the cleanest fuel source will have a significant advantage in decarbonization efforts. The political environment following the 2024 elections in the United States may have a material impact on anti-fossil fuel sentiment and the regulatory environment that may be favorable to our business.

#### *Impact of Utility Power Constraints, Data Center Construction*

As more load is added to the utility grid in the form of data centers, EV charging, and other demands for power, customers are facing power constraints. Tecogen believes that these power constrained customers, in particular data centers and industrial facilities, represent a significant opportunity for growth. The customer need is driven by the ability to expand an existing facility or open a new facility quickly while taking advantage of utility expense savings long term. Our chiller products can reduce the electrical capacity needed on-site by 30% or more. Our InVerde product can provide on-site power generation which allows customers to eliminate long lead times associated with electrical switch gear and bridge any short fall in power from the utility.

#### *Residual Impacts of Covid-19 Pandemic*

Supply chains were adversely impacted during Covid, resulting in significant delays or lack of availability of critical components such as engines. This has continued to have long term impact on product and service margins. The direct impact has been certain costs increasing faster than inflation. The indirect impact is from increased engine related costs in the service segment as replacements were deferred or overhauled components were used due to lack of parts. We have instituted a service price increase and have also been making engineering improvements to increase service intervals to increase gross margins.

#### *Tecochill Hybrid-Drive Air-Cooled Chiller Development*

During the third quarter of 2021, we began development of the Tecochill Hybrid-Drive Air-Cooled Chiller. We recognized that there were many applications where the customer wanted an easy to install roof top chiller. Using the inverter design from our InVerde e+ cogeneration module, the system can simultaneously take two inputs, one from the grid or a renewable energy source and one from our natural gas engine. This allows a customer to seek the optimum blend of operational cost savings and greenhouse gas benefits while providing added resiliency from two power sources. We introduced the Tecochill Hybrid-Drive Air-Cooled Chiller at the AHR Expo in February 2023 and received an order on February 8, 2024 for three hybrid-drive air-cooled chillers for a utility company in Florida. In March 2024, the US Patent and Trademark Office granted patent 11,936,327: "Hybrid Power System With Electric Generator and Auxiliary Power Source."

*Controlled Environment Agriculture*

On July 20, 2022, we announced our intention to focus on opportunities for the use of our cogeneration equipment in low carbon Controlled Environment Agriculture ("CEA"). We believe that CEA offers an exciting opportunity to apply our expertise in clean cooling, power generation, and greenhouse gas reduction to address critical issues affecting food and energy security.

CEA facilities enable multiple crop cycles (15 to 20 cycles) in one year compared to one or two crop cycles in conventional farming. In addition, growing produce close to the point of sale reduces food spoilage during transportation. Food crops grown in greenhouses typically have lower yields per square foot than in CEA facilities, and the push to situate facilities close to consumers in cities requires minimizing land area and maximizing yield per square foot. Yields are increased in CEA facilities by supplementing or replacing natural light with grow lights in a climate-controlled environment - which requires significant energy use.

In recent years our cogeneration equipment has been used in numerous cannabis cultivation facilities because our systems reduce the facility's need for power, significantly reduce operating costs and the facility GHG footprint, and offer resiliency to grid outages. Our experience providing clean energy solutions to cannabis cultivation facilities has given us significant insight into requirements relating to energy-intensive indoor agriculture applications that we expect to be transferable to CEA facilities for food production.

*Impact of Geopolitical Tensions*

We have no operations or customers in Russia, the Ukraine, or in the Middle East. The higher energy prices for natural gas as a result of the war may affect the performance of our Energy Production Segment and the cost differential between grid generated energy and natural gas sourced energy using our cogeneration equipment. However, we have also seen higher electricity prices as much of the electricity production in the United States is generated from fossil fuels. If the electricity prices continue to rise, the economic savings generated by our products are likely to increase. In addition to the direct result of changes in natural gas and electricity prices, the war in Ukraine and the conflict in the Middle East may result in higher cybersecurity risks, increased or ongoing supply chain challenges, and volatility related to the trading prices of commodities.

*Related Party Notes*

On October 9, 2023, we entered into note subscription agreements with each of John N. Hatsopoulos and Earl R. Lewis, III, each a director and shareholder of Tecogen, pursuant to which Mr. Hatsopoulos agreed to provide financing to us of up to \$1 million, and Mr. Lewis agreed to provide financing to us of \$500,000, and at his discretion an additional \$500,000. On October 10, 2023, we borrowed \$500,000 from Mr. Hatsopoulos and issued a one-year promissory note with interest accruing at 5.12% per annum. On July 23, 2024, we borrowed an additional \$500,000 from Mr. Hatsopoulos, and executed a one-year promissory note with interest accruing at 5.06% per annum. On March 21, 2024, John H. Hatsopoulos amended the terms of the promissory note, dated October 10, 2023, extending the maturity date by one year, making the maturity date October 10, 2025. On September 18, 2024, we borrowed \$500,000 from Mr. Lewis and issued a one-year promissory note with interest accruing at 4.57% per annum.

On January 14, 2025 we agreed to permit Mr. Lewis to either receive repayment of his note in cash or, at his discretion, convert the balance of the promissory note into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance due under the promissory note by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

On February 18, 2025 we amended the promissory notes with Mr. Hatsopoulos to extend the maturity dates for both promissory notes to July 31, 2026. We also agreed to permit Mr. Hatsopoulos to either receive repayment of his notes in cash, or, at his discretion, convert the balances of one or both of the promissory notes into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance(s) due under the promissory note(s) by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

See Note 11. "Related Party Notes" of the Notes to the Consolidated Financial Statements.

**Critical Accounting Estimates**

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make judgments, assumptions and estimates that affect the reported amounts of assets, liabilities, sales and expenses, and related disclosure of contingent assets and liabilities. These judgments, assumptions and estimates are made or applied within the context of accounting policies related to the nature of the transaction. Note 2. "Summary of Significant Accounting Policies" of the Notes to our Consolidated Financial Statements describes the significant accounting policies used in the preparation of the consolidated financial statements.

Certain aspects of certain accounting policies require management to make difficult, subjective or complex judgments that could have a material effect on our financial condition and results of operations. These aspects of these accounting policies are considered critical accounting policies. These policies may require management to make assumptions about matters that are highly uncertain at the time of the estimate or employ an estimate where alternative estimates could have also been employed, and may involve estimates that are reasonably likely to change with the passage of time. Estimates and assumptions about future events and their effects cannot be determined with certainty. We base our estimates on historical experience and on various other assumptions believed to be applicable and reasonable under the circumstances. These estimates may change as new events occur, as additional information is obtained and as our operating environment changes. These changes have historically been minor and have been included in the consolidated financial statements as soon as they became known. In addition, management is periodically faced with uncertainties, the outcomes of which are not within its control and will not be known for prolonged periods of time. These uncertainties are discussed in "Item 1A," "Risk Factors" above.

Management believes that the following are critical accounting estimates:

#### *Revenue Recognition*

Revenue is recognized when performance obligations under the terms of a contract with our customer are satisfied. This generally occurs with the transfer of control of our products, services and energy production. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services or energy to customers.

Determination of contract consideration allocable to multiple performance obligations within a single contract requires employing stand-alone selling prices which may be based on observable selling prices, estimated selling prices or as a residual. We use an observable selling price to determine standalone selling prices where available and either a combination of an adjusted market assessment approach, an expected cost plus a margin approach, and/or a residual approach to determine the standalone selling prices for separate performance obligations as a basis for allocating contract consideration when an observable selling price is not available.

#### *Accounts Receivable*

Accounts receivable are stated at the amount management expects to collect from outstanding balances. The allowance for credit losses is estimated based on historical experience, aging of the receivable, the counterparty's ability to pay, condition of general economy and industry, and combined with management's estimate of current conditions, reasonable and supportable forecasts of future losses to determine estimated credit losses in our evaluation of outstanding accounts receivable at the end of the year. The allowance for credit losses reflects managements evaluation of our outstanding accounts receivable at the end of the year and our best estimate of probable losses inherent in the accounts receivable balance. Accounts receivable deemed uncollectible are charged against the allowance for credit losses 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.

#### *Property, Plant and Equipment*

Property, plant and equipment are recorded at cost. Depreciation is provided using the straight-line method over the estimated useful life of the asset, which range from P3Y to P15Y 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, while renewals and betterments that materially extend the life of an asset are capitalized.

We review our property, plant and equipment for potential impairment whenever events or changes in business circumstances indicate that the carrying value of the assets may not be fully recoverable or that the useful lives of the assets are no longer appropriate. We evaluate the recoverability of our long-lived assets when impairment is indicated by comparing the net book value of the asset group to the estimated future undiscounted cash flows attributable to such assets. If the sum of the projected undiscounted cash flows (excluding interest charges) is less than the carrying value of the assets, the assets will be written down to the estimated fair value and such loss is recognized in income from continuing operations in the period in which the determination is made. If impairment is indicated, the asset is written down to its estimated fair value.

#### *Business Combinations*

In accordance with applicable accounting standards, we estimate the fair value of assets acquired and liabilities assumed as of the acquisition date of each business combination. Any excess purchase price over the fair value of the net tangible and intangible assets acquired is allocated to goodwill. We may make certain estimates and assumptions when determining the fair values of assets acquired and liabilities assumed, including intangible assets. Critical estimates in valuing

certain intangible assets include but are not limited to future expected cash flows from energy production sites or customer maintenance contracts, estimated operating costs, as well as discount rates. At the acquisition date, we will also record acquisition related liabilities, if applicable, for any contingent consideration or deferred payments to the seller and pre-acquisition deferred maintenance contingencies identified at service contract acquisition. Contingent consideration and pre-acquisition deferred maintenance contingencies are recorded at fair value on the acquisition date based on our expectation of achieving the contractually defined revenue targets and actual and projected future costs. The fair value of the contingent consideration and pre-acquisition deferred maintenance liabilities are remeasured each reporting period after the acquisition date and any changes in the estimated fair value are reflected as gains or losses in cost of goods sold or general and administrative expense in the consolidated statement of operations. Contingent consideration liabilities and deferred payments to sellers are recorded as current liabilities and other long-term liabilities in the consolidated balance sheets based on the expected timing of settlement.

Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Any changes to provisional amounts identified during the measurement period are recognized in the reporting period in which the adjustment amounts are determined. Transaction costs associated with business combinations are expensed as incurred.

#### *Contract Assets and Liabilities*

The favorable contract asset and unfavorable contract liability included in the intangible assets and liabilities of the consolidated balance sheets represent the fair value of customer energy production contracts (both positive for favorable contracts and negative for unfavorable contracts) which were acquired by us.

The determination of fair value requires development of an estimate of the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. Contracts are considered to be assets or liabilities by virtue of the rights and obligations inherent in the contract terms. Typically, contracts with terms considered to be at market are considered to have no fair value as, in order to be entitled to the rights under the contract, performance must occur for which a market rate of return is earned due to the at market terms. The fair value of a contract is primarily a measurement of its off-market terms. The obligation to perform under a contract with terms that are unfavorable to market results in a liability to the extent its terms are off-market. The resulting liability is an estimate of the price that would need to be paid to a willing market participant to assume the obligations under the contract in order for them to receive a market rate of return for their remaining performance obligation under the contract. The opposite holds true in instances where the terms of a contract are considered to be favorable to market. In that case an asset would exist as an estimate of the price that would be received from a willing market participant in order to be entitled to the rights under the contract.

In determining the estimate of fair value of customer energy production contracts, the measure of market, and thus the baseline to measure the amount related to any of the off-market terms or conditions with respect to the contracts, was considered best determined, given the nature of the services provided under the contracts, by utilizing a benchmark level of margin, in this case 35% of revenue which is consistent with the average return on revenue of US investor owned public utilities.

#### *Goodwill*

Goodwill is not amortized; however, it is reviewed for impairment annually in the fourth quarter and/or when circumstances or other events indicate that impairment may have occurred. ASC 350 "Intangibles—Goodwill and Other" (ASC 350) permits entities to make a qualitative assessment of whether it is more likely than not that a reporting unit's fair value is less than its carrying amount before applying the two-step goodwill impairment test. Circumstances that are considered as part of the qualitative assessment and could trigger the two-step impairment test include, but are not limited to: a significant adverse change in the business climate; a significant adverse legal judgment; adverse cash flow trends; an adverse action or assessment by a government agency; unanticipated competition; decline in our stock price; and a significant restructuring charge within a reporting unit. We define reporting units at the business segment level. For purposes of testing goodwill for impairment, goodwill has been allocated to our reporting units to the extent it relates to each reporting unit.

During 2018, we adopted the provisions of ASU 2017-04 which simplified goodwill impairment testing by eliminating the requirement to determine the implied value of goodwill where a quantitative analysis indicates that the carrying value of the reporting unit exceeds its fair value.

At a minimum, we perform a quantitative goodwill impairment test in the fourth quarter of the year. In the fourth quarter of 2024, we performed a quantitative goodwill impairment test for our energy production reporting unit acquired in 2017. We used a discounted cash flow approach to develop the estimated fair value of that reporting unit. Management judgment is required in developing the assumptions for the discounted cash flow model. An impairment would be recorded if the carrying amount of a reporting unit including goodwill exceeded the estimated fair value. Based on the aforementioned

analysis, the carrying amount of that reporting unit, including goodwill, exceeded the estimated fair value and resulted in an impairment at December 31, 2024. See Note 6. "Sale of Energy Producing Assets and Goodwill Impairment".

The impairment analysis recognizes the shortening of remaining contract terms with customers without replacement and without further growth, as well as less than expected cost savings, offset by profitability from our initiatives to optimize the long-term profitability of our various site operations and a price peak of the our common stock on the date of the business combination to which the goodwill relates (see also Note 6."Sale of Energy Producing Assets and Goodwill Impairment").

The discount rate, profitability assumptions, and terminal growth rate of the Energy Production unit were the material assumptions utilized in the discounted cash flow model used to estimate its fair value. The discount rate reflects an estimate of our weighted-average cost of capital.

The discounted cash flow analysis requires estimates, assumptions and judgments about future events. Our analysis uses our internally generated long-range plan. The long-range plan reflects management's judgment and assumptions about future events.

In the fourth quarter of 2024, we performed a quantitative goodwill impairment test for the Aegis maintenance service contracts reporting unit acquired in 2023 and 2024. We used a discounted cash flow approach to develop the estimated fair value of that reporting unit. Management judgment is required in developing the assumptions for the discounted cash flow model. An impairment would be recorded if the carrying amount of a reporting unit including goodwill exceeded the estimated fair value. Based on the aforementioned analysis, the estimated fair value of that reporting unit, including goodwill, exceeded the carrying value and resulting in no impairment at December 31, 2024. See Note 5. "Aegis Contract and Related Asset Acquisition".

The impairment analysis considers actual run hours and system uptime in forecasting future run hours and hourly billing rates, forecasted costs incurred to maintain the systems, assumes system downtime due to extensive repairs, contract attrition and assumes improvements in our service operations and system maintenance procedures to optimize the long-term profitability of the various maintenance service contracts.

The discount rate, profitability assumptions, and terminal growth rate of the Aegis Contract unit were the material assumptions utilized in the discounted cash flow model used to estimate its fair value. The discount rate reflects an estimate of our weighted-average cost of capital.

The discounted cash flow analysis requires estimates, assumptions and judgments about future events. Our analysis uses our internally generated long-range plan. The long-range plan reflects management's judgment and assumptions about future events.

We believe the assumptions used in our goodwill impairment analysis are appropriate and result in a reasonable estimate of the fair value of the reporting unit. However, due to uncertainties regarding the impact of the economic environment on our business, there can be no assurance that our estimates and assumptions, made for purposes of our goodwill impairment testing, will prove to be an accurate prediction of the future. If our assumptions regarding future performance are not achieved, we may be required to record additional goodwill impairment charges in future periods.

#### **Results of Operations**

##### **Year Ended December 31, 2024 Compared to Year Ended December 31, 2023**

The following table sets forth for the periods indicated, the percentages of the net sales represented by certain items reflected in our statements of operations for the years ended December 31, 2024 and 2023:

	Years ended December 31,	
	2024	2023
Revenues	100.0 %	100.0 %
Cost of Sales	56.4	59.4
Gross Profit	43.6	40.6
Operating expenses:		
General and administrative	50.2	47.3
Selling	8.3	7.7
Research and development	4.3	3.3
Gain on sale of assets	(0.1)	(0.1)
Goodwill impairment	1.0	—
Total operating expenses	63.7	58.1
Loss from operations	(20.0)	(17.6)
Total other expense, net	(0.5)	(0.3)
Consolidated net loss	(20.7)	(18.0)
Income attributable to the noncontrolling interest	(0.4)	(0.3)
Net loss attributable to Tecogen Inc.	(21.0)%	(18.3)%

The following table presents revenue by segment and the change from the prior year for the years ended December 31, 2024 and 2023:

Revenues	Years Ended			
	December 31, 2024	December 31, 2023	Increase (Decrease) \$	Increase (Decrease) %
Product:				
Cogeneration	\$ 2,677,930	\$ 2,761,667	\$ (83,737)	(3.0)%
Chillers	1,647,374	5,303,978	(3,656,604)	(68.9)%
Engineered Accessories	118,692	794,301	(675,609)	(85.1)%
Total product revenue	4,443,996	8,859,946	(4,415,950)	(49.8)%
Services	16,074,870	14,523,054	1,551,816	10.7 %
Energy production	2,100,670	1,756,419	344,251	19.6 %
Total Revenue	\$ 22,619,536	\$ 25,139,419	\$ (2,519,883)	(10.0)%

#### Revenues

Revenues in 2024 were \$22,619,536 compared to \$25,139,419 in 2023, a decrease of \$2,519,883 or 10.0% due to decreased Products revenues.

#### Products

Product revenues in 2024 were \$4,443,996 compared to \$8,859,946 in 2023, a decrease of \$4,415,950 or 49.8%. The decrease in Products revenue in 2024 compared to 2023 is due to a \$3,656,604 decrease in chiller sales, \$675,609 decrease in engineered accessories sales and a \$83,737 decrease in cogeneration sales, due to decreased unit volume. Our product mix, as well as product revenue, can vary significantly from period to period as our products are high dollar, low volume sales in which revenue is recognized upon shipment. The relocation to our new facility in April 2024 constrained our manufacturing capacity, which impacted product revenues during the second and third quarters of 2024.

#### Services

Revenues derived from our service centers in 2024 were \$16,074,870 compared to \$14,523,054 for the same period in 2023, an increase of \$1,551,816 or 10.7%. The increase in Services revenue in 2024 is due to an increase in revenue from the acquired Aegis Maintenance contracts of \$786,160, or 41.7%, and a \$765,656, or 6.1%, increase in service contract revenues from existing contracts.

Our service operation revenues grow with the sales of installed systems, since the majority of our product sales are accompanied by a service contract or time and materials agreements. As a result, our “fleet” of units being serviced by our service department grows with product sales.

