UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2020

or

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

Commission File Number 001-36103

Advanced Modular CHP Systems

TECOGEN INC. (OTCQX:TGEN)

(Exact name of Registrant as Specified in its Charter)

Delaware	**04-3536131**
(State or Other Jurisdiction of Incorporation or Organization)	*(IRS Employer Identification No.)*

45 First Avenue
Waltham, Massachusetts 02451
(Address of Principal Executive Offices and Zip Code)

(781) 466-6402

(Registrant's Telephone Number, Including Area Code)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Title of each class	Outstanding, November 10, 2020
Common Stock, $0.001 par value	24,850,261

TECOGEN INC.

QUARTERLY REPORT ON FORM 10-Q
FOR THE PERIOD ENDED SEPTEMBER 30, 2020
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PART I - FINANCIAL INFORMATION

References in this Form 10-Q to "we", "us", "our"', the "Company" and "Tecogen" refers to Tecogen Inc. and its consolidated subsidiaries, unless otherwise noted.

PART I - FINANCIAL INFORMATION
Item 1 - Financial Statements

CONDENSED CONSOLIDATED BALANCE SHEETS
(unaudited)

	September 30, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,647,471	$ 877,676
Accounts receivable, net	8,885,455	14,569,397
Unbilled revenue	5,370,422	5,421,811
Inventory, net	7,142,799	6,405,229
Prepaid and other current assets	517,924	635,034
Total current assets	23,564,071	27,909,147
Property, plant and equipment, net	2,998,014	3,465,948
Right of use assets	1,763,795	2,173,951
Intangible assets, net	1,441,518	1,593,781
Goodwill	5,281,867	5,281,867
Other assets	198,500	691,941
TOTAL ASSETS	$ 35,247,765	$ 41,116,635
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Revolving line of credit, bank	$ —	$ 2,402,384
Note payable, current portion	209,618	—
Accounts payable	3,815,875	5,271,756
Accrued expenses	2,650,873	2,599,366
Deferred revenue	1,328,657	2,635,619
Lease obligations, current	519,318	536,443
Total current liabilities	8,524,341	13,445,568
Long-term liabilities:		
Deferred revenue, net of current portion	125,556	145,464
Note payable, net of current portion	1,664,582	—
Lease obligations, long-term	1,344,682	1,637,508
Unfavorable contract liability, net	2,205,301	2,534,818
Total liabilities	13,864,462	17,763,358
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Tecogen Inc. stockholders' equity:		
Common stock, $0.001 par value; 100,000,000 shares authorized; 24,850,261 and 24,849,261 issued and outstanding at September 30, 2020 and December 31, 2019, respectively	24,850	24,849
Additional paid-in capital	56,753,845	56,622,285
Accumulated deficit	(35,467,309)	(33,379,114)
Total Tecogen Inc. stockholders' equity	21,311,386	23,268,020
Noncontrolling interest	71,917	85,257
Total stockholders' equity	21,383,303	23,353,277
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 35,247,765	$ 41,116,635

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

TECOGEN INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	Three Months Ended	
	September 30, 2020	**September 30, 2019**
Revenues		
Products	$ 2,659,635	$ 3,790,291
Services	4,171,377	4,248,584
Energy production	368,695	631,602
Total revenues	7,199,707	8,670,477
Cost of sales		
Products	1,593,500	2,515,605
Services	2,621,855	3,029,702
Energy production	197,608	293,929
Total cost of sales	4,412,963	5,839,236
Gross profit	2,786,744	2,831,241
Operating expenses		
General and administrative	2,318,789	2,333,887
Selling	563,857	669,720
Research and development	111,253	365,817
Total operating expenses	2,993,899	3,369,424
Loss from operations	(207,155)	(538,183)
Other income (expense)		
Interest income	(12)	192
Interest expense	(4,845)	(18,516)
Unrealized gain (loss) on investment securities	—	—
Total other income (expense), net	(4,857)	(18,324)
Loss before provision for state income taxes	(212,012)	(556,507)
Provision for state income taxes	9,397	7,881
Consolidated net loss	(221,409)	(564,388)
Income attributable to the noncontrolling interest	(10,511)	(21,861)
Net loss attributable to Tecogen Inc.	$ (231,920)	$ (586,249)
Net loss per share - basic and diluted	$ (0.01)	$ (0.02)
Weighted average shares outstanding - basic and diluted	24,850,261	24,843,177