#### Energy Production

Energy production revenues for the year ended December 31, 2024 were \$2,100,670 compared to \$1,756,419 for 2023, an increase of \$344,251, or 19.6%. The increase in Energy Production revenue is due to increased run hours at certain energy production sites.

#### Cost of Sales

Cost of sales in 2024 was \$12,749,363 compared to \$14,937,801 in 2023, a decrease of \$2,188,438 or 14.7%. The decrease in cost of sales is due to decreased Products revenue volume. Our overall gross margin was 43.6% in 2024 compared to 40.6% in 2023, an increase of 3.0%.

#### Products

Costs of sales for products in 2024 was \$3,014,655 compared to \$5,923,096 in 2023, a decrease of \$2,908,441, or 49.1%, due to decreased product revenue volume and a decrease in the provision for obsolete inventory in 2024. Our products gross margin was 32.2% in 2024 compared to 33.1% in 2023, a decrease of 0.9%, due to decreased engineering accessories sales in 2024, which are higher margin sales.

#### Services

Cost of sales for services in 2024 was \$8,432,876 compared to \$7,909,202 in 2023, an increase of \$523,674, or 6.6%, due to increased labor and material costs as a consequence of acquiring the Aegis customer maintenance contracts and increased material usage at existing sites, offset by a decrease in the provision for obsolete inventory in 2024. Our services gross margin was 47.5% in 2024 compared to 45.5% in 2023, an increase of 2.0%, due to decreased labor and material costs incurred to replace engines at certain sites and a decrease in the provision for obsolete inventory.

#### Energy Production

Cost of sales for energy production for the year ended December 31, 2024 was \$1,301,832 compared to \$1,105,503 in 2023, an increase of \$196,329. Energy production gross margin was 38.0% in 2024 compared to 37.1% in 2023, an increase of 0.9%, due to higher fuel costs.

#### Operating Expenses

Operating expenses decreased in 2024 to \$14,404,260 compared to \$14,615,230 in 2023, a decrease of \$210,970 or 1.4%.

	Years Ended		Increase (Decrease)	
	December 31, 2024	December 31, 2023	\$	%
<b>Operating Expenses</b>				
General and administrative	11,356,406	11,880,389	\$ (523,983)	(4.4)%
Selling	1,880,903	1,931,037	(50,134)	(2.6)%
Research and development	961,837	840,011	121,826	14.5 %
Gain on sale of assets	(12,181)	(36,207)	24,026	(66.4)%
Goodwill impairment	217,295	—	217,295	— %
<b>Total</b>	<b>\$ 14,404,260</b>	<b>\$ 14,615,230</b>	<b>\$ (210,970)</b>	<b>(1.4)%</b>

General and administrative expenses decreased \$523,983, or 4.4%, to \$11,356,406 in the year ended December 31, 2024 compared to \$11,880,389 in 2023 due to a \$756,422 decrease in credit loss expense, due to the write down of certain install receivables which were deemed uncollectible in 2023, a \$104,986 decrease in consulting costs, a \$84,756 decrease in stock-based compensation and a \$80,331 decrease in amortization and depreciation, offset partially by a \$265,274 increase in payroll and related benefits, a \$90,593 increase in facility costs due to the transition to our new facility and \$83,055 of relocation costs.

Selling expenses decreased in the year ended December 31, 2024 to \$1,880,903 compared to \$1,931,037 in 2023, a decrease of \$50,134, or 2.6%, due to a \$49,827 decrease in sales commissions.

Research and development expenses increased in the year ended December 31, 2024 to \$961,837 compared to \$840,011, an increase of \$121,826 due to a \$151,193 increase in depreciation and amortization, offset by a \$56,924 decrease in payroll costs and related benefits.

Gain on the sale of assets was \$12,181 in 2024 compared to a gain on the sale of assets of \$36,207 in 2023.

During the year ended December 31, 2024 we recognized goodwill impairment of \$217,295 on our Energy Production sites compared to \$0 in 2023.

#### *Loss from Operations*

Loss from operations for the year ended December 31, 2024 was \$4,534,087 compared to a loss of \$4,413,612 in 2023, an increase in the loss from operations of \$120,475. The increase in the net loss from operations is due to a \$331,445 decrease in gross margin due to lower Products revenue and goodwill impairment of \$217,295, offset partially by a \$428,265 decrease in operating expenses.

#### *Other Income (Expense), net*

Other expense, net, for the year ended December 31, 2024 was \$117,118 compared to \$77,053 for the same period in 2023, an increase of \$40,065, due to a \$74,254 increase in interest expense on borrowings under our related party notes and lease financing, partially offset by a decrease in interest income and other expense of \$26,814 compared to \$61,003 in 2023, due to a \$35,759 decrease in currency exchange losses for the year ended December 31, 2024.

#### *Provision for State Income Taxes*

The provision for state income taxes for the years ended December 31, 2024 and 2023 was \$22,565 and \$32,491, respectively, and represents estimated income tax payments, net of refunds, to various states.

#### *Noncontrolling Interest*

We have income and losses attributable to the non-controlling interest we have in American DG Energy's 51% owned subsidiary, ADGNY, LLC. The non-controlling interest share of ADGNY profits and losses was income of \$86,468 for the year ended December 31, 2024 compared to income of \$74,952 in 2023.

#### *Net Loss Attributable to Tecogen Inc*

Net loss for the year ended December 31, 2024 was \$4,760,238 compared to a net loss of \$4,598,108 for 2023, an increase of \$162,130. The increase in the net loss is due to a \$331,445 decrease in gross margin due to lower Products revenue and goodwill impairment of \$217,295, offset partially by a \$428,265 decrease in operating expenses.

#### *Net Income (Loss) Per Share*

Net loss per share for the year ended December 31, 2024 was a loss of \$0.19 compared to a loss of \$0.19 per share for the same period in 2023. The basic and diluted weighted average shares outstanding for the year ended December 31, 2024 were 24,861,190 and 24,861,190, respectively. For the year ended December 31, 2023, basic and diluted shares were 24,850,261 and 24,850,261, respectively.

### **Liquidity and Capital Resources**

The following table presents a summary of our net cash flows from operating, investing, and financing activities:

<b>Cash Provided by (Used in)</b>	<b>Years End</b>	
	<b>December 31, 2024</b>	<b>December 31, 2023</b>
Operating activities	\$ 4,060,547	\$ (817,810)
Investing activities	(1,014,737)	(244,889)
Financing activities	1,008,153	500,000
Change in cash and cash equivalents	<u>\$ 4,053,963</u>	<u>\$ (562,699)</u>

Consolidated working capital at December 31, 2024 was \$5,329,650, compared to \$9,822,546 at December 31, 2023, a decrease of \$4,492,896 or 45.7%. Included in working capital were cash and cash equivalents of \$5,405,233 at December 31, 2024, compared to \$1,351,270 at December 31, 2023, an increase of \$4,053,963 or 300.0%, due to increased customer deposits and borrowing under our related party notes. The decrease in consolidated working capital is primarily due to the increase in our net loss and increased liabilities recognized due to the Aegis contract acquisition.

For the year ended December 31, 2024 we generated \$4,060,547 in cash from operations compared to \$817,810 in cash used from operations in 2023, an increase of \$4,878,357 in net cash generated by operating activities. Our accounts

receivable balance decreased by \$608,929 at December 31, 2024 compared to December 31, 2023 and our unbilled revenues decreased by \$859,634 at December 31, 2024 compared to December 31, 2023. Our inventory decreased by \$848,884 as of December 31, 2024 compared to December 31, 2023 and other non-current assets increased by \$510,723 as of December 31, 2024 as compared to December 31, 2023.

Accounts payable decreased by \$371,736 from December 31, 2023 to December 31, 2024 due to our increased liquidity in the fourth quarter of 2024. Accrued expenses increased by \$386,257 as of December 31, 2024 compared to December 31, 2023 due to timing of operating expenses. Deferred revenues increased by \$5,850,265 as of December 31, 2024 as compared to December 31, 2023, due to advance customer deposits collected in 2024 for Products that will ship in 2025.

For the year ended December 31, 2024 we used \$1,014,737, in cash from investing activities. We used \$969,163 of cash for purchases of property and equipment, and distributed \$96,974 to the 49% non-controlling interest holders of American DG New York LLC and received \$51,400 in proceeds from the disposition of assets, including insurance proceeds. Cash used in asset acquisition are mainly for costs incurred in 2024 for initial improvements required to the North Billerica, Massachusetts leased premises which are estimated to range between \$900,000 and \$1,000,000.

For the year ended December 31, 2023 we used \$244,889 in cash from investing activities. We used \$170,000 of cash to acquire certain assets as part of the Aegis acquisition, used \$46,851 of cash for purchases of property and equipment, and distributed \$62,693 to the 49% non-controlling interest holders of American DG New York LLC and received \$34,655 in proceeds from the disposition of assets, including insurance proceeds.

Cash flows from financing activities for the year ended December 31, 2024 were \$1,008,153, consisting of borrowings under our related party notes with John N. Hatsopoulos and Earl R. Lewis of \$1,000,000.00 (see Note 11 "Related Party Notes"), \$71,000 of proceeds from the exercise of stock options and used \$62,847 of cash in payment of finance lease principal. Cash flows from financing activities for the year ended December 31, 2023 were \$500,000 borrowed under our related party note with John N. Hatsopoulos.

Our total product and installation backlog as of December 31, 2024 was \$12,336,248 compared to \$7,388,145 as of December 31, 2023. Backlog includes a multi-year \$2,000,000 prepaid service maintenance contract, but does not include energy contract revenues.

At December 31, 2024 and 2023, we had cash and cash equivalents of \$5,405,233 and \$1,351,270, an increase of \$4,053,963 or 300.0%. During the year ended December 31, 2024, our revenues were negatively impacted due to customer order delays or deferrals; the relocation to our new facility in April 2024 which impacted product revenues during the second and third quarters of 2024; service delays due to customer facility closures, in some cases for extended periods and a reduction in our energy production revenues, due to business closures and increased remote work and learning environments.

Based on our current operating plan, we believe existing resources, including cash and cash flows from operations will be sufficient to meet our working capital requirements for the next twelve months. In order to grow our business, fund the development of our hybrid-drive air-cooled chiller, and respond to opportunities in the data center market, we expect that our cash requirements will increase and we may need to raise additional capital through a debt or equity financing to meet our need for capital to fund operations and future growth. There can be no assurance that we will be able to raise such additional financing or upon terms that are acceptable to us or at all.

On October 9, 2023, we entered into note subscription agreements with each of John N. Hatsopoulos and Earl R. Lewis, III, both directors and shareholders of Tecogen, pursuant to which Mr. Hatsopoulos agreed to provide financing to us of up to \$1,000,000, and Mr. Lewis agreed to provide financing to us of \$500,000, and potentially, an additional \$500,000 at his discretion. On October 10, 2023, we borrowed \$500,000 from Mr. Hatsopoulos and issued him a one-year promissory note with interest accruing at 5.12% per annum. On July 23, 2024, we borrowed an additional \$500,000 from Mr. Hatsopoulos, and issued a one-year promissory note with interest accruing at 5.06% per annum. On March 21, 2024, John H. Hatsopoulos amended the terms of the promissory note, dated October 10, 2023, extending the maturity date by one year, making the maturity date October 10, 2025. On September 18, 2024, we borrowed \$500,000 from Mr. Lewis and issued him a one-year promissory note with interest accruing at 4.57% per annum.

On January 14, 2025 we agreed to permit Mr. Lewis to either receive repayment of his note in cash or, at his discretion, convert the balance of the promissory note into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance due under the promissory note by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

On February 18, 2025 we amended the promissory notes with Mr. Hatsopoulos to extend the maturity dates for both promissory notes to July 31, 2026. We also agreed to permit Mr. Hatsopoulos to either receive repayment of his notes in cash, or at his discretion, convert the balances of one or both of the promissory into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance(s) due under the promissory note(s) by the average closing price per share of our common stock during the thirty-day period prior to the date of conversion.

See Note 11. "Related Party Notes" of the Notes to the Consolidated Financial Statements.

#### **Obligations and Commitments**

We are obligated under operating leases for our North Billerica, Massachusetts headquarters through December 31, 2028 and our eleven leased service centers through January 2031. Future minimum lease commitments under non-cancellable operating leases as of December 31, 2024, were \$1,772,171. See Note 14. "Leases".

We are also obligated under finance leases for ten vehicles through October 31, 2029. Future minimum finance lease payments as of December 31, 2024, were \$410,881.

#### **Seasonality**

We expect that the majority of our heating systems sales will be operational for the winter and the majority of our chilling systems sales will be operational for the summer. Our cogeneration sales are not generally affected by the seasons. Our service team experiences higher demand in the warmer months when cooling is required. Chiller units for space conditioning applications are generally shut down in the winter and started up again in the spring. This chiller "busy season" for the service team generally runs from May through the end of September. Chillers in indoor cultivation and other process cooling applications run year round.

#### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk.**

Disclosure in response to this item is not required of a smaller reporting company.

#### **Item 8. Financial Statements and Supplementary Data.**

The information required by this item is incorporated from Item 15 and pages F-1 through F-33 of this Annual Report on Form 10-K.

#### **Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.**

None.

#### **Item 9A. Controls and Procedures.**

##### *Management's Evaluation of Disclosure Controls and Procedures:*

Our disclosure controls and procedures are designed to provide reasonable assurance that the control system's objectives will be met. Our management, including our Chief Executive Officer and Principal Financial Officer, after evaluating the effectiveness of our disclosure controls and procedures as of December 31, 2024 ("Evaluation Date"), has concluded that as of the Evaluation Date, our disclosure controls and procedures were not effective due to a material weakness in financial reporting relating to a small number of employees dealing with general controls over information technology. Our management has decided that the expense associated with continued implementation of new systems is justified and continues to implement systems to put the proper control procedures in place to remediate this weakness.

For these purposes, the term disclosure controls and procedures of an issuer means controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under Section 13(a) or 15(d) of the Securities Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under Section 13(a) or 15(d) of the Securities Exchange Act is accumulated and communicated to the issuer's management, including its principal executive and principal accounting officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

##### *Management's Annual Report on Internal Control over Financial Reporting:*

Our management is responsible for establishing and maintaining adequate internal controls over financial reporting as defined in Rules 13a-15(f) under the Securities Exchange Act of 1934, as amended.

Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally

accepted accounting principles in the United States. Our internal controls over financial reporting include those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles;
- provide reasonable assurance that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting, no matter how well designed, may not prevent or detect misstatements. Accordingly, even effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Also, the assessment of the effectiveness of internal control over financial reporting was made as of a specific date. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management, including our Chief Executive Officer and Principal Financial Officer, conducted an evaluation of our internal control over financial reporting based on the framework and criteria established in Internal Control—Integrated Framework, issued by the Committee of Sponsoring Organizations of the Treadway Commission. This evaluation included review of the documentation of controls, evaluation of the design effectiveness of controls, testing of the operating effectiveness of controls and a conclusion regarding this evaluation. Due to the small number of employees dealing with general controls over information technology security and user access, management believes this constitutes a material weakness in financial reporting. Based on this evaluation, management concluded that our internal control over financial reporting was not effective as of December 31, 2024.

Our management, including our Chief Executive Officer and Principal Financial Officer, does not expect that our disclosure controls or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of a simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

This annual report does not include an attestation report of our registered independent public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered independent public accounting firm pursuant to rules of the Securities and Exchange Commission that permit us to provide only management's report in this Annual Report on Form 10-K.

#### *Remediation*

We are committed to remediating the material weakness identified in internal controls over financial reporting and have begun the process to remediate this material weakness. Our efforts have focused on instituting mitigating controls to address segregation of duties; hiring of additional staff; implementing additional controls to address system access deficiencies; implementing additional controls over business operations; establish independent review and verification procedures for our vendor and customer master files; enhance the documentation to support review occurrences and approval procedures; and, commence regular periodic reviews of our internal controls over financial reporting with our Board of Directors and Audit Committee to address the inadequate risk oversight function and institute procedures to evaluate and report on risks to financial reporting, including the documentation and completion of a comprehensive risk assessment to identify all potential risk areas and evaluate the adequacy of our controls to mitigate these risks.

#### **Changes in Internal Control Over Financial Reporting**

During the year ended December 31, 2024, we implemented system access controls to address system access deficiencies and have instituted mitigating controls to address segregation of duty issues. In addition, we have implemented

mitigating controls throughout our financial reporting process, allowing us to address the insufficient segregation of duties, oversight of work performed and allow us to continue to institute additional compensating or mitigating controls and will also allow us to document internal control support occurrences and approval procedures. We have instituted systems access controls and mitigating controls to system access. There are no other changes that have materially affected, or are reasonably likely to materially affect our internal controls over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act).

**Item 9B. Other Information.**

Not applicable

**Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspection.**

Not applicable.

## PART III

**Item 10. Directors, Executive Officers and Corporate Governance.**

The information required by this Item is incorporated by reference to our 2024 definitive proxy statement to be filed with the SEC within 120 days following the registrant's fiscal year ended December 31, 2024.

Our Board of Directors has adopted an insider trading policy that applies to all of our officers, directors and employees. Our insider trading policy prohibits officers, directors and employees from trading in Company securities while in possession of or on the basis of material non-public information. A copy of our insider trading policy is attached as Exhibit 19.1 to this Annual Report on Form 10-K and the insider trading policy can be found on our internet website address at <http://www.tecogen.com>.

**Item 11. Executive Compensation.**

The information required by this Item is incorporated by reference to our 2024 definitive proxy statement to be filed with the SEC within 120 days following the registrant's fiscal year ended December 31, 2024.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.**

The information required by this Item is incorporated by reference to our 2024 definitive proxy statement to be filed with the SEC within 120 days following the registrant's fiscal year ended December 31, 2024.

**Item 13. Certain Relationships and Related Transactions, and Director Independence.**

The information required by this Item is incorporated by reference to our 2024 definitive proxy statement to be filed with the SEC within 120 days following the registrant's fiscal year ended December 31, 2024.

**Item 14. Principal Accountant Fees and Services.**

The information required by this Item is incorporated by reference to our 2024 definitive proxy statement to be filed with the SEC within 120 days following the registrant's fiscal year ended December 31, 2024.

## PART IV

**Item 15. Exhibits and Financial Statement Schedules.**

The following are filed as part of this Annual Report on Form 10-K.

(a) Index to Financial Statements and Financial Statement Schedules

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2024 and 2023

Consolidated Statements of Operations for the years ended December 31, 2024 and 2023

Consolidated Statements of Stockholders' Equity for the years ended December 31, 2024 and 2023

Consolidated Statements of Cash Flows for the years ended December 31, 2024 and 2023

Notes to Audited Consolidated 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.

(b) Exhibits

The exhibits are listed in the Exhibit Index attached hereto and incorporated by reference herein.

**Item 16. Form 10-K Summary.**

The Company has determined not to include a summary of the information permitted by Item 16 of the Form 10-K.

## EXHIBIT INDEX

Exhibit Number	Description
2.1	<a href="#">Agreement and Plan of Merger, dated as of November 1, 2016, by and among Tecogen Inc, American DG Energy Inc, and ADGE, Tecogen Merger Sub Inc, incorporated herein by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed with the SEC on November 2, 2016.</a>
2.2	<a href="#">Amendment 1 to the Agreement and Plan of Merger, dated as of March 23, 2017, by and among Tecogen Inc., American DG Energy Inc., and ADGE, Tecogen Merger Sub Inc, incorporated herein by reference to Exhibit 2.2 to the registrant's Current Report on Form 8-K filed with the SEC on March 24, 2017.</a>
3.1	<a href="#">Amended and Restated Certificate of Incorporation incorporated herein by reference to Exhibit 3.1 to Amendment No. 3 to the registrant's Registration Statement on Form S-1 (Registration No. 333-193791) filed with the SEC on June 27, 2014.</a>
3.2	<a href="#">Amended and Restated Bylaws incorporated herein by reference to Exhibit 3.2 Amendment No. 3 to the registrant's Registration Statement on Form S-1 (Registration No. 333-193791) filed with the SEC on June 27, 2014.</a>
10.1	<a href="#">Specimen Common Stock Certificate of Tecogen Inc, incorporated herein by reference to Exhibit 4. to the registrant's Amendment No. 3 to the registrant's Registration Statement on Form S-1 (Registration No. 333-193791) filed with the SEC on June 27, 2014.</a>
10.2+	<a href="#">Form of Stock Option Agreement incorporated by reference to exhibit 4.3 to Amendment No. 3 to the registrant's Registration Statement on Form S-1 (Registration No. 333-193791) filed with the SEC on June 27, 2014.</a>
10.3	<a href="#">Description of Registrant's Securities incorporated herein by reference to Exhibit 4.4 to the registrant's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 12, 2020.</a>
10.4	<a href="#">Form of Non-Qualified Stock Option Award Agreement (Employee Form) under the registrant's 2022 Stock Incentive Plan filed with the registrant's Current Report on Form 8-K filed with the SEC on March 9, 2022.</a>
10.5	<a href="#">Form of Incentive Stock Option Award Agreement under the registrant's 2022 Stock Incentive Plan filed with the registrant's Current Report on Form 8-K filed with the SEC on March 9, 2022.</a>
10.6	<a href="#">Form of Restricted Stock Award Agreement under registrant's 2022 Stock Incentive Plan filed with the registrant's Current Report on Form 8-K filed with the SEC on March 9, 2022.</a>
10.7	<a href="#">Form of Non-Qualified Stock Option Award Agreement (Non-Employee Director Form) under the registrant's 2022 Stock Incentive Plan filed with the registrant's Current Report on Form 8-K filed with the SEC on March 9, 2022.</a>
10.8+	<a href="#">Tecogen Inc. 2006 Stock Incentive Plan, as amended and restated on November 1, 2016 incorporated herein by reference to Exhibit 10.1 to the registrant's Current Report on Form 10-K, for the year ended December 31, 2017, filed with the SEC on March 21, 2018.</a>
10.9#	<a href="#">Exclusive License Agreement between Tecogen Inc. and the Wisconsin Alumni Research Foundation, dated February 5, 2007 incorporated herein by reference to Exhibit 10.13 to Amendment No. 3 to the registrant's Registration Statement on Form S-1 (Registration No. 333-193791), filed with the SEC on June 27, 2014.</a>
10.10	<a href="#">Facilities and Support Services Agreement between American DG Energy Inc. and Tecogen Inc., dated August 8, 2014, incorporated herein by reference to Exhibit 10.1 to American DG Energy Inc.'s Quarterly Report on Form 10-Q (No. 001-34493) filed with the SEC on August 14, 2014.</a>
10.11	<a href="#">First Amendment to the Facilities and Support Services Agreement between American DG Energy Inc. and Tecogen Inc., dated August 7, 2015, incorporated herein by reference to Exhibit 10.1 to American DG Energy Inc.'s Current Report on Form 8-K (No. 001-34493) filed with the SEC on August 13, 2015.</a>
10.12+	<a href="#">Advisory Agreement, dated January 3, 2018, between Tecogen Inc. and John N. Hatsopoulos incorporated herein by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on January 8, 2018.</a>
10.13	<a href="#">Guaranty Agreement by registrant in favor of CogenOne LLC and SDCL TG Cogen LLC, dated December 14, 2018, incorporated herein by reference to Exhibit 10.49 to the registrant's Current Report on Form 8-K filed with the SEC on March 8, 2019.</a>
10.14	<a href="#">Membership Interest Purchase Agreement by and among SDCL TG Cogen LLC, American DG Energy Inc., and registrant, dated as of March 5, 2019, incorporated herein by reference to Exhibit 10.50 to the registrant's Current Report on Form 8-K filed with the SEC on March 8, 2019.</a>
10.15	<a href="#">Guaranty Agreement by registrant in favor of CogenTwo LLC and SDCL TG Cogen LLC, dated March 5, 2019, incorporated herein by reference to Exhibit 10.51 to the registrant's Current Report on Form 8-K filed with the SEC on March 8, 2019.</a>
10.16	<a href="#">Billing and Asset Management Agreement by and among CogenOne LLC and the registrant, as amended and restated as of March 5, 2019, incorporated herein by reference to Exhibit 10.52 to the registrant's Current Report on Form 8-K filed with the SEC on March 8, 2019.</a>

10.17	<a href="#">Amended and Restated Billing and Asset Management Agreement by and among CogenTwo LLC and the registrant, dated March 5, 2019, incorporated by reference to Exhibit 10.53 to the registrant's Current Report on Form 8-K filed with the SEC on March 8, 2019.</a>
10.18	<a href="#">Letter Agreement dated July 22, 2019, amending Advisory Agreement, dated January 3, 2018, between registrant and John N. Hatsopoulos incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on July 24, 2019.</a>
10.19+	<a href="#">Tecogen Change in Control Severance Benefit Plan, dated July 9, 2020, incorporated herein by reference to Exhibit 99.01 to the registrant's Current Report on Form 8-K filed with the SEC on July 21, 2020.</a>
10.20	<a href="#">Post-Effective Amendment No. 1 to Form S-3 on Form S-1 Registration Statement Under the Securities Act of 1933, filed with the SEC on March 12, 2022, incorporated herein by reference.</a>
10.21+	<a href="#">Tecogen Inc. 2022 Stock Incentive Plan adopted as of March 8, 2022 incorporated herein by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed with the SEC on March 9, 2022.</a>
10.22+	<a href="#">Tecogen Inc. Policy Regarding Compensation of Non-Employee Directors filed with the Current Report on Form 8-K filed with the SEC on March 9, 2022.</a>
10.23	<a href="#">Agreement Regarding the Assignment of Certain Maintenance Agreements, the Purchase and Sale of Certain Assets, and Related Matters with Aegis Energy Services LLC, incorporated by reference to Exhibit 99.01 to the registrant's Current Report on Form 8-K filed with the SEC on March 16, 2023.</a>
10.24	<a href="#">Note Subscription Agreement dated October 9, 2023 by John H. Hatsopoulos, incorporated herein by reference to Exhibit 99.01 to the registrant's Current Report on Form 8-K filed with the SEC on October 10, 2023.</a>
10.25	<a href="#">Note Subscription Agreement dated October 9, 2023 by Earl R. Lewis, incorporated herein by reference to Exhibit 99.02 to the registrant's Current Report on Form 8-K filed with the SEC on October 10, 2023.</a>
10.26	<a href="#">Amendment to the Agreement Regarding Assignment of Certain Maintenance Agreements dated as of March 15, 2023 with Aegis Energy Services, LLC, incorporated by reference to Exhibit 99.01 to the registrant's Current Report of Form 8-K filed with the SEC on February 2, 2024.</a>
10.27*	<a href="#">Letter agreement regarding the Note Subscription Agreement by John N. Hatsopoulos, dated March 21, 2024.</a>
10.28	<a href="#">Second Amendment to the Agreement Regarding Assignment of Certain Maintenance Agreements dated as of May 1, 2024 with Aegis Energy Services, incorporated by reference to Exhibit 99.01 to the registrant's Current Report on Form 8-K filed with the SEC on May 3, 2024.</a>
10.29	<a href="#">Amendment to Tecogen Promissory Notes with dated as of February 18, 2025 with John H. Hatsopoulos, incorporated by reference to Exhibit 99.01 to the registrant's Current Report of Form 8-K filed with the SEC on February 19, 2025.</a>
10.30	<a href="#">Sales and Marketing Agreement effective as of March 1, 2025 by and between Vertiv Corporation and Tecogen relating to Tecogen DTx chillers for cooling applications in data centers, incorporated herein by reference to Exhibit 99.01 to the registrant's Current Report on Form 8-K filed with the SEC on March 19, 2025. (portion omitted)</a>
19.1*	<a href="#">Tecogen Policy Regarding Insider Trading</a>
21.1	<a href="#">List of subsidiaries incorporated by reference to Exhibit 21.1 to the registrant's Post-Effective Amendment No. 1 to Form S-3 on Form S-1 Registration Statement Under the Securities Act of 1933, filed with the SEC on March 12, 2021.</a>
23.1*	<a href="#">Consent of Wolf &amp; Company, P.C.</a>
24.1*	Power of Attorney (included on Signature pages of this Annual Report on Form 10-K)
31.1*	<a href="#">Certification of Chief Executive Officer And Chief Financial Officer pursuant to Rule 13a-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>
32.1*	<a href="#">Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. 1350 adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase
101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase

\* Filed herewith.

# Confidential Treatment has been granted for portions of this document. The confidential portions were omitted and filed separately, on a confidential basis, with the Securities and Exchange Commission.

+ Management contract or compensatory plan or agreement.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TECOGEN INC.  
(Registrant)

Dated: March 18, 2025

By: /s/ Abinand Rangesh  
Chief Executive and Financial Officer  
(Principal Executive and Financial Officer)

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Abinand Rangesh, with the power of substitution and re-substitution, as his or her attorney-in-fact and agent, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K for the year ended December 31, 2024, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Angelina M. Galiteva</u> Angelina M. Galiteva	Director, Chairperson of the Board	March 18, 2025
<u>/s/ John N. Hatsopoulos</u> John N. Hatsopoulos	Lead Director	March 18, 2025
<u>/s/ Abinand Rangesh</u> Abinand Rangesh	Director and Chief Executive and Financial Officer (Principal Executive and Financial Officer)	March 18, 2025
<u>/s/ Ahmed F. Ghoniem</u> Ahmed F. Ghoniem	Director	March 18, 2025
<u>/s/ Earl R. Lewis III</u> Earl R. Lewis III	Director	March 18, 2025
<u>/s/ Susan Hirsch</u> Susan Hirsch	Director	March 18, 2025
<u>/s/ John M. Albertine</u> John M. Albertine	Director	March 18, 2025

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Tecogen Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Tecogen Inc. (the "Company") as of December 31, 2024 and 2023, the related consolidated statements of operations, stockholders' equity, and cash flows, for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting, 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.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

Critical audit matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging subjective, or complex judgments. We have determined that there were no critical audit matters in the current period.

/s/ WOLF & COMPANY, P.C.

PCAOB ID 392

We have served as the Company's auditor since 2014.

Boston, Massachusetts

March 18, 2025

## CONSOLIDATED BALANCE SHEETS

ASSETS	2024	2023
Cash and cash equivalents	\$ 5,405,233	\$ 1,351,270
Accounts receivable, net	6,026,545	6,735,336
Employee retention credit receivable	—	46,148
Unbilled revenue	398,898	1,258,532
Inventory, net	9,634,005	10,553,419
Prepaid and other current assets	680,565	360,639
<b>Total current assets</b>	<b>22,145,246</b>	<b>20,305,344</b>
Property, plant and equipment, net	1,738,036	1,162,577
Right of use assets - operating leases	1,730,358	743,096
Right of use assets - finance leases	452,390	200,187
Intangible assets, net	2,513,189	2,436,230
Goodwill	2,346,566	2,743,424
Other assets	166,474	201,771
<b>TOTAL ASSETS</b>	<b>\$ 31,092,259</b>	<b>\$ 27,792,629</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Related party notes payable	\$ 1,548,872	\$ 505,505
Accounts payable	4,142,678	4,514,415
Accrued expenses	2,890,886	2,504,629
Deferred revenue, current	6,701,131	1,647,206
Operating lease obligations, current	430,382	248,933
Finance lease obligations, current	85,646	40,540
Acquisition liabilities, current	902,552	845,363
Unfavorable contract liabilities, current	113,449	176,207
<b>Total current liabilities</b>	<b>16,815,596</b>	<b>10,482,798</b>
Long-term liabilities:		
Deferred revenue, net of current portion	1,165,951	369,611
Operating lease obligations, net of current portion	1,341,789	523,660
Finance lease obligations, net of current portion	325,235	159,647
Acquisition liabilities, net of current portion	1,008,760	1,181,779
Unfavorable contract liability, net of current portion	309,390	422,839
<b>Total liabilities</b>	<b>20,966,721</b>	<b>13,140,334</b>
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Tecogen Inc. stockholders' equity:		
Common stock, \$0.001 par value; 100,000,000 shares authorized; 24,950,261 issued and outstanding at December 31, 2024 and 24,850,261 shares issued and outstanding at December 31, 2023	24,950	24,850
Additional paid-in capital	57,845,289	57,601,402
Accumulated deficit	(47,639,894)	(42,879,656)
<b>Total Tecogen Inc. stockholders' equity</b>	<b>10,230,345</b>	<b>14,746,596</b>
Noncontrolling interest	(104,807)	(94,301)
<b>Total stockholders' equity</b>	<b>10,125,538</b>	<b>14,652,295</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 31,092,259</b>	<b>\$ 27,792,629</b>

As of December 31, 2024 and 2023

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

CONSOLIDATED STATEMENTS OF OPERATIONS  
For the Years Ended December 31, 2024 and 2023

	2024	2023
Revenues		
Products	\$ 4,443,996	\$ 8,859,946
Services	16,074,870	14,523,054
Energy production	2,100,670	1,756,419
Total revenues	<u>22,619,536</u>	<u>25,139,419</u>
Cost of sales		
Products	3,014,655	5,923,096
Services	8,432,876	7,909,202
Energy production	1,301,832	1,105,503
Total cost of sales	<u>12,749,363</u>	<u>14,937,801</u>
Gross profit	<u>9,870,173</u>	<u>10,201,618</u>
Operating expenses:		
General and administrative	11,356,406	11,880,389
Selling	1,880,903	1,931,037
Research and development	961,837	840,011
Gain on sale of assets	(12,181)	(36,207)
Goodwill impairment	217,295	—
Total operating expenses	<u>14,404,260</u>	<u>14,615,230</u>
Loss from operations	<u>(4,534,087)</u>	<u>(4,413,612)</u>
Other income (expense)		
Interest and other income (expense)	(26,814)	(61,003)
Interest expense	(90,304)	(16,050)
Total other expense, net	<u>(117,118)</u>	<u>(77,053)</u>
Loss before income taxes	<u>(4,651,205)</u>	<u>(4,490,665)</u>
State income tax provision	22,565	32,491
Consolidated net loss	<u>(4,673,770)</u>	<u>(4,523,156)</u>
Income attributable to the noncontrolling interest	(86,468)	(74,952)
Net loss attributable to Tecogen Inc.	<u>\$ (4,760,238)</u>	<u>\$ (4,598,108)</u>
Net loss per share - basic	<u>\$ (0.19)</u>	<u>\$ (0.19)</u>
Weighted average shares outstanding - basic	<u>24,861,190</u>	<u>24,850,261</u>
Net loss per share - diluted	<u>\$ (0.19)</u>	<u>\$ (0.19)</u>
Weighted average shares outstanding - diluted	<u>24,861,190</u>	<u>24,850,261</u>

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

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY  
For the Years Ended December 31, 2024 and 2023

	Common Stock Shares	Common Stock \$0.001 Par Value	Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total
Balance at December 31, 2022	24,850,261	\$ 24,850	\$ 57,351,008	\$ (38,281,548)	\$ (106,560)	\$ 18,9
Distributions to noncontrolling interest	—	—	—	—	(62,693)	(
Stock-based compensation	—	—	250,394	—	—	2
Net income (loss)	—	—	—	(4,598,108)	74,952	(4,5
Balance at December 31, 2023	24,850,261	24,850	57,601,402	(42,879,656)	(94,301)	14,6
Exercise of stock options	100,000	100	70,900	—	—	—
Distributions to noncontrolling interest	—	—	—	—	(96,974)	(
Stock-based compensation	—	—	172,987	—	—	1
Net income (loss)	—	—	—	(4,760,238)	86,468	(4,6
Balance at December 31, 2024	24,950,261	\$ 24,950	\$ 57,845,289	\$ (47,639,894)	\$ (104,807)	\$ 10,1

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

CONSOLIDATED STATEMENTS OF CASH FLOWS  
For the Years Ended December 31, 2024 and 2023

	2024	2023
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Consolidated loss	\$ (4,673,770)	\$ (4,523,156)
<i>Adjustments to reconcile net loss to net cash used in operating activities:</i>		
Depreciation, accretion and amortization, net	553,783	567,712
Gain on sale of assets	(12,181)	(36,207)
Provision for credit losses	146,010	902,432
Provision for inventory reserve	70,530	402,883
Stock-based compensation	172,987	250,394
Goodwill impairment	217,295	—
Non-cash interest expense	45,025	5,505
<i>Changes in operating assets and liabilities:</i>		
(Increase) decrease in:		
Accounts receivable	608,929	(81,195)
Inventory, net	848,884	(82,525)
Unbilled revenue	859,634	56,994
Prepaid expenses and other current assets	(319,926)	40,550
Other non-current assets	510,723	265,725
Increase (decrease) in:		
Accounts payable	(371,736)	1,161,416
Accrued expenses	386,257	128,869
Deferred revenue	5,850,265	543,842
Other current liabilities	(832,162)	(421,049)
Net cash provided by (used in) operating activities	4,060,547	(817,810)
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Purchases of property and equipment	(969,163)	(46,851)
Proceeds on sale of property and equipment	51,400	34,655
Payment for business acquisition	—	(170,000)
Distributions to noncontrolling interest	(96,974)	(62,693)
Net used in investing activities	(1,014,737)	(244,889)
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Proceeds from related party note	1,000,000	500,000
Finance lease principal payments	(62,847)	—
Proceeds from exercise of stock options	71,000	—
Net cash provided by financing activities	1,008,153	500,000
Change in cash and cash equivalents	4,053,963	(562,699)
Cash and cash equivalents, beginning of the year	1,351,270	1,913,969
Cash and cash equivalents, end of the year	\$ 5,405,233	\$ 1,351,270

**Supplemental disclosure of cash flow information:**

Cash paid for interest	\$ 45,278	\$ 10,926
Cash paid for taxes	\$ 22,565	\$ 32,491
<b>Non-cash investing activities</b>		
Right-of-use assets acquired under operating leases	\$ 1,650,994	\$ 148,093
Right-of-use assets acquired under finance leases	\$ 295,085	\$ 200,187
<b>Aegis acquisition:</b>		
Accounts receivable credit	\$ —	\$ 300,000
Accounts payable assumed	—	91,048
Contingent consideration	272,901	1,256,656
Total fair value of non-cash consideration	\$ 272,901	\$ 1,647,704

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

**Note 1. Nature of Business and Operations**

Tecogen Inc. (together with its subsidiaries "we", "our", "us", "Tecogen", or "Company"), a Delaware Corporation, was incorporated on September 15, 2000, and acquired the assets and liabilities of the Tecogen Products division of Thermo Power Corporation. We produce 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. Our 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 our customers are located in regions with the highest utility rates, typically California, the Midwest and the Northeast.

Our operations are comprised of three business segments. Our Products segment designs, manufactures and sells industrial and commercial cogeneration systems as described above. Our Services segment provides operation and maintenance services to customers for our products. Our Energy Production segment sells energy in the form of electricity, heat, hot water and cooling to our customers under long-term sales agreements.

*Liquidity, Going Concern and Management's Plans*

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles assuming that we will continue as a going concern, which contemplates the realization of assets and the settlement of obligations in the normal course of business. As of December 31, 2024, our cash and cash equivalents were \$5,405,233, compared to \$1,351,270 at December 31, 2023, an increase of \$4,053,963. For the year ended December 31, 2024 we generated \$4,060,547 in cash from operations and incurred net operating losses of \$4,534,087, due to lower Products sales and lower gross margin. Working capital at December 31, 2024 was \$5,329,650, compared to \$9,822,546 at December 31, 2023, a decrease of \$4,492,896 and our accumulated deficit was \$47,639,894.

As a result of the above factors, management has performed an analysis to evaluate the entity's ability to continue as a going concern for one year after the financial statements issuance date. Management's analysis includes forecasting future revenues, expenditures and cash flows, taking into consideration past performance as well as key initiatives recently undertaken. Our forecasts are dependent on our ability to maintain margins based on the Company's ability to close on new and expanded business, leverage existing working capital, and effectively manage expenses. New and expanded business includes the sale and shipment of newly developed hybrid-drive air-cooled chillers, increased services revenue due to the acquisition of additional maintenance contracts in February 2024 and April 2024, and the anticipated expansion of markets served by our chiller products into the data center market, which is currently experiencing power constraints. Our backlog at December 31, 2024 was \$12,336,248, which is an increase of \$4,948,103 from the December 31, 2023 backlog. Based on management's analysis, we believe that cash flows from operations will be sufficient to fund operations over the next twelve months.

**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, or FASB. The FASB sets generally accepted accounting principles, or 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, or ASC. We 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.

The accompanying consolidated financial statements include our accounts and the accounts of the entities in which we have a controlling financial interest. Those entities include our wholly-owned subsidiary, American DG Energy Inc. ("ADGE"), Tecogen CHP Solutions, Inc., and a joint venture, American DG New York, LLC, or ADGNY, in which ADGE holds a 51.0% interest. As the controlling partner, all major decisions in respect of ADGNY are made by ADGE in accordance with the joint venture agreement. The interests in the individual underlying energy system projects in ADGNY vary between ADGE and its joint venture partner. The noncontrolling interest and distributions are determined based on economic ownership. The economic ownership is calculated by the amount invested by us and the noncontrolling partner in each site. Each quarter, we calculate a year-to-date profit/loss for each site that is part of ADGNY and the noncontrolling interest percent of economic ownership in each site is applied to determine the noncontrolling interest share in the profit/loss. The same methodology is used to determine quarterly distributions of available cash to the noncontrolling interest partner. On our balance sheet, noncontrolling interest represents the joint venture partner's investment in ADGNY, plus its share of after-tax profits less any cash distributions. ADGE owned a controlling 51.0% legal and economic interest in ADGNY as of December 31, 2024.

**TECOGEN INC.**  
**Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023**

Investments in partnerships and companies in which we do not have a controlling financial interest but where we have significant influence, if any, are accounted for under the equity method.

Noncontrolling interests in the net assets and operations of ADGNY 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.

*Reclassification of Prior Year Presentation*

Certain prior year amounts have been reclassified for consistency with the current year presentation. These reclassifications had no effect on the reported results of operations.

*Concentration of Credit Risk*

Financial instruments that expose us to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. We maintain our 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, 2024 and 2023 which exceeded the \$250,000 federally insured limit were approximately \$4,954,395 and \$1,009,094, respectively. We have not experienced any losses in such accounts and thus believe that we are not exposed to any significant credit risk on cash.

There was no customer who represented 10% of revenues for the years ended December 31, 2024 and December 31, 2023. There was one customer who represented 12% of the accounts receivable balance as of December 31, 2024, and one customers who represented 14% of the accounts receivable balance as of December 31, 2023.

*Cash and Cash Equivalents*

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

*Accounts Receivable*

On January 1, 2023, we adopted ASU 2016-13, *Financial Instruments, Credit Losses (Topic 326)*. Accounts receivable are stated at the amount management expects to collect from outstanding balances. The allowance for credit losses is estimated based on historical experience, aging of the receivable, the counterparty's ability to pay, condition of general economy and industry, and combined with management's estimate of current conditions, reasonable and supportable forecasts of future losses to determine estimated credit losses in our evaluation of outstanding accounts receivable at the end of the year. The allowance for credit losses reflects management's evaluation of our outstanding accounts receivable at the end of the year and our best estimate of probable losses inherent in the accounts receivable balance. Accounts receivable deemed uncollectible are charged against the allowance for credit losses when identified. Our provision for credit losses decreased to \$146,010 in the year ended December 31, 2024, compared to \$902,432 in the year ended December 31, 2023, due to the write down of certain install receivables which were deemed uncollectible in the year ended December 31, 2023. At December 31, 2024 and 2023, the allowance for credit losses was \$295,932 and \$149,992, 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. 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 and anticipated usage. 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 life of the asset, which range from three to fifteen 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, while renewals and betterments that materially extend the life of an asset are capitalized.

We review our property, plant and equipment for potential impairment whenever events or changes in business circumstances indicate that the carrying value of the assets may not be fully recoverable or that the useful lives of the assets are

no longer appropriate. We evaluate the recoverability of our long-lived assets when impairment is indicated by comparing the net book value of the asset group to the estimated future undiscounted cash flows attributable to such assets. If the sum of the projected undiscounted cash flows (excluding interest charges) is less than the carrying value of the assets, the assets will be written down to the estimated fair value and such loss is recognized in income from continuing operations in the period in which the determination is made. If impairment is indicated, the asset is written down to its estimated fair value.

*Intangible Assets*

Intangible assets subject to amortization include costs incurred by us to acquire product certifications, certain patent costs, developed technologies, and customer contracts. These costs are amortized on a straight-line basis over the estimated economic life of the intangible asset. Indefinite life intangible assets such as trademarks are recorded at cost and not amortized.

The favorable contract asset which relates to existing ADGE customer contracts is more fully described in Note 8. "Intangible Assets and Liabilities other than Goodwill". Customer contracts are more fully described in Note 5. "Aegis Contract and Related Asset Acquisition".

*Impairment of Long-lived Assets*

Long-lived assets, including intangible assets and property, plant and equipment, are evaluated for impairment whenever events or changes in circumstances have indicated that an asset may not be recoverable and are grouped with other assets to the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities. If the sum of the projected undiscounted cash flows (excluding interest charges) is less than the carrying value of the assets, the assets will be written down to the estimated fair value and such loss is recognized in income from continuing operations in the period in which the determination is made. Management determined that no impairment of long-lived assets existed as of December 31, 2024 and 2023, respectively.

*Business Combinations*

In accordance with applicable accounting standards, we estimate the fair value of assets acquired and liabilities assumed as of the acquisition date of each business combination. Any excess purchase price over the fair value of the net tangible and intangible assets acquired is allocated to goodwill. We may make certain estimates and assumptions when determining the fair values of assets acquired and liabilities assumed, including intangible assets. Critical estimates in valuing certain intangible assets include but are not limited to future expected cash flows from energy production sites or customer maintenance contracts, estimated operating costs, as well as discount rates. At the acquisition date, we will also record acquisition related liabilities, if applicable, for any contingent consideration or deferred payments to the seller and pre-acquisition deferred maintenance contingencies identified at service contract acquisition. Contingent consideration and pre-acquisition deferred maintenance contingencies are recorded at fair value on the acquisition date based on our expectation of achieving the contractually defined revenue targets and actual and projected future costs. The fair value of the contingent consideration and pre-acquisition deferred maintenance liabilities are remeasured each reporting period after the acquisition date and any changes in the estimated fair value are reflected as gains or losses in cost of goods sold or general and administrative expense in the consolidated statement of operations. Contingent consideration liabilities and deferred payments to sellers are recorded as current liabilities and other long-term liabilities in the consolidated balance sheets based on the expected timing of settlement.

Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Any changes to provisional amounts identified during the measurement period are recognized in the reporting period in which the adjustment amounts are determined. Transaction costs associated with business combinations are expensed as incurred.

*Goodwill*

Goodwill is the excess of the fair value of consideration paid for businesses over the fair value of the identifiable net assets acquired. Impairment testing for goodwill is performed annually, generally in the fourth fiscal quarter, or more frequently if impairment indicators are present.

To determine if goodwill is potentially impaired, we have the option to perform a qualitative assessment. However, we may elect to bypass the qualitative assessment and perform an impairment test even if no indications of a potential impairment exist. The impairment test for goodwill is performed at the reporting unit level and compares the fair value of the reporting unit (calculated using a discounted cash flow method) to its carrying value, including goodwill. The discount rate represents our estimate of the weighted-average cost of capital, or expected return, that a marketplace participant would have required as of the valuation date. If the carrying value exceeds the fair value, an impairment charge is recorded for the excess carrying value over fair value, limited to the total amount of goodwill of that reporting unit. For 2024, we assessed goodwill impairment of our energy production reporting unit and our Aegis service maintenance contracts reporting unit.

We used a discounted cash flow approach to develop the estimated fair value of each reporting unit. Management

judgment is required in developing the assumptions for the discounted cash flow model. The discount rate, profitability assumptions, and terminal growth rate assumptions of the Energy Production unit utilized in the discounted cash flow model used to estimate its fair value are specific to the Energy Production unit, which the discount rate, profitability assumptions, and terminal growth rate assumptions utilized for the Aegis service maintenance reporting unit are specific to the Aegis service maintenance reporting. An impairment would be recorded if the carrying amount of a reporting unit including goodwill exceeded the estimated fair value. Based on the aforementioned analysis, our assessment in 2024 indicated that the carrying value of our energy production reporting unit exceeded their fair value and therefore goodwill was impaired. We recorded a goodwill impairment charge of \$217,295 in our Consolidated Financial Statements. Our assessment of the Aegis service maintenance contracts reporting unit, at December 31, 2024, indicated that the carrying value of the service maintenance contracts did not exceed their fair value and therefore goodwill was not impaired. (see Note 10."Goodwill").

We adopted the provisions of ASU 2017-04, during 2018, which simplified the impairment testing process by eliminating the requirement to determine the implied fair value of goodwill. We test goodwill for impairment on either a qualitative basis under certain conditions, or a quantitative basis. On a quantitative basis, fair value of the reporting units is primarily determined using a probability weighted discounted cash flow analysis.

#### *Acquisition-Related Contingent Consideration*

Acquisition-related contingent consideration, which primarily consists of contingent consideration payable obligations, equal to a percentage of the revenue collected for maintenance services pursuant to the Aegis contract and related asset acquisitions, was recorded in the Consolidated Balance Sheets at its acquisition date estimated fair value, in accordance with the acquisition method of accounting. The fair value of the acquisition-related contingent consideration is remeasured each reporting period, with changes in fair value recorded in the Consolidated Statements of Operations. The fair value measurement of contingent consideration obligations arising from business combinations is determined via a probability-weighted discounted cash flow analysis, using unobservable (Level 3) inputs. These inputs may include: (i) the estimated amount and timing of projected cash flows, (ii) the probability of the achievement of the factor(s) on which the contingency is based and (iii) the risk-adjusted discount rate used to present value the probability-weighted cash flows. Significant increases or decreases in any of those inputs in isolation could result in a significantly higher or lower fair value measurement.

#### *Leases*

On January 1, 2019, we adopted the guidance under ASU No. 2016-02, "Leases" ("ASC 842"). ASC 842 requires lessees to recognize most leases on their balance sheets as a right-of-use ("ROU") asset with a corresponding lease liability. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Lease ROU assets and liabilities are recognized at lease commencement date based on the present value of lease payments over the expected lease term. See Note 14."Leases".

#### *Income (loss) per Common Share*

We compute basic income (loss) per share by dividing net income (loss) for the period by the weighted-average number of shares of common stock outstanding during the period. We compute our diluted earnings (loss) per common share using the treasury stock method. For purposes of calculating diluted earnings per share, we consider our shares issuable in connection with 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.

#### *Segment Information*

Our operations are comprised of three business segments. Our Products segment designs, manufactures and sells industrial and commercial cogeneration systems as described above. Our Services segment installs and maintains our cogeneration systems. Our Energy Production segment sells energy in the form of electricity, heat, hot water and cooling to our customers under long-term sales agreements. Segment profit is based on operating income after the elimination of intercompany transactions. Segment profit is a measure of operating performance of our reportable segments and may not be comparable to similar measures reported by other companies. Segment profit is a performance metric utilized by our Chief Executive Officer, who is our Chief Operating Decision Maker, to allocate resources to and access performance of our segments. See Note 18. "Segments" for a reconciliation of segment profit to income from operations.

#### *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

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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.

We have adopted the provisions of the accounting standards relative to accounting for uncertainties in tax positions. These provisions provide guidance on the recognition, derecognition 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. We have analyzed our current tax return compliance positions and determined that no uncertain tax positions have been taken that would require recognition.

With few exceptions, we are no longer subject to possible income tax examinations by federal, state or local taxing authorities for tax years before 2021, with the exception of loss carryforwards in the event they are utilized in future years. Our tax returns are open to adjustment from 2001 forward, as a result of the fact that the we have loss carryforwards from those years, which may be adjusted in the year those losses are utilized.

*Fair Value of Financial Instruments*

Our financial instruments are cash and cash equivalents, accounts receivable, available-for-sale securities and accounts payable. The recorded values of cash and cash equivalents, accounts receivable and accounts payable approximate their fair values based on their short-term nature. See Note 16. "Fair Value Measurements".

*Revenue Recognition*

Revenue is recognized when performance obligations under the terms of a contract with our customer are satisfied; generally, this occurs with the transfer of control of our products, services and energy production. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services or energy to customers.

Shipping and handling fees billed to customers in a sales transaction are recorded in revenue for goods provided. were \$96,890 and \$174,662, for the years ended December 31, 2024 and 2023, respectively. The related shipping and handling costs incurred are accounted for as fulfillment activities and are recognized as cost of goods sold when control of the product transfers to the customer, which were \$59,331 and \$79,616, for the years ended December 31, 2024 and 2023, respectively. The costs of inbound freight is recorded in general and administrative expenses. For the years ended December 31, 2024 and 2023, \$248,229 and \$427,880 of shipping and handling costs were included in general and administrative expenses in the accompanying consolidated statements of operations, respectively. We elected to exclude from revenue any value-add sales and other taxes which we collect concurrent with revenue-producing activities. These accounting policy elections are consistent with the manner in which we have historically recorded shipping and handling fees and taxes. Incremental costs incurred by us in obtaining a contract with a customer are negligible, if any, and are expensed ratably in proportion to the related revenue recognized.

*Advertising Costs*

We expense the costs of advertising as incurred. For the years ended December 31, 2024 and 2023, advertising expense was approximately \$74,000 and \$80,000, respectively.

*Research and Development Costs*

Research and development expenditures are expensed as incurred. Our total research and development expenditures were approximately \$962,000 and \$840,000 for the years ended December 31, 2024 and 2023, respectively.

*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.

The determination of the fair value of share-based payment awards is affected by our stock price. For the awards issued prior to our being 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 our common stock.

We utilize actual forfeitures when calculating the expense for the period. Stock-based compensation expense recognized is based on awards that are ultimately expected to vest. We evaluate 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, we may be required to accelerate, increase or cancel any remaining unearned stock-based compensation expense.

See Note 15. "Stockholders' Equity" for a summary of the restricted stock and stock option activity under our stock-based employee compensation plan for the years ended December 31, 2024, and 2023.

**Disaggregated Revenue**

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In general, our business segmentation is aligned according to the nature and economic characteristics of our products and customer relationships and provides meaningful disaggregation of each business segment's results of operations.

The following table further disaggregates our revenue by major source by segment for the years ended December 31, 2024 and 2023.

	Years Ended	
	December 31, 2024	December 31, 2023
<b>Products:</b>		
Cogeneration	\$ 2,677,930	\$ 2,761,667
Chiller	1,647,374	5,303,978
Engineered Accessories	118,692	794,301
Total Products Revenue	4,443,996	8,859,946
Services	16,074,870	14,523,054
Energy production	2,100,670	1,756,419
Total revenue	\$ 22,619,536	\$ 25,139,419

**Products Segment**

Our Product revenues include cogeneration systems that supply electricity and hot water, chillers that provide air-conditioning and hot water and engineered accessories, which consist of ancillary products and parts necessary to install a cogeneration unit including integration into the customers' existing electrical and mechanical systems. We refer to the package of engineered accessories and engineering and design services necessary for the customers' installation of a cogeneration unit as light installation services.

We transfer control and generally recognize a sale when we ship a product from our manufacturing facility at which point the customer takes ownership of the product. Payment terms on product sales are generally 30 days.

We recognize revenue in certain circumstances before delivery to the customer has occurred (commonly referred to as bill and hold transactions). We recognize revenue related to such transactions once, among other things, the customer has made a written fixed commitment to purchase the product(s) under normal billing and credit terms, the customer has requested the product(s) be held for future delivery as scheduled and designated by them, risk of ownership has been assumed by the customer, and the product(s) are tagged as sold and segregated for storage awaiting further direction from the customer. Due to the infrequent nature and duration of bill and hold arrangements, the value associated with custodial storage services is deemed immaterial in the context of the contract and in total, and accordingly, none of the transaction price is allocated to such service.

Depending on the product and terms of the arrangement, we may defer the recognition of a portion of the transaction price received because we have to satisfy a future obligation (e.g., product start-up service). Amounts allocated to product start-up services are recognized as revenue when the start-up service has been completed. We use an observable selling price to determine standalone selling prices where available and either a combination of an adjusted market assessment approach, an expected cost plus a margin approach, and/or a residual approach to determine the standalone selling prices for separate performance obligations as a basis for allocating contract consideration when an observable selling price is not available. Amounts received but not recognized pending completion of performance are recognized as contract liabilities and are recorded as deferred revenue along with deposits by customers.

**Services Segment**

Maintenance services are provided under either long-term maintenance contracts or time and material maintenance contracts. Revenue under time and material maintenance contracts is recognized when the maintenance service is completed. Revenue under long-term maintenance contracts is recognized either ratably over the term of the contract where the contract price is fixed or when the periodic maintenance activities are completed and the invoiced cost to the customer is based on run hours or kilowatts produced in a given period. We use an output method to measure progress towards completion of our performance obligation which results in the recognition of revenue on the basis of a direct measurement of the value to the customer of the services transferred to date relative to the remaining services promised under the contract. We use the practical expedient at ASC 606-10-55-18 of recognizing revenue in an amount equal to the amount we have the right to invoice the customer under the contract.

Our initial acquisition of the Aegis maintenance contracts and related business closed on March 15, 2023. We have included the financial results of the Aegis maintenance agreements in our consolidated financial statements from April 1, 2023, from February 1, 2024 and from May 1, 2024, the closing or acquisition dates for the acquisitions in our revenue from the Services segment. Payment terms for maintenance services are generally 30 days.

### Energy Production Segment

Revenue from energy contracts is recognized when electricity, heat, hot and/or chilled water is produced by our owned on-site cogeneration systems. Each month we bill the customer and recognize revenue for the various forms of energy delivered, based on meter readings which capture the quantity of the various forms of energy delivered in a given month, under a contractually defined formula which takes into account the current month's cost of energy from the local power utility.

As the various forms of energy delivered by us under energy production contracts are simultaneously delivered and consumed by the customer, our performance obligation under these contracts is considered to be satisfied over time. We use an output method to measure progress towards completion of our performance obligation which results in the recognition of revenue on the basis of a direct measurement of the value to the customer of the services transferred to date relative to the remaining services promised under the contract. We use the practical expedient at ASC 606-10-55-18 of recognizing revenue in an amount equal to that amount to which we have the right to invoice the customer under the contract. Payment terms on invoices under these contracts are generally 30 days.

### Contract Balances

The timing of revenue recognition, billings and cash collections result in billed accounts receivable, unbilled revenue (contract assets) and deferred revenue, consisting of customer deposits and billings in excess of revenue recognized (contract liabilities) on the consolidated balance sheets.

We did not recognize any revenue during the year ended December 31, 2024 that was included in the unbilled revenue receivable as of December 31, 2024.

Revenue recognized during the year ended December 31, 2024 that was included in deferred revenue at the beginning of the period was \$662,730.

### Remaining Performance Obligations

Remaining performance obligations related to ASC 606 represent the aggregate transaction price allocated to performance obligations with an original contract term greater than one year, excluding certain maintenance contracts and all energy production contracts where a direct measurement of the value to the customer is used as a method of measuring progress towards completion of our performance obligation. Exclusion of these remaining performance obligations is due in part to the inability to quantify values based on unknown future levels of delivery and in some cases rates used to bill customers. Remaining performance obligations therefore consist of unsatisfied or partially satisfied performance obligations related to fixed price maintenance contracts and installation contracts.

As of December 31, 2024, the aggregate amount of the transaction price allocated to remaining unsatisfied performance obligations was approximately \$7,867,082. We expect to recognize revenue of approximately 84% of the remaining performance obligations over the next 24 months, 82% recognized in the first 12 months and 2% recognized over the subsequent 12 months, and the remainder recognized thereafter.

### Significant New Accounting Standards Adopted this Period

New accounting standards adopted in the year ended December 31, 2023.

*Financial Instruments, Credit Losses (Topic 326)*. In June 2016, the Financial Accounting Standards Board issued ASU No. 2016-13, *Financial Instruments, Credit Losses (Topic 326)*, which was subsequently amended by ASUs 2018-19, 2019-04, 2019-05, 2019-11, and 2020-03. Topic 326 replaces the existing incurred loss impairment model with a methodology that incorporates all expected credit loss estimates, resulting in more timely recognition of losses. Under Topic 326, we are required to measure all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported financial assets. It also requires credit losses related to available-for-sale debt securities to be recorded through an allowance for credit losses. We adopted Topic 326 on January 1, 2023 on a modified retrospective basis. The adoption did not have a material effect on our consolidated financial statements.

New accounting standards adopted in the year ended December 31, 2024.

*Segment Reporting (Topic 280) - Improvements to Reportable Segment Disclosures*. In November 2023, the Financial Accounting Standards Board issued ASU 2023-07, *Segment Reporting (Topic 280) - Improvements to Reportable Segment Disclosures*. The new standard requires enhanced disclosures about a public entity's reportable segments including more detailed information about a reportable segment's expenses. The amendments in this update apply to all public entities that are required to report segment information, and include those entities that have a single reportable segment. The amendments in this update are effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. We adopted Topic 280 on January 1, 2024. Retrospective application is

required for all periods presented in the financial statements. The adoption of Topic 280 did not have a material effect on our consolidated financial statements, other than with respect to expanded disclosure.

#### **Recently Issued Accounting Pronouncements**

*Income Taxes (Topic 740) - Improvements to Income Tax Disclosures.* In December 2023, the Financial Accounting Standards Board issued ASU 2023-09, *Income Taxes (Topic 740) - Improvements to Income Tax Disclosures*. ASU 2023-09 provides more transparency about income tax information through improvements to income tax disclosures primarily related to the rate reconciliation and income taxes paid information. The amendments in this update are effective for annual periods beginning after December 15, 2024. Early adoption is permitted. The adoption of Topic 740 will not have a material effect on our consolidated financial statements, other than with respect to expanded disclosure.

*Compensation - Stock Compensation (Topic 718)* - In March 2024, the Financial Accounting Standards Board Issued ASU 2024-01, *Compensation - Stock Compensation (Topic 718)*. ASU 2024-01 addresses generally accepted accounting principles relating to profits interest awards and similar awards provided to employees or non-employees to align compensation with an entity's operating performance and provide the holders with the opportunity to participate in future profits and/or equity appreciation of the entity. Since profits interest holders only participate in future profits and/or equity appreciation and have no rights to the existing assets of the entity, a profits interest award should be accounted for as a share-based compensation arrangement (Topic 718) or similar to a cash bonus or profit-sharing arrangement (Topic 710). The amendments in this update apply to all entities that enter into share-based payment transactions and are effective for annual periods beginning after December 15, 2024 and interim periods for those annual periods. Early adoption is permitted for both interim and annual periods that have not yet been issued or made available for issuance. If adopted in an interim period, the Update should be adopted as of the beginning of the annual period that includes the interim period. The amendments can be applied retrospectively to all prior periods presented in the financial statements or prospectively to profits interest and similar awards granted or modified on or after the date the entity first applies the amendments. If applied retrospectively, the entity is required to provide disclosures in paragraphs 250-10-50-1 through 50-3. If applied prospectively, the entity is required to disclose the nature and reason for the change in accounting principle. ASU 2024-01 may apply to Tecogen should we issue profits interest awards after December 15, 2024, adoption of which we believe will not have a material effect on our financial position or results of operation.

*Codification Improvements – Amendments to Remove References to the Concepts Statements.* In March 2024, the Financial Accounting Standards Board Issued ASU 2024-02, *Codification Improvements – Amendments to Remove References to the Concepts Statements*. ASU 2024-02 contains amendments to the Codification that remove references to various FASB Concept Statements, affecting a variety of Topics in the Codification and applies to all reporting entities. The amendments in this update are effective for public entities for fiscal years beginning after December 31, 2024. Early application of the amendments in this update are permitted for any fiscal year or interim period for which financial statements have not yet been issued or made available for issuance. If adopted in an interim period, the amendment must be adopted as of the beginning of the fiscal years that includes the interim period. An entity should apply the amendments prospectively to all new transactions recognized on or after the date that the entity first applies the amendments, or retrospectively to the beginning of the earliest comparative period presented in which the amendments were first applied, by adjusting the opening balance of retained earnings, or other appropriated components of equity or net assets, as of the beginning of the earliest comparative period presented. ASU 2024-02 will apply to Tecogen after December 15, 2024, adoption of which we believe will not have a material effect on our financial position or results of operation.

*Income Statement – Reporting Comprehensive Income – Expense Disaggregation Disclosures (Subtopic 220-40).* In November 2024, the Financial Accounting Standards Board Issued ASU 2024-03 *Income Statement- Reporting Comprehensive Income – Expense Disaggregation Disclosures (Subtopic 220-40)*. This update is intended to improve disclosures about public entity's expenses and will require more detailed information about types of expenses including inventory purchases, employee compensation, depreciation, amortization and depletion in commonly presented captions such as cost of sales, SG&A and research and development. In addition, an entity will be required to include certain amounts that are already disclosed under GAAP in the same disclosure as the other disaggregation requirements; disclose a qualitative description of the amounts remaining in expense captions not separately disaggregated quantitatively; and, disclose the amount of selling expense and, in annual reporting periods, the entity's definition of selling expenses. The amendments are effective for annual reporting periods beginning after December 15, 2026, and interim reporting periods beginning after December 15, 2027. Early adoption is permitted. The amendments should be applied prospectively to the financial statements after the effective date and retrospectively to any and all prior periods presented in the financial statements. ASU 2024-03 will apply to Tecogen after December 15, 2026, adoption of which will not have a material effect on our financial position or results of operation, but will require additional disclosure.

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**Note 3. Income (loss) per Common Share:**

Basic and diluted loss per common share for the years ended December 31, 2024 and 2023, respectively, was as follows:

	Years Ended	
	December 31, 2024	December 31, 2023
Numerator:		
Net loss attributable to stockholders	\$ (4,760,238)	\$ (4,598,108)
Denominator:		
Weighted average shares outstanding - Basic	24,861,190	24,850,261
Effect of dilutive securities:		
Stock options	—	—
Weighted average shares outstanding - Diluted	24,861,190	24,850,261
Basic loss per share	\$ (0.19)	\$ (0.19)
Diluted loss per share	\$ (0.19)	\$ (0.19)
Anti-dilutive shares underlying stock options outstanding	1,222,516	1,757,676

**Note 4. Acquisition of American DG Energy Inc.**

On May 18, 2017, we completed our acquisition, by means of a stock-for-stock merger, of 100% of the outstanding common shares of American DG Energy Inc. ("American DG Energy" or "ADGE"), a company which installed, owned, operated and maintained complete distributed generation of electricity systems, or DG systems or energy systems, and other complementary systems at customer sites and sells electricity, hot water, heat and cooling energy under long-term contracts at prices guaranteed to the customer to be below conventional utility rates, by means of a merger of one of our wholly owned subsidiaries with and into ADGE such that ADGE became a wholly owned subsidiary of Tecogen. We acquired ADGE to, among other reasons, expand our product offerings and benefit directly from the long-term contracted revenue streams generated by these installations. We gained control of ADGE on May 18, 2017 by issuing shares of our Common Stock to the prior stockholders of ADGE.

Goodwill of \$13.3 million arising from the acquisition is primarily attributable to the going concern element of ADGE's business, including its assembled workforce and the long-term contractual nature of its business, as well as expected cost synergies from the merger related primarily to the elimination of administrative overhead and duplicative personnel. None of the goodwill recognized is expected to be deductible for income tax purposes.

The favorable contract asset and the unfavorable contract liability, both of which relate to existing customer contracts, and the estimated amortization are more fully described in Note 8. "Intangible Assets and Liabilities other than Goodwill".

**Note 5. Aegis Contract and Related Asset Acquisition**

On March 15, 2023, we entered into an agreement ("Agreement") with Aegis Energy Services, LLC ("Aegis") pursuant to which Aegis agreed to assign to us and we agreed to assume certain Aegis maintenance agreements, we agreed to purchase certain assets from Aegis, and related matters ("Acquisition"). On April 1, 2023, the Acquisition closed. Under the Agreement, we agreed to acquire from Aegis and assume Aegis' rights and obligations arising on or after April 1, 2023, under maintenance agreements pursuant to which Aegis provided maintenance services to third parties for approximately 200 cogeneration systems and we agreed to acquire from Aegis certain vehicles and inventory used by Aegis in connection with the performance of its maintenance services. At closing, we acquired eight (8) Aegis vehicles for consideration consisting of \$170,000 in cash. Also, we issued credits against outstanding accounts receivable due from Aegis in the amount of \$300,000 for the acquisition of inventory that Aegis used to provide maintenance services. At closing, we hired eight (8) Aegis employees who, following the closing, have agreed to continue to provide maintenance services relating to the cogeneration systems covered by the maintenance agreements assumed pursuant to the Agreement. Following the closing and for a period of up to seven (7) years, we agreed to pay Aegis a percentage of the revenue collected for maintenance services provided pursuant to the maintenance agreements acquired from Aegis. Further, prior to December 31, 2023, we had the right to acquire and assume additional Aegis' maintenance agreements for cogeneration systems on substantially similar terms and conditions. The Agreement contained certain indemnification provisions and agreements on the part of Aegis and for each party to cooperate with each other and provide certain transitional assistance. We acquired the Aegis maintenance agreements to expand our Service portfolio and to benefit from the long-term contract revenue stream generated by these agreements.

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On February 1, 2024, Tecogen and Aegis amended the Agreement to add eighteen (18) additional maintenance contracts assumed by us (the "February 2024 Amendment") which includes an undertaking by Aegis to use commercially reasonable efforts to support and assist our execution of maintenance service agreements for an additional thirty-six (36) cogeneration units sold to customers by Aegis.

On May 1, 2024, Tecogen and Aegis amended the Agreement to add thirty-one (31) additional maintenance contracts assumed by us (the "May 2024 Amendment") which includes an undertaking by Aegis to use commercially reasonable efforts to support and assist our execution of maintenance service agreements for an additional forty-eight (48) cogeneration units sold to customers by Aegis.

No additional maintenance service agreements contemplated in the February 2024 Amendment or the May 2024 Amendment have been executed as of December 31, 2024.

We have determined that the assignment and assumption of the Aegis maintenance agreements, in combination with the related asset acquisition and the retention of the former Aegis employees, constitutes a business and should be accounted for as a business combination under the acquisition method. As of the acquisition date, we recognized, separately from goodwill, the identifiable assets acquired and the liabilities assumed, at fair value. We have applied an interpretation of the guidance in ASC 805, Business Combinations, that allows an entity to combine multiple acquisitions as one single transaction due to the April 1, 2023, February 1, 2024 and May 1, 2024 acquisitions being executed in contemplation of one another to achieve the same commercial objective for the Company. As a result, we have adjusted the initial accounting for the April 1, 2023 acquisition for the value of net assets acquired from the February 1, 2024 and May 1, 2024 acquisitions.

We have included the financial results of the Aegis maintenance agreements in our consolidated financial statements from April 1, 2023, from February 1, 2024 and from May 1, 2024, the closing or acquisition dates for the acquisitions.

The following table summarizes the consideration paid for the Aegis acquisition and the fair value of assets acquired and contract-related liabilities assumed as of the acquisition date:

	<b>Acquisitions</b>			
	<b>April 1, 2023</b>	<b>February 1, 2024</b>	<b>May 1, 2024</b>	<b>Total</b>
<b>Consideration Paid:</b>				
Cash	\$ 170,000	\$ —	\$ —	\$ 170,000
Accounts receivable credit issued	300,000	—	—	300,000
Account payable due to Aegis	91,048	—	—	91,048
Contingent consideration	1,256,656	101,641	171,260	1,529,557
<b>Total fair value of consideration transferred</b>	<b>1,817,704</b>	<b>101,641</b>	<b>171,260</b>	<b>2,090,605</b>
<b>Identifiable assets acquired and liabilities assumed:</b>				
<b>Assets acquired</b>				
Property, plant and equipment	170,000	—	—	170,000
Inventory	391,048	—	—	391,048
Identifiable intangible asset - customer contracts	1,772,659	184,587	267,877	2,225,123
	2,333,707	184,587	267,877	2,786,171
<b>Acquired contract-related liabilities assumed</b>				
Deferred maintenance reserve	(853,271)	—	—	(853,271)
<b>Net identifiable assets acquired</b>	<b>1,480,436</b>	<b>184,587</b>	<b>267,877</b>	<b>1,932,900</b>
Excess of cost over fair value of net assets acquired (Goodwill)	\$ 337,268	\$ (82,946)	\$ (96,617)	\$ 157,705

*Initial Acquisition - April 1, 2023*

The amounts initially recognized for inventory, identifiable intangible assets, contingent consideration and deferred maintenance reserves were provisional pending completion of the necessary valuations and analysis. ASC 805 establishes a measurement period to provide companies with a reasonable amount of time to obtain the information necessary to identify and measure various items in a business combination and cannot extend beyond one year from the acquisition date. As of December 31, 2023, we completed our analysis and valuation.

As of December 31, 2024, we recorded no remeasurement adjustments to the fair value of the contingent consideration and deferred maintenance reserves given the probability of achieving the revenue estimates and the actual and expected maintenance costs were consistent with our initial valuation.

*February 2024 Amendment*

The amounts initially recognized for identifiable intangible assets and contingent consideration are provisional, pending completion of the necessary valuations and analysis. ASC 805 establishes a measurement period to provide companies with a reasonable amount of time to obtain the information necessary to identify and measure various items in a business combination and cannot extend beyond one year from the acquisition date. During the year ended December 31, 2024, we identified a \$9,232 adjustment to increase the contingent consideration liability and a \$5,052 adjustment reducing the customer contracts intangible asset. As of December 31, 2024, we completed our analysis and valuation for the February 2024 amendment.

*May 2024 Amendment*

The amounts initially recognized for identifiable intangible assets and contingent consideration are provisional pending completion of the necessary valuations and analysis. ASC 805 establishes a measurement period to provide companies with a reasonable amount of time to obtain the information necessary to identify and measure various items in a business combination and cannot extend beyond one year from the acquisition date. As of December 31, 2024, we have completed our analysis and valuation for the May 2024 amendment.

*Acquisition Valuation*

The fair value of the identifiable intangible asset was estimated using the income approach. The excess cash flow was discounted to present value using an appropriate rate of return to estimate the market value of the customer identifiable intangible asset and the risks associated with the future revenue forecasts due to potential changes in customer energy requirements or changes in the economic viability of these CHP sites which depend on the spread between natural gas fuel and electricity prices, all of which are not within our control. Key assumptions to value the customer identifiable intangible asset included the discount rate of 15%, profitability assumptions, revenue assumptions, and anticipated existing contract run out were the material assumptions utilized in the discounted cash flow model used to estimate fair value. The discount rate reflects an estimate of our weighted-average cost of capital.

Following the closing and for a period of up to seven (7) years, we agreed to pay Aegis contingent consideration equal to a percentage of the revenue collected for maintenance services provided pursuant to the maintenance agreements acquired from Aegis. On the date of acquisition, the fair value of the contingent consideration and the deferred maintenance reserve were calculated under the income approach using a weighted average cost of capital of 15%, discounting the future cash flows to present value, and are subsequently remeasured to fair value at each reporting date until the fair value contingencies are resolved. Fair value adjustments which may be determined at subsequent reporting dates will be recorded in our consolidated statements of operations and will not impact the goodwill balance after the measurement period.

The contingent consideration is payable within forty-five (45) days following the end of each calendar quarter through the earlier of the expiration or termination of the relevant maintenance agreements, or the seventh (7th) anniversary of the acquisition date. The consideration is equal to the product of the revenues collected in a calendar quarter multiplied by an applicable percentage. The agreement stipulates quarterly aggregate revenue targets and an applicable percentage, and provides for a higher applicable percentage if revenues exceed the target revenues. The applicable percentage ranges from 5% to 10% over the agreement term. The deferred maintenance reserve represents costs, which are expected to be incurred over a three-year period from the date of acquisition to repair customer equipment which had not been sufficiently maintained prior to our acquisition of the maintenance service agreements.

The purchase price of the acquisition was allocated to the tangible and intangible assets acquired and liabilities assumed and recognized at their fair value based on widely accepted valuation techniques in accordance with ASC 820, "Fair Value Measurement," as of the acquisition date. The process for estimating fair value requires the use of significant assumptions and estimates of future cash flows and developing appropriate discount rates. The excess of the purchase price over fair value of the net identified assets acquired and liabilities assumed was recorded as goodwill. Goodwill is primarily attributable to the going concern element of the Aegis business, including its assembled workforce and the long-term nature of the customer maintenance agreements, as well as anticipated cost synergies due primarily to the elimination of administrative overhead. Goodwill resulting from the Aegis acquisition is not expected to be deductible for income tax purposes.

Acquisition-related costs which consisted on recurring internal resources were de minimus and such costs were expensed as incurred (ASC 805-50-30-1).

**TECOGEN INC.**  
**Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023**

The following table summarizes the contract-related liabilities assumed as of December 31, 2024:

	December 31, 2024	December 31, 2023
Acquisition liabilities, current		
Contingent consideration	\$ 328,350	\$ 200,639
Deferred maintenance reserve	574,202	644,724
	<u>902,552</u>	<u>845,363</u>
Acquisition liabilities, long-term		
Contingent consideration	1,008,760	994,743
Deferred maintenance reserve	—	187,036
	<u>\$ 1,008,760</u>	<u>\$ 1,181,779</u>

Revenues and gross profit from the Aegis maintenance contracts were \$2,671,051 and \$1,764,227 and \$1,884,891 and \$1,167,225, respectively, for the years ended December 31, 2024 and 2023. The revenue and gross profit are included in our Services segment since the date of the respective contract acquisitions.

*Periodic Remeasurement of Contingent Liabilities*

The fair value of the contingent consideration and pre-acquisition deferred maintenance liabilities are remeasured each reporting period after the acquisition date and any changes in the estimated fair value are reflected as gains or losses in cost of goods sold or general and administrative expense in the consolidated statement of operations.

We performed a remeasurement analysis of the contingent consideration and pre-acquisition deferred maintenance liabilities at December 31, 2024 and determined that the carrying value of the liabilities approximated the estimated fair value of the of the liabilities, based on a discounted cash flow analysis, and did not record a remeasurement adjustment for the year ended December 31, 2024.

We are unable to provide the pro forma information required under ASC 805-10-50-2(h) as the disclosure is impracticable since the required pre-acquisition historical information could not be obtained from Aegis.

**Note 6 . Sale of Energy Producing Assets and Goodwill Impairment**

During the first quarter of 2019, we sold certain energy producing assets, including the associated energy production contracts for total consideration of \$7 million.

In connection with the asset sales, we entered into agreements with the purchaser to maintain and operate the assets over the remaining periods of the associated energy production contracts (through August 2033 and January 2034, respectively) in exchange for monthly fees for both maintenance and operation. These agreements contain provisions whereby we have guaranteed to the purchaser a minimum level or threshold of cash flows from the associated energy production contracts. Actual results are compared to the minimum threshold bi-annually and we reimburse any shortfall to the purchaser. To the extent actual results are in excess of the minimum threshold, we are entitled to fifty percent of such excess under the agreements. We received excess payments in both the years ended December 31, 2024 and 2023. For the years ended December 31, 2024 and 2023, we recognized \$73,243 and \$25,633, respectively, of revenue representing our share of the excess cash flows under the energy production contracts. Included in our current receivables as of December 31, 2024 and 2023, are excess cash flows of \$98,876 and \$25,633, respectively.

The foregoing agreements also contain provisions whereby we have agreed to make whole the purchaser in the event the counterparty to the energy production contract(s) defaults on or otherwise terminates before the stated expiration of the energy production contract. Should we be required to make whole the purchaser under such provisions, we would be entitled to seek recovery from the counterparty to the energy production contract(s) under a similar provision contained in those contracts in respect of early termination. We did not recognize any counterparty contract default costs in the years ended December 31, 2024 and 2023.

We are also responsible under the agreements for site decommissioning costs, if any, in excess of certain threshold amounts by site. Decommissioning of site assets is performed when, if and as requested by the counterparty to the energy production contract upon termination of the energy production contract. We recognized \$20,000 of site decommissioning costs for the year ended December 31, 2024 and did not recognize any site decommissioning costs for the year ended December 31, 2023.

**TECOGEN INC.**  
**Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023**

**Note 7. Inventory, net**

Inventory at December 31, 2024 and 2023 consisted of the following.

	2024	2023
Raw materials, net	8,525,879	8,803,054
Work-in-process	930,769	798,522
Finished goods, net	177,357	951,843
	<u>\$ 9,634,005</u>	<u>\$ 10,553,419</u>

**Note 8. Intangible Assets and Liabilities Other Than Goodwill**

During the years ended December 31, 2024 and 2023, we did not capitalize any cost incurred for product certification costs, patent-related costs or trademarks. Also included in intangible assets are legal costs incurred by us to obtain patents for our intellectual property. These patents, once they are placed in service, are amortized on a straight-line basis over the estimated economic life of the associated product, which ranges from approximately 7-10 years.

Intangible assets and liabilities at December 31, 2024 and 2023 consist of the following:

Intangible assets	December 31, 2024			December 31, 2023		
	Cost	Accumulated Amortization	Net	Cost	Accumulated Amortization	Net
Product certifications	\$ 777,465	\$ (709,855)	\$ 67,610	\$ 777,465	\$ (658,676)	\$ 118,789
Patents	888,910	(584,493)	304,417	888,910	(496,807)	392,103
Developed technology	240,000	(188,000)	52,000	240,000	(172,000)	68,000
Trademarks	26,896	—	26,896	26,896	—	26,896
In process R&D	263,936	(141,394)	122,542	263,936	(103,689)	160,247
Favorable contract assets	384,465	(379,839)	4,626	384,465	(376,139)	8,326
Customer contract	<u>\$ 2,225,123</u>	<u>\$ (290,025)</u>	<u>1,935,098</u>	<u>\$ 1,772,659</u>	<u>\$ (110,791)</u>	<u>1,661,868</u>
	<u>\$ 4,806,795</u>	<u>\$ (2,293,606)</u>	<u>\$ 2,513,189</u>	<u>\$ 4,354,331</u>	<u>\$ (1,918,102)</u>	<u>\$ 2,436,229</u>
<b>Intangible liability</b>						
Unfavorable contract liability	<u>\$ 2,618,168</u>	<u>\$ (2,195,329)</u>	<u>\$ 422,839</u>	<u>\$ 2,618,168</u>	<u>\$ (2,019,122)</u>	<u>\$ 599,046</u>

The aggregate amortization expense related to non-contract related intangible assets was \$192,571 and \$222,884 during the years ended December 31, 2024 and 2023, respectively. The net aggregate expense (credit) related to the amortization of the contract related intangible assets and liabilities for the years ended December 31, 2024 and 2023 was \$6,727 and \$(110,031), respectively.

*Contract Asset and Liability*

The favorable contract asset and unfavorable contract liability in the foregoing table represent the fair value of ADGE's customer contracts (both positive for favorable contracts and negative for unfavorable contracts) which were acquired by us on May 18, 2017 (see Note 4. "Acquisition of American DG Energy Inc."). The customer contract asset includes the maintenance services contracts acquired by us on April 1, 2023 as part of the Aegis acquisition and pursuant to the February 2024 Amendment and the May 2024 Amendment. (See Note 5. "Aegis Contract and Related Asset Acquisition").

Amortization of intangibles including contract related amounts is calculated using the straight line method over the remaining useful life or contract term, which range from approximately one to eleven years, and is charged against cost of sales in the accompanying consolidated statement of operations. Aggregate future amortization over the next five years is estimated to be as follows:

**TECOGEN INC.**  
**Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023**

	Non-contract related intangibles	Contract related intangibles	Total
2025	\$ 169,754	\$ 79,042	\$ 248,796
2026	168,244	124,483	292,727
2027	167,936	131,199	299,135
2028	23,278	137,208	160,486
2029	5,786	137,208	142,994
Thereafter	11,571	907,745	919,316
	<u>\$ 546,569</u>	<u>\$ 1,516,885</u>	<u>\$ 2,063,454</u>

**Note 9. Property, Plant and Equipment, net**

Property, plant and equipment at December 31, 2024 and 2023 consisted of the following:

	Estimated Useful Life (in Years)	2024	2023
Energy systems	10 - 15 years	\$ 2,810,232	\$ 2,810,232
Machinery and equipment	5 - 7 years	1,598,538	1,744,596
Furniture and fixtures	5 years	224,868	212,963
Computer software	3 - 5 years	192,865	192,865
Leasehold improvements	*	906,739	466,789
		<u>5,733,242</u>	<u>5,427,445</u>
Less - accumulated depreciation and amortization		(3,995,206)	(4,264,868)
Net property, plant and equipment		<u>\$ 1,738,036</u>	<u>\$ 1,162,577</u>

\* Lesser of estimated useful life of asset or lease term

Depreciation and amortization expense on property and equipment for the years ended December 31, 2024 and 2023 was \$354,485 and \$454,859, respectively. During the year ended December 31, 2024, we received proceeds of \$51,400 from the disposition of certain assets realizing a gain of \$12,181. During the year ended December 31, 2023, we received proceeds of \$34,655 from the disposition of certain assets and reversed \$8,687 of accrued decommissioning costs from a former ADGE energy site, realizing a gain of \$36,207.

During the years December 31, 2024 and 2023, we evaluated the ADGE customer contracts and related assets and did not deem any assets to be impaired.

During the year ended December 31, 2024 and 2023 there were no ADGE contract terminations.

## Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

**Note 10. Goodwill**

Changes in the carrying amount of goodwill by reportable segment during the years ended December 31, 2024 and 2023 was as follows:

	Products	Services	Energy Production	Total
Balance at December 31, 2022	\$ 40,870	\$ —	\$ 2,365,286	\$ 2,406,156
Impairment	—	—	—	—
Acquisition	—	337,268	—	337,268
Balance at December 31, 2023	\$ 40,870	\$ 337,268	\$ 2,365,286	\$ 2,743,424
Impairment	—	—	(217,295)	(217,295)
Acquisition - adjustment	—	(179,563)	—	(179,563)
Balance at December 31, 2024	\$ 40,870	\$ 157,705	\$ 2,147,991	\$ 2,346,566

We performed a goodwill impairment test of the Energy Production goodwill at December 31, 2024 and determined that the carrying value of the assets exceeded estimated fair value of the of the assets, based on a discounted cash flow analysis, and recorded a goodwill impairment for the year ended December 31, 2024. We performed a goodwill impairment test of the Services goodwill and determined that the estimated fair value of the assets, based on a discounted cash flow analysis, exceeded the carrying value of the assets, therefore no impairment existed for the year ended December 31, 2024.

See Note 6. "Sale of Energy Producing Assets and Goodwill Impairment" and Note 5. "Aegis Contract and Related Asset Acquisition" for further discussion.

**Note 11. Related Party Notes**

On October 9, 2023, we entered into note subscription agreements with each of John N. Hatsopoulos and Earl R. Lewis, III, each a director and shareholder of the Company, pursuant to which Mr. Hatsopoulos agreed to provide financing to us of up to \$1,000,000, and Mr. Lewis agreed to provide financing to us of \$500,000, and potentially, an additional \$500,000 at his discretion. On October 10, 2023, we borrowed \$500,000 from Mr. Hatsopoulos and issued him a one-year promissory note with interest accruing at 5.12% per annum. On July 23, 2024, we borrowed an additional \$500,000 from Mr. Hatsopoulos, and issued a one-year promissory note with interest accruing at 5.06% per annum. On March 21, 2024, John H. Hatsopoulos amended the terms of the promissory note, dated October 10, 2023, extending the maturity date by one year, making the maturity date October 10, 2025. On September 18, 2024, we borrowed \$500,000 from Mr. Lewis and issued him a one-year promissory note with interest accruing at 4.57% per annum.

On January 14, 2025 we agreed to permit Mr. Lewis to either receive repayment of his note in cash or, at his discretion, convert the balance of the promissory note into shares of our common stock. In the event of such a conversion, the number of shares of we will be required to issue will be determined by dividing the balance due under the promissory note by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

On February 18, 2025 we amended the promissory notes with Mr. Hatsopoulos to extend the maturity dates for both promissory notes to July 31, 2026. We also agreed to permit Mr. Hatsopoulos to either receive repayment of his notes in cash, or at his discretion, convert the balance(s) due of one or both of the promissory notes into shares of our common stock. In the event of such a conversion, the number of shares we will be required to issue will be determined by dividing the balance(s) due under the promissory note(s) by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

The loans are required to be repaid in the event of a change of control of the company and upon the occurrence of an event of default under the note, including upon a failure to pay when due the principal and interest when due, or the commencement of voluntary or involuntary bankruptcy or insolvency proceeding.

The loans and terms of the loan agreements were unanimously approved by our board of directors.

The loans bear interest on the outstanding principal at the Internal Revenue Service's Applicable Federal Rate to be determined at the time we issue a promissory note in connection with a loan drawdown. The notes may be prepaid by us at any time. The principal amount of each loan and accrued interest is subject to mandatory prepayment in the event of a change of control of the registrant. The promissory notes are subject to customary events of default and are transferable provided the conditions to transfer set forth in the promissory notes are satisfied by the noteholder. The proceeds of the loans are expected to be used for general working capital purposes.

## Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

At December 31, 2024 our obligation to Mr. Hatsopoulos under the promissory notes, inclusive of \$42,398 of accrued and unpaid interest, was \$1,042,398. At December 31, 2024 our obligation to Mr. Lewis under the promissory note, inclusive of \$6,474 of accrued and unpaid interest, was \$506,474.

**Note 12. Commitments and Contingencies***Operating Lease Obligations*

We lease office space and warehouse facilities under various lease agreements which expire through January 2031. Total rent expense for the years ended December 31, 2024 and 2023 amounted to \$796,400 and \$812,815, respectively. See Note 14. "Leases" for further discussion.

*Finance Lease Obligations*

We lease motor vehicles under a master vehicle lease agreement, effective December 19, 2023, which expire through December 2028. See Note 14. "Leases" for further discussion.

*Legal Matters*

On November 23, 2022, we were served with a suit filed against us on August 24, 2022 in the Ontario Superior Court of Justice by The Corporation of the Town of Milton, Milton Energy Generation Solutions Inc. and Milton Hydro Distribution Inc (the "Plaintiffs"), all of whom are municipal corporations incorporated in the Province of Ontario. The plaintiffs sued for damages in the amount of CDN \$1,000,000, prejudgment and post-judgment interest, and legal fees, alleging breach of contract, breach of warranty, negligent misrepresentations and nuisance. Plaintiffs allege that on or about July 10, 2022, a Tecogen cogenerator installed by us at the plaintiffs' facility caught fire, causing damage to the cogenerator and the plaintiff's facility. We filed a response denying liability and are represented by Canadian counsel. For the year ended December 31, 2022, we reserved \$150,000 for anticipated damages which may not be covered by our insurance and continued to maintain the reserve at December 31, 2024. On January 13, 2025, Tecogen and our insurers entered into a Settlement Agreement and Full and Final Release from any and all claims, obligations and liabilities, arising from the July 10, 2022 fire with the plaintiffs in the amount of CDN \$400,000, of which we were responsible for CDN \$100,000. On February 7, 2025 we remitted CDN \$100,000, or \$70,994, representing payment in full of our liability with respect to this matter.

*Guarantees*

In connection with the sale of energy producing assets, we made certain guarantees to the purchaser as discussed in Note 5. "Sale of Energy Producing Assets and Goodwill Impairment." Based upon an analysis of these energy producing assets expected future performance, as of December 31, 2024 we do not expect to make any material payments under the guarantee.

*Change in Control Severance Benefit Plan*

On July 9, 2020, our compensation committee of the board of directors adopted the Tecogen Inc. Change in Control Severance Benefit Plan ("Plan"). The Plan provides for up to 12 months of severance benefits for certain of our key management employees who are selected as plan participants by the plan administrator and who have executed a Change in Control Severance Benefit Plan Participation Notice. On July 9, 2020, Robert A. Panora, our President and Chief Operating Officer, and John K. Whiting, IV, our General Counsel and Secretary, were each designated as participants in the Plan.

Under the Plan, upon the occurrence of certain termination events following a change in control of the Company, the executive participants would receive cash severance payments equal to 12 months' salary and bonus payments, continuation of certain health benefits, the acceleration of bonus awards, and immediate vesting of outstanding unvested options (including performance options) to acquire our common stock. The severance payments are required to be paid in a single lump sum. The Plan has a term of three years and will automatically extend for successive additional one-year terms unless we provide written notice at least six months in advance of a then current term.

An executive will be entitled to severance under the Plan only if there has been a "Change in Control" of the Company and the termination of employment or service occurs during the period that is three months prior to and 18 months following a change in control of the Company, and the termination of participant's employment or service with the Company without "Cause," or by participant for "Good Reason" as those terms are defined in the Plan. In order to be eligible to receive severance benefits under the Plan, an executive must comply with the terms of the Plan, including the release of claims in favor of the Company and certain confidentiality, non-compete, non-solicitation, and non-disparagement covenants during and following termination of employment. The Plan will be administered by the compensation committee of the board of directors (or by the full board of directors or such other committee as the board may designate).

## Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

**Note 13. Product Warranty**

We reserve an estimate of our exposure to warranty claims based on both current and historical product sales data and warranty costs incurred. The majority of our products are sold with a one-year warranty. We assess the adequacy of our recorded warranty liability periodically and adjust the reserve as necessary. The warranty liability is included in accrued expenses on the accompanying consolidated balance sheets.

Changes in our warranty reserve were as follows:

Warranty reserve, December 31, 2022	\$	137,800
Warranty provision for units sold		286,391
Costs of warranty incurred		<u>(282,191)</u>
Warranty reserve, December 31, 2023		142,000
Warranty provision for units sold		257,898
Costs of warranty incurred		<u>(276,898)</u>
Warranty reserve, December 31, 2024	\$	<u>123,000</u>

**Note 14. Leases**

Our leases principally consist of operating leases related to our corporate office, field offices, and our research, manufacturing, and storage facilities. Effective December 19, 2023, we entered into a master finance lease agreement for motor vehicles.

At inception, we determine if an arrangement constitutes a lease and whether that lease meets the classification criteria of a finance or operating lease. Some of our lease agreements contain lease components (e.g. minimum rent payments) and non-lease components (e.g. maintenance, labor charges, etc.). We account for each component separately based on the estimated standalone price of each component.

*Operating Leases*

Operating leases are included in Right-of-use assets, Lease obligations, current and Long-term liabilities - Lease obligations, net of current portion, on the consolidated balance sheets. These assets and liabilities are recognized at the commencement date based on the present value of remaining lease payments over the lease term and using an incremental borrowing rate consistent with the lease terms or implicit rates, when readily determinable. For those leases where it is reasonably certain at the commencement date that we will exercise the option to extend the lease, then the lease term will include the lease extension term. Short-term operating leases, which have an initial term of 12 months or less, are not recorded on the balance sheet.

On March 31, 2023, we entered into two lease agreements for two adjacent buildings, located in North Billerica, Massachusetts, containing approximately 26,412 square feet of manufacturing, storage and office space to serve as our headquarters and manufacturing facilities. The lease agreements provide for initial lease terms of five (5) years with two successive options to renew for additional terms of five (5) years. Both leases commenced on January 1, 2024 and require payment of the base rent, real estate taxes, common maintenance expenses and aggregate deposits of \$38,200. Our costs for initial improvements required to the leased premises is estimated to range between \$900,000 and \$1,000,000. The estimated straight-line monthly rent expense for the initial term of the lease is approximately \$26,962 per month. In accordance with ASC 842-20-30-1, we recorded the lease liability and right-of-use asset using the discount rate for the lease upon the lease commencement date, January 1, 2024.

On January 1, 2024 we extended our lease for the 2,800 square foot Valley Stream, NY service center for an additional three (3) years through December 31, 2026, with an option to renew for an additional term of three (3) years. The straight-line base monthly rent for the extension is \$4,560 per month. On February 1, 2024 we entered into a lease agreement for 2,063 square feet of office and storage space in East Syracuse, New York for an initial lease term of three (3) years, expiring on January 31, 2027, with an option for an additional lease term of two (2) years. The straight-line base monthly rent for the initial lease term is \$1,891 per month. On June 17, 2024, we extended our lease for 1,751 square foot Hayward, CA service center for an additional three (3) years through July 31, 2027. The straight-line monthly rent for the extension is \$3,662 per month. On January 15, 2025 we entered into a lease agreement for 2,969 square feet of office and storage space in Easton, MA for an initial term of five (5) years, expiring on January 31, 2030, with an option for an additional lease term of five (5) years. The straight-line base monthly rent for the initial lease term is \$2,324 per month.

Lease expense for operating leases, which principally consists of fixed payments for base rent, is recognized on a straight-line basis over the lease term. Operating lease expense for the years ended December 31, 2024 and 2023 was \$796,400 and \$812,815, respectively.

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Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

Supplemental information related to operating leases for the years ended December 31, 2024 and 2023 was as follows:

	December 31, 2024	December 31, 2023
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 727,418	\$ 743,849
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 1,650,994	\$ 148,093
Weighted-average remaining lease term - operating leases	4.1 Years	4.6 Years
Weighted-average discount rate - operating leases	7.5 %	6.4 %

*Finance Leases*

Finance leases are included in Right-of-use assets, Lease obligations, current and Long-term liabilities - Lease obligations, net of current portion, on the condensed consolidated balance sheets. These assets and liabilities are recognized at the commencement date based on the present value of remaining lease payments over the lease term and using an incremental borrowing rate consistent with the lease terms or implicit rates, when readily determinable. For those leases where it is reasonably certain at the commencement date that we will exercise the option to extend the lease, then the lease term will include the lease extension term. Short-term operating leases, which have an initial term of 12 months or less, are not recorded on the balance sheet.

Lease expense for finance leases, consisting of fixed payments for base rent and initial costs for the year ended December 31, 2024 and 2023 was \$119,690 and \$2,338, respectively. Depreciation and amortization expense on right-of-use finance lease assets for the years ended December 31, 2024 and 2023 was \$61,572 and \$0, respectively.

Supplemental information for finance leases for the year ended December 31, 2024 and 2023 was as follows:

	December 31, 2024	December 31, 2023
Cash paid for amounts included in the measurement of finance lease liabilities	\$ 88,845	\$ —
Right-of-use assets obtained in exchange for finance lease liabilities	\$ 295,085	\$ 200,187
Weighted-average remaining lease term - finance leases	4.3 years	5.0 years
Weighted-average discount rate - finance leases	10.0 %	10.4 %

Supplemental balance sheet information related to operating leases for the years ended December 31, 2024 and 2023 was as follows:

	December 31, 2024	December 31, 2023
<b>Operating leases</b>		
Right-of-use assets	\$ 1,730,358	\$ 743,096
Operating lease liability, current	\$ 430,382	\$ 248,933
Operating lease liability, long-term	1,341,789	523,660
Total operating lease liability	\$ 1,772,171	\$ 772,593

Supplemental balance sheet information related to finance leases for the year ended December 31, 2024 and 2023 is as follows:

	December 31, 2024	December 31, 2023
<b>Finance leases</b>		
Right-of-use assets - motor vehicles	\$ 425,563	\$ 200,187
Right-of-use asset - boiler	26,827	—
	\$ 452,390	\$ 200,187
Finance lease liability, current	\$ 85,646	\$ 40,540
Finance lease liability, long-term	325,235	159,647
Total finance lease liability	\$ 410,881	\$ 200,187

TECOGEN INC.

Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

Future minimum lease commitments under non-cancellable operating and finance leases as of December 31, 2024 were as follows:

	Operating Leases	Finance Leases	Total
2025	\$ 542,066	\$ 122,460	\$ 664,526
2026	538,297	113,845	652,142
2027	442,471	113,845	556,316
2028	395,827	113,845	509,672
2029	55,435	43,669	99,104
Thereafter	61,569	—	61,569
Total lease payments	2,035,665	507,664	2,543,329
Less: imputed interest	263,494	96,783	360,277
Total	\$ 1,772,171	\$ 410,881	\$ 2,183,052

**Note 15. Stockholders' Equity**

*Common Stock*

The holders of our Common Stock have the right to vote their interest on a per share basis. At December 31, 2024 and 2023, there were 24,950,261 and 24,850,261 shares, respectively, of our Common Stock outstanding.

*Preferred Stock*

On February 13, 2013, we authorized 10 million shares of preferred stock. As of December 31, 2024, no preferred shares were issued or outstanding.

*Stock-Based Compensation*

We adopted the 2006 Stock Option and Incentive Plan (as amended, the "2006 Plan"), under which the board of directors may grant incentive or non-qualified stock options and stock grants to key employees, directors, advisors and our consultants. The 2006 Plan was amended at various dates by the Board of Directors to increase the reserved shares of common stock issuable under the 2006 Plan to 3,838,750 as of December 31, 2024, and in June 2017 stockholders approved an amendment to extend the termination date of the 2006 Plan to January 1, 2026 and to ratify all of our option grants issued after January 1, 2016 (the "Amended Plan").

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 2006 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, 2024 and 2023 was 1,108,168 and 243,818, respectively.

During the years ended December 31, 2024 and 2023, there were no options granted under the 2006 Plan.

We adopted the 2022 Stock Incentive Plan (the "2022 Plan") on March 1, 2022, under which the Board of Directors may grant incentive or non-qualified stock options and stock grants to key employees, directors, advisors and consultants. We have reserved 3,800,000 shares of our common stock for issuance pursuant to awards under the 2022 Plan. The adoption of the 2022 Plan was approved by our shareholders on June 9, 2022. The 2022 Plan expires ten years from its effective date or March 1, 2032.

Under the 2022 Plan, 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 2022 Plan. The options are not transferable except by will or domestic relations order. The option price per share under the 2022 Plan cannot be less than the fair market value of the underlying shares on the date of the grant.

During the year ended December 31, 2024, we granted nonqualified options to purchase an aggregate of 125,000 shares of common stock at \$0.77 per share to directors. These options have a vesting schedule of P4Y years and expire in ten years. The fair value of the options issued in 2024 was \$44,750. The weighted-average grant date fair value of stock options granted during 2024 was \$0.36 per share.

During the year ended December 31, 2023, we granted nonqualified options under the 2022 Plan to purchase an aggregate of 575,000 shares of common stock at prices between \$0.88 per share and \$1.10 per share to certain directors, officers and employees. These options have a vesting schedule of two to four years and expire in ten years. The fair value of the options issued in 2024 was \$244,625. The weighted-average grant date fair value of stock options granted during 2024 was

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Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

\$0.43 per share.

The number of shares remaining available for future issuance under the 2022 Plan as of December 31, 2024 was 2,950,000.

During the year December 31, 2024, one option for 100,000 shares of common stock was exercised. During the year ended December 31, 2023, there were no options exercised.

Stock option activity for the year ended December 31, 2024 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, 2023	3,638,122	\$ 0.71 — \$ 10.33	\$ 1.49	6.70 years	\$ 127,811
Granted	125,000	\$0.77	\$ 0.77		
Exercised	(100,000)	\$0.71	\$ 0.71		\$ 75,500
Canceled and forfeited	(910,160)	\$ 0.71 — \$ 10.33	\$ 2.54		
Outstanding, December 31, 2024	2,752,962	\$ 0.71 — \$ 3.93	\$ 1.14	6.70 years	\$ 1,348,684
Exercisable, December 31, 2024	1,839,212		\$ 1.25		\$ 838,184
Vested and expected to vest, December 31, 2024	2,615,900		\$ 1.15		\$ 1,272,109

We used a forfeiture rate of 15% to calculate the expected to vest shares in the table above. We use 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 to determine the expected life based on the vesting period and contractual terms, since we do not have the necessary historical exercise data to determine an expected life for stock options. We use a single weighted-average expected life to value option awards and recognize 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.

The weighted average assumptions used in the Black-Scholes option pricing model for options granted in 2024 and 2023 are as follows:

Stock option award assumptions:	2024	2023
Expected dividend yield	—%	—%
Expected life	6.25 years	6.25 years
Risk-free interest rate	4.28%	4.70%
Expected volatility	40.17%	38.49%

During the years ended December 31, 2024 and 2023, we recognized stock-based compensation expense of \$172,987 and \$250,394, respectively, related to the issuance of stock options. No tax benefit was recognized related to the stock-based compensation expense recorded during either of the years. At December 31, 2024 and 2023, the total compensation cost related to unvested stock option awards not yet recognized is \$278,461 and \$451,298, respectively. The unvested stock compensation at December 31, 2024 will be recognized over a weighted average period of 2.30 years.

**Note 16. Fair Value Measurements**

The fair value topic of the FASB Accounting Standards Codification defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The accounting guidance also establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs, where available, and minimize the use of unobservable inputs when measuring fair value. There are three levels of inputs that may be used to measure fair value:

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.

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Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

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.

The following table presents the asset reported in the consolidated balance sheet measured at its fair value on a recurring basis as of December 31, 2024 and 2023 by level within the fair value hierarchy:

	Total	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3	Unrealized gain (loss)
<b>December 31, 2024</b>					
Recurring fair value measurements					
Available-for-sale equity securities					
EuroSite Power Inc.	\$ 93,744	\$ —	\$ 93,744	\$ —	\$ —
Total recurring fair value measurements	<u>\$ 93,744</u>	<u>\$ —</u>	<u>\$ 93,744</u>	<u>\$ —</u>	<u>\$ —</u>
<b>December 31, 2023</b>					
Recurring fair value measurements					
Available-for-sale equity securities					
EuroSite Power Inc.	\$ 93,744	\$ —	\$ 93,744	\$ —	\$ —
Total recurring fair value measurements	<u>\$ 93,744</u>	<u>\$ —</u>	<u>\$ 93,744</u>	<u>\$ —</u>	<u>\$ —</u>

We utilize a Level 2 category fair value measurement to value our investment in EuroSite Power Inc. as an available-for-sale security at period end. That measurement is equal to the quoted market closing price at period end. Since this security is not actively traded we are classifying as Level 2.

The following table summarizes changes in Level 2 assets which are comprised of marketable equity securities for the years ended December 31, 2024 and 2023:

Fair value at December 31, 2022	\$ 93,744
Unrealized gain	—
Fair value at December 31, 2023	<u>\$ 93,744</u>
Fair value at December 31, 2023	\$ 93,744
Unrealized gain	—
Fair value at December 31, 2024	<u>\$ 93,744</u>

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Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

The following table presents the liability reported in the consolidated balance sheet measured at its fair value on a recurring basis as of December 31, 2024 and 2023 by level within the fair value hierarchy:

	Total	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3	Total gains (losses)
<b>December 31, 2024</b>					
Recurring fair value measurements					
Contingent contract consideration					
Current	\$ 328,350	\$ —	\$ —	\$ 328,350	\$ —
Long-term	1,008,760	—	—	1,008,760	—
Total recurring fair value measurements	\$ 1,337,110	\$ —	\$ —	\$ 1,337,110	\$ —
<b>December 31, 2023</b>					
Recurring fair value measurements					
Contingent contract consideration					
Current	\$ 200,639	\$ —	\$ —	\$ 200,639	\$ —
Long-term	994,743	—	—	994,743	—
Total recurring fair value measurements	\$ 1,195,382	\$ —	\$ —	\$ 1,195,382	\$ —

We utilize a Level 3 category fair value measurement to value the contingent consideration liability at period end since there are no quoted prices for this liabilities in non-active markets, there are no quoted prices for similar liabilities in active markets and there are no inputs that are observable for substantially the full term of the the liability. The contingent consideration calculation requires management to make estimates and assumptions that affect the reported amount of the liability. The contingent consideration is payable each calendar quarter through the earlier of the expiration or termination of the relevant maintenance agreements, or the seventh (7th) anniversary of the acquisition date. The consideration is equal to the product of the revenues collected in a calendar quarter multiplied by an applicable percentage. The agreement stipulates quarterly aggregate revenue targets and an applicable percentage, and provides for a higher applicable percentage if revenues exceed the target revenues. The applicable percentage ranges from 5% to 10% over the agreement term. On the date of acquisition, the fair value of the contingent consideration was calculated using a weighted average cost of capital of 15%, discounting the future cash flows to present value.

**Note 17. Retirement Plans**

We have 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. We matched a variable amount based on participant contributions up to a maximum of 4.5% of each participant's salary until May 2020 when we discontinued the matching of employee contributions for those employees not covered under a collective bargaining agreement. Effective July 1, 2023, we reinstated the employer match based on participant contributions which are capped at a maximum of \$250 per quarter and \$1,000 per fiscal year, per participant. We contributed approximately \$86,827 and \$65,705 in matching contributions to the Plan in 2024 and 2023, respectively.

**Note 18. Segments**

Our Chief Executive Officer, who is our Chief Operating Decision Maker ("CODM") manages our business through three operating segments, consistent with how our CODM: (i) assessed operating performance on a periodic basis, (ii) makes resource allocation decisions and (iii) designates responsibilities of his direct reports. As of December 31, 2024, we were organized into three operating segments through which senior management evaluates our business. These segments, as described in more detail in Note 1. "Nature of Business and Operations", are organized around the products, services and energy production provided to customers and represent our reportable segments.

Our CODM uses segment profit, based on operating income after the elimination of intercompany transactions and segment identifiable assets to assess segment operating performance and to make resource allocation decisions. Certain costs such as other income (expense) are not included in the measure of segment profit and are excluded from management's assessment of segment financial performance.

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## Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

Corporate includes finance, treasury, certain research and development costs, tax and legal costs and certain other costs which are not allocated to the reportable segments.

The following table presents information by reportable segment for the years ended December 31, 2024 and 2023:

	Products	Services	Energy Production	Corporate	Total
<b>Year ended December 31, 2024</b>					
Revenues	\$ 4,443,996	\$ 16,074,870	\$ 2,100,670	\$ —	\$ 22,619,536
Cost of sales	3,014,655	8,432,876	1,301,832	—	12,749,363
Gross profit	1,429,341	7,641,994	798,838	—	9,870,173
Operating expenses	1,947,426	6,625,965	319,514	5,511,355	14,404,260
Loss (profit) from operations	\$ (518,085)	\$ 1,016,029	\$ 479,324	\$ (5,511,355)	\$ (4,534,087)
Identifiable assets	\$ 9,487,422	\$ 11,695,370	\$ 2,855,386	\$ 7,054,081	\$ 31,092,259
<b>Year ended December 31, 2023</b>					
Revenues	\$ 8,859,946	\$ 14,523,054	\$ 1,756,419	\$ —	\$ 25,139,419
Cost of sales	5,923,096	7,909,202	1,105,503	—	14,937,801
Gross profit	2,936,850	6,613,852	650,916	—	10,201,618
Operating expenses	1,429,400	6,992,221	66,190	6,127,419	14,615,230
Loss (profit) from operations	\$ 1,507,450	\$ (378,369)	\$ 584,726	\$ (6,127,419)	\$ (4,413,612)
Identifiable assets	\$ 8,990,275	\$ 12,802,651	\$ 3,269,013	\$ 2,730,690	\$ 27,792,629

## Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023

## Note 19. Income Taxes

A reconciliation of the federal statutory income tax provision to our actual provision for the years ended December 31, 2024 and 2023 is as follows:

	2024	2023
<b>Pre-tax book income (loss)</b>	\$ (4,651,205)	\$ (4,490,665)
Expected tax at 21%	(976,753)	(943,040)
<b>Permanent differences:</b>		
Goodwill impairment	45,632	—
Intangible amortization	(37,003)	(46,373)
Other	5,169	6,474
<b>State taxes:</b>		
Current	22,565	32,491
Deferred	(234,928)	(264,759)
<b>Other items:</b>		
Expired net operating losses	324,799	—
Federal research and development credits	—	(84,592)
Deferred tax past year true-ups	(91,289)	(63,440)
Change in valuation allowance	920,794	980,342
Capitalized research and development expenses	—	334,120
Other	43,579	81,268
Income tax provision	<u>\$ 22,565</u>	<u>\$ 32,491</u>

The components of net deferred tax assets recognized in the accompanying consolidated balance sheets at December 31, 2024 and 2023 are as follows:

	2024	2023
Net operating loss carryforwards	\$ 12,025,000	\$ 10,840,000
R&D and ITC credit carryforwards	396,000	403,000
Accrued expenses and other	267,000	381,000
Intangibles	370,000	499,000
Leases	—	8,000
Accounts receivable	76,000	39,000
Stock options	486,000	450,000
Inventory	279,000	427,000
Property, plant and equipment	578,000	650,000
Other	464,000	323,000
Deferred tax assets	<u>14,941,000</u>	<u>14,020,000</u>
Valuation allowance	(14,941,000)	(14,020,000)
Deferred tax assets, net	<u>\$ —</u>	<u>\$ —</u>

At December 31, 2024, we had approximately \$41,147,000 of Federal net operating loss carryforwards ("NOL") of which \$623,000 expired as of December 31, 2024, \$19,240,000 expire beginning in 2024 through 2039 and \$21,907,000 have an indefinite carryforward. In addition, we have \$32,285,000 of state net operating losses, expiring at various dates starting in 2024 through 2042.

**Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023**

The Tax Cuts and Jobs Act was enacted on December 22, 2017. A significant provision of the act was to reduce the statutory Federal tax rate from 34% to 21%. During 2024, our valuation allowance increased by \$921,000 and \$324,799 of net operating loss carryforwards expired. This increase is affected by the absorption of deferred tax attributes associated with its acquisition of American DG Energy, Inc. along with permanent book to tax differences and provision to return adjustments.

In accordance with the provisions of the Income Taxes topic of the Codification, we have evaluated the positive and negative evidence bearing upon the realizability of our deferred tax assets, which are comprised principally of net operating losses. Management has determined that it is more likely than not that we will not recognize the benefits of federal and state deferred tax assets and, as a result, a full valuation allowance has been established for 2023 and 2024, respectively.

Utilization of the NOL and research and development credit carryforwards are subject to a substantial annual limitation due to ownership changes, as provided by Section 382 of the Internal Revenue Code of 1986, as well as similar state provisions. Ownership changes may limit the amount of NOL and tax credit carryforwards that can be utilized to offset future taxable income and tax, respectively. In general, an ownership change, as defined by Section 382, results from transactions increasing the ownership of certain shareholders or public groups in the stock of a corporation by more than 50 percentage points over a three-year period.

We acquired American DG Energy, Inc. during 2017, by acquiring 100 percent of the company's stock. Accordingly, utilization of their consolidated and/or separately computed NOL and/or tax credit carryforwards will be subject to an annual limitation under Internal Revenue Code Section 382. Any such limitation may result in expiration of a portion of the NOL or tax credit carryforwards before utilization. The extent of the limitation, and related allocation and impact upon the NOL and credit carryforwards has been determined to be \$391,940 per year for a 20 year period at the ADGE level. However, we have sufficient pre-merger NOLs to offset anticipated taxable income for the taxable year ended December 31, 2024 and do not expected to be limited in NOL utilization for the period.

A full valuation allowance has been provided against our loss carryforwards and, if an adjustment is required under Section 382, it would be offset by a corresponding adjustment to the valuation allowance. Thus, there would be no impact to the balance sheet or statement of operations if an adjustment were required.

We have not recorded any amounts for unrecognized tax benefits as of December 31, 2024 or 2023.

We file tax returns as prescribed by the tax laws of the jurisdiction in which we operate. In the normal course of business, we are subject to examination by federal and state jurisdictions, where applicable. There are currently no pending tax examinations. Our tax returns from tax year 2021 are still open for examination for both federal and state jurisdictions.

**Note 20. Subsequent Events**

We have evaluated events through the date of this filing, and, except as described below, have determined that no material subsequent events occurred that would require recognition in the consolidated financial statements or disclosure in the notes thereto for the period ended December 31, 2024.

*Settlement of Litigation Regarding Fire at Milton Sports Centre*

On January 13, 2025, Tecogen and our insurers entered into a Settlement Agreement and Full and Final Release from any and all claims, obligations and liabilities, arising from the July 10, 2022 fire with the plaintiff's in the amount of CDN \$400,000, of which we are responsible for CDN \$100,000. On February 7, 2025, we remitted CDN \$100,000, or \$70,994, representing payment in full of our liability. We will recognize a benefit of \$79,006 in our consolidated financial statements in the first quarter of fiscal 2025.

*Vertiv Sales and Marketing Agreement - Data Center Cooling Market*

On February 28, 2025, we entered into a Sales and Marketing Agreement with Vertiv Corporation ("Vertiv") relating to sales of Tecogen DTx chillers for data center cooling applications (the "Vertiv Agreement"). The Vertiv Agreement has a term of two years and provides that Vertiv will establish a budget for marketing activities and use commercially reasonable efforts to sell our DTx chillers for cooling applications in data centers. The Vertiv Agreement also provides the basis for the negotiation of a definitive supply agreement between us and Vertiv. We have agreed to provide Vertiv with reasonable discounts for purchases of significant volumes of our chillers, and Vertiv has agreed to use commercially reasonable efforts to assist us in securing favorable terms for engineering components and supplies for manufacturing our chillers. Pursuant to the Vertiv Agreement we have granted Vertiv the exclusive right to market and sell our DTx chillers for data center cooling applications outside the United States, and the non-exclusive right to market and sell our DTx chillers within the United States. We have also agreed to grant Vertiv the exclusive right to market and sell our DTx chillers for data center cooling applications in the United States if Vertiv achieves and maintains agreed sales levels of DTx chillers. The foregoing description of the Vertiv Agreement is not complete and is qualified in its entirety by reference to the full text thereof, a copy of which is filed as Exhibit

**TECOGEN INC.**

**Notes to Audited Consolidated Financial Statements for December 31, 2024 and 2023**

99.01 to our Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2025, and incorporated by reference as Exhibit 10.30 hereto.

*Related Party Notes*

On January 14, 2025 we agreed to permit Mr. Lewis to either receive repayment of his note in cash or, at his discretion, convert the balance of the promissory note into shares of our common stock.

On February 18, 2025 we amended the promissory notes with Mr. Hatsopoulos to extend the maturity dates for both promissory notes to July 31, 2026. We also agreed to permit Mr. Hatsopoulos to either receive repayment of his notes in cash, or at his discretion, convert the balance(s) due of one or both of the promissory notes into shares of our common stock.

In the event of such a conversion by Mr. Hatsopoulos or Mr. Lewis, the number of shares we will be required to issue will be determined by dividing the balance(s) due under the promissory note(s) by the average closing price per share of our shares during the thirty-day period prior to the date of conversion.

John N. Hatsopoulos

March 21, 2024  
Mr. Abinand Rangesh, CEO  
Tecogen Inc.  
45 First Ave.  
Waltham, MA 02451

Re: Extension or Conversion of Tecogen Promissory Note

Dear Abinand:

This letter confirms my agreement to:

(1) extend the maturity date of the Tecogen Inc. Promissory Note in my favor dated October 10, 2023 in the original principal amount of \$500,000 (the "Promissory Note") by one year, making the maturity date October 10, 2025; or

(2) accept Tecogen Inc. common stock as payment in full of Tecogen's payment obligation under the Promissory Note, consisting of the nearest whole number of shares determined by dividing (i) the outstanding principal and interest on the Promissory Note at the time of conversion of the debt to equity, by (ii) the average closing price per share for Tecogen common stock during the thirty-day period prior to the date of conversion.

Sincerely,

/s/ John N. Hatsopoulos

John N. Hatsopoulos

## Tecogen Inc. Policy Regarding Insider Trading

This Insider Trading Policy describes the standards of Tecogen Inc (the "**Company**") on trading, and causing the trading of, the Company's securities or securities of certain other publicly-traded companies while in possession of confidential information. This policy is divided into two parts: the first part prohibits trading in certain circumstances and applies to all directors, officers, employees, and consultants of the Company and the second part imposes special additional trading restrictions and applies to all (i) directors of the Company, (ii) executive officers of the Company, (iii) management of the Company, (iv) former directors, officers, or management serving as consultants to the Company, (v) anyone else the Company's Legal Department designates from time to time (collectively, "**Covered Persons**").

One of the principal purposes of the federal securities laws is to prohibit so-called "insider trading." Simply stated, insider trading occurs when a person uses material non-public information obtained through involvement with the Company to make decisions to purchase, sell, give away or otherwise trade the Company's securities or to provide that information to others outside the Company. The prohibitions against insider trading apply to trades, tips and recommendations by virtually any person, including all persons associated with the Company, if the information involved is "material" and "non-public." These terms are defined in this Policy under Part I, Section 3 below. The prohibitions would apply to any director, officer or employee who buys or sells Company stock on the basis of material non-public information that he or she obtained about the Company, its customers, suppliers, or other companies with which the Company has contractual relationships or may be negotiating transactions.

### PART I

#### 1. Applicability

This Policy applies to all transactions in the Company's securities, including common stock, options and any other securities that the Company may issue, such as preferred stock, notes, bonds and convertible securities, as well as to derivative securities relating to any of the Company's securities, whether or not issued by the Company.

This Policy applies to all employees of the Company and its subsidiaries, all officers of the Company and its subsidiaries and all members of the Company's board of directors. This Policy also applies to all consultants of the Company

#### 2. General Policy: No Trading or Causing Trading While in Possession of Material Non- public Information

- a. No director, officer or employee or consultants may purchase or sell any Company security, whether or not issued by the Company, while in possession of material non-public information about the Company. (The terms "material" and "non-public" are defined in Part I, Section 3(a) and (b) below.)
- b. No director, officer, employee or consultant who knows of any material non-public information about the Company may communicate that information to any other person, including family and friends.

In addition, no director, officer, employee or consultant may purchase or sell any security of any other company, whether or not issued by the Company, while in possession of material non-public information about that company that was obtained in the course of his or her involvement with the Company. No director, officer, employee, or consultant who knows of any such material non-public information may communicate that information to any other person, including family and friends.

For compliance purposes, you should never trade, tip or recommend securities (or otherwise cause the purchase or sale of securities) while in possession of information that you have reason to believe is material and non-public unless you first consult with, and obtain the advance approval of the Company's Legal Department(which is defined in Part I, Section 3(c) below).

It is highly recommended that Covered Persons "pre-clear" all transactions in securities of the Company in accordance with the procedures set forth in Part II, Section 3 below.

#### 3. Definitions

- a. **Materiality.** Insider trading restrictions come into play only if the information you possess is "material." Materiality, however, involves a relatively low threshold. Information is generally regarded as "material" if it has market significance, that is, if its public dissemination is likely to affect the market price of securities, or if it otherwise is information that a reasonable investor would want to know before making an investment decision.

Information dealing with the following subjects is reasonably likely to be found material in particular situations:

- (i) significant changes in the Company's prospects;
- (ii) significant write-downs in assets or increases in reserves;
- (iii) developments regarding significant litigation or government agency investigations;
- (iv) liquidity problems;
- (v) changes in earnings estimates or unusual gains or losses in major operations;
- (vi) major changes in management;
- (vii) changes in dividends;
- (viii) extraordinary borrowings;
- (ix) award or loss of a significant contract;
- (x) changes in debt ratings;
- (xi) proposals, plans or agreements, even if preliminary in nature, involving mergers, acquisitions, divestitures, recapitalizations, strategic alliances, licensing arrangements, or purchases or sales of substantial assets; and
- (xii) offerings of Company securities.

Material information is not limited to historical facts but may also include projections and forecasts. With respect to a future event, such as a merger, acquisition or introduction of a new product, the point at which negotiations or product development are determined to be material is determined by balancing the probability that the event will occur against the magnitude of the effect the event would have on a company's operations or stock price should it occur. Thus, information concerning an event that would have a large effect on stock price, such as a merger, may be material even if the possibility that the event will occur is relatively small. When in doubt about whether particular non-public information is material, presume it is material. **If you are unsure whether information is material, you should consult the Company's Legal Department before making any decision to disclose such information (other than to persons who need to know it) or to trade in or recommend securities to which that information relates.**

**b. Non-public Information.** Insider trading prohibitions come into play only when you possess information that is material and "non-public." The fact that information has been disclosed to a few members of the public does not make it public for insider trading purposes. To be "public" the information must have been disseminated in a manner designed to reach investors generally, and the investors must be given the opportunity to absorb the information. Even after public disclosure of information about the Company, information would generally be deemed widely available to the investing public one full business days after it has been disclosed in a press release, wire service or reports or other documents filed with the SEC which are publicly available (including e.g., the Company's annual and quarterly reports and proxy statement). Even after public disclosure you must wait until the next business day to trade on the securities involved in the non-public information.

Non-public information may include:

- (i) information available to a select group of analysts or brokers or institutional investors;
- (ii) undisclosed facts that are the subject of rumors, even if the rumors are widely circulated; and
- (iii) information that has been entrusted to the Company on a confidential basis until a public announcement of the information has been made and enough time has elapsed for the market to respond to a public announcement of the information (normally one full trading day).

As with questions of materiality, if you are not sure whether information is considered public, you should either consult with the Company's Legal Department or assume that the information is "non-public" and treat it as confidential.

**c. Legal Department.** The Company's General Counsel or his designee represents the Company's Legal Department. The current General Counsel is Jack Whiting. He can be reached at [Jack.Whiting@tecogen.com](mailto:Jack.Whiting@tecogen.com) or 781-522-6016. The duties of the Legal Department include, but are not limited to, the following:

- (i) assisting with implementation and enforcement of this Policy;
- (ii) circulating this Policy to all employees and ensuring that this Policy is amended as necessary to remain up-to-date with insider trading laws;

(iii) assisting with pre-clearing all trading in securities of the Company by Covered Persons in accordance with the procedures set forth in Part II, Section 3 below; and

(iv) providing approval of any Rule 10b5-1 plans under Part II, Section 1(c) below and any prohibited transactions under Part II, Section 4 below.

#### 4. Violations of Insider Trading Laws

Penalties for trading on or communicating material non-public information can be severe, both for individuals involved in such unlawful conduct and their employers and supervisors, and may include jail terms, criminal fines, civil penalties and civil enforcement injunctions. Given the severity of the potential penalties, compliance with this Policy is absolutely mandatory.

- a. **Legal Penalties.** A person who violates insider trading laws by engaging in transactions in a company's securities when he or she has material non-public information can be sentenced to a substantial jail term and required to pay a criminal penalty of several times the amount of profits gained or losses avoided.

In addition, a person who tips others may also be liable for transactions by the tippees to whom he or she has disclosed material non-public information. Tipsters can be subject to the same penalties and sanctions as the tippees, and the SEC has imposed large penalties even when the tipster did not profit from the transaction.

The SEC can also seek substantial civil penalties from any person who, at the time of an insider trading violation, "directly or indirectly controlled the person who committed such violation," which would apply to the Company and/or management and supervisory personnel. These control persons may be held liable for up to the greater of \$1 million or three times the amount of the profits gained or losses avoided. Even for violations that result in a small or no profit, the SEC can seek penalties from a company and/or its management and supervisory personnel as control persons.

- b. **Company-imposed Penalties.** Employees who violate this Policy may be subject to disciplinary action by the Company, including dismissal for cause. Any exceptions to the Policy, if permitted, may only be granted by the Company's Legal Department and must be provided before any activity contrary to the above requirements takes place.

## PART II

### 1. Blackout Periods

All Covered Persons are prohibited from trading in the Company's securities during blackout periods as defined below.

- a. **Quarterly Blackout Periods.** Trading in the Company's securities is prohibited during the period beginning at the close of the market two weeks before earnings are publicly disclosed and ending at the close of business on the trading day following the date the Company's financial results are publicly disclosed. During these periods, Covered Persons generally possess or are presumed to possess material non-public information about the Company's financial results.
- b. **Year end Blackout Period.** Trading in the Company's securities is prohibited during the period beginning at the close of the market on the last trading day in January of each year and ending at the close of business on the trading day following the date of the Company's annual financial results are publicly disclosed. During this period, Covered Persons generally possess or are presumed to possess material non-public information about the Company's financial results.
- c. **Other Blackout Periods.** From time to time, other types of material non-public information regarding the Company (such as negotiation of mergers, acquisitions or dispositions or new product developments) may be pending and not be publicly disclosed. While such material non-public information is pending, the Company may impose special blackout periods during which Covered Persons are prohibited from trading in the Company's securities. If the Company imposes a special blackout period, it will notify the Covered Persons affected.
- d. **Exception.** These trading restrictions do not apply to transactions under a pre-existing written plan, contract, instruction, or arrangement under Rule 10b5-1 (an "Approved 10b5-1 Plan") that:

(i) has been reviewed and approved at least two weeks in advance of any trades thereunder by the Legal Department (or, if revised or amended, such revisions or amendments have been reviewed and approved by the Legal Department at least two weeks in advance of any subsequent trades);

(ii) was entered into in good faith by the Covered Person at a time when the Covered Person was not in possession of material non-public information about the Company; and

(iii) gives a third party the discretionary authority to execute such purchases and sales, outside the control of the Covered Person, so long as such third party does not possess any material non-public information about the Company; or explicitly specifies the security or securities to be purchased or sold, the number of shares, the prices and/or dates of transactions, or other formula(s) describing such transactions.

2. Trading Window

Covered Persons are permitted to trade in the Company's securities when no blackout period is in effect. Generally this means that Covered Persons can trade during the period beginning on the day that the blackout periods under Part II Section 1(a) end and ending on day that the next blackout period under Part II Section 1(a) begins. However, even during this trading window, a Covered Person who is in possession of any material non-public information should not trade in the Company's securities until the information has been made publicly available or is no longer material. In addition, the Company may close this trading window if a special blackout period under Part II, Section 1(b) above is imposed and will re-open the trading window once the special blackout period has ended.

3. Prohibited Transactions

Covered Persons, including any person's spouse, other persons living in such person's household and minor children and entities over which such person exercises control, are prohibited from engaging in the following transactions in the Company's securities unless advance approval is obtained from the Company's Legal Department :

(i) Short-term trading. Covered Persons who purchase Company securities may not sell any Company securities of the same class for at least six months after the purchase;

(ii) Short sales. Covered Persons may not sell the Company's securities short;

(iii) Options trading. Covered Persons may not buy or sell puts or calls or other derivative securities on the Company's securities;

(iv) Trading on margin. Covered Persons may not hold Company securities in a margin account or pledge Company securities as collateral for a loan; and

(v) Hedging. Covered Persons may not enter into hedging or monetization transactions or similar arrangements with respect to Company securities.

4. Acknowledgment and Certification

All Covered Persons are required to sign the attached acknowledgment and certification.

ACKNOWLEDGMENT AND CERTIFICATION

The undersigned does hereby acknowledge receipt of the Company's Insider Trading Policy. The undersigned has read and understands (or has had explained) such Policy and agrees to be governed by such Policy at all times in connection with the purchase and sale of securities and the confidentiality of non-public information.

(Signature)

(Please print name)

Date:

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statements (Nos. 333-265799, 333-218244 and 333-187928) on Form S-8, the Registration Statements (Nos. 333-205147 and 333-212433) on Form S-3 and the Post-Effective Amendment No. 2 on Form S-3 (Registration No. 333-212433) on Form S-1 of Tecogen Inc. ("the Company") of our report dated March 18, 2025, relating to the consolidated financial statements of the Company, appearing in this Annual Report on Form 10-K for the year ended December 31, 2024.

/s/ Wolf & Company, P.C.  
Boston, Massachusetts  
March 18, 2025

**TECOGEN INC.**  
CERTIFICATION REQUIRED BY EXCHANGE ACT RULES 13a-14(a) and 15d-14(a),  
AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Abinand Rangesh, certify that:

1. I have reviewed this Annual Report on Form 10-K of Tecogen Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 18, 2025

/s/ Abinand Rangesh  
Abinand Rangesh  
Chief Executive and Financial Officer

**TECOGEN INC.**  
CERTIFICATION REQUIRED BY EXCHANGE ACT RULES 13a-14(b) and 15d-14(b),  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Abinand Rangesh, Chief Executive and Financial Officer, of Tecogen Inc., or the Company, certify, pursuant to Section 1350, Chapter 63 of Title 18, United States Code that, to his knowledge:

1. The Annual Report on Form 10-K of the Company for the year ended December 31, 2024 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78 m or 78o(d)); and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 18, 2025

/s/ Abinand Rangesh

Abinand Rangesh

Chief Executive and Financial Officer