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

TECOGEN INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	Nine Months Ended	
	September 30, 2020	September 30, 2019
Revenues		
Products	$ 8,752,908	$ 9,260,265
Services	12,448,671	13,003,529
Energy production	1,395,886	2,450,710
Total revenues	22,597,465	24,714,504
Cost of sales		
Products	5,298,750	6,005,819
Services	7,925,925	8,034,410
Energy production	887,888	1,458,360
Total cost of sales	14,112,563	15,498,589
Gross profit	8,484,902	9,215,915
Operating expenses		
General and administrative	7,645,729	7,672,550
Selling	2,022,027	2,067,674
Research and development	641,616	1,083,444
Gain on sale of assets	—	(1,081,049)
Goodwill impairment	—	3,693,198
Total operating expenses	10,309,372	13,435,817
Loss from operations	(1,824,470)	(4,219,902)
Other income (expense)		
Interest income	11,953	790
Interest expense	(121,084)	(63,547)
Unrealized loss on investment securities	(98,403)	(19,680)
Total other expense, net	(207,534)	(82,437)
Loss before provision for state income taxes	(2,032,004)	(4,302,339)
Provision for state income taxes	27,791	15,667
Consolidated net loss	(2,059,795)	(4,318,006)
(Income) loss attributable to the noncontrolling interest	(28,400)	94,551
Net loss attributable to Tecogen Inc.	$ (2,088,195)	(4,223,455)
Net loss per share - basic and diluted	$ (0.08)	$ (0.17)
Weighted average shares outstanding - basic and diluted	24,850,257	24,838,367

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

TECOGEN INC.

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the Three and Nine Months Ended September 30, 2020 and 2019
(unaudited)

	Tecogen Inc. Stockholders					
Three months ended September 30, 2020	Common Stock Shares	Common Stock 0.001 Par Value	Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total
Balance at June 30, 2020	24,850,261	$ 24,850	$ 56,704,412	$ (35,235,389)	$ 80,076	$ 21,573,949
Stock issuance costs	—	—	(1,149)	—	—	(1,149)
Stock based compensation expense	—	—	50,582	—	—	50,582
Distributions to non-controlling interest	—	—	—	—	(18,670)	(18,670)
Net income (loss)	—	—	—	(231,920)	10,511	(221,409)
Balance at September 30, 2020	24,850,261	$ 24,850	$ 56,753,845	$ (35,467,309)	$ 71,917	$ 21,383,303

	Tecogen Inc. Stockholders					
Nine months ended September 30, 2020	Common Stock Shares	Common Stock 0.001 Par Value	Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total
Balance at December 31, 2019	24,849,261	$ 24,849	$ 56,622,285	$ (33,379,114)	$ 85,257	$ 23,353,277
Exercise of stock options	1,000	1	1,199	—	—	1,200
Stock issuance costs	—	—	(1,951)	—	—	(1,951)
Stock based compensation expense	—	—	132,312	—	—	132,312
Distributions to non-controlling interest	—	—	—	—	(41,740)	(41,740)
Net income (loss)	—	—	—	(2,088,195)	28,400	(2,059,795)
Balance at September 30, 2020	24,850,261	$ 24,850	$ 56,753,845	$ (35,467,309)	$ 71,917	$ 21,383,303

	Tecogen Inc. Stockholders					
Three months ended September 30, 2019	Common Stock Shares	Common Stock 0.001 Par Value	Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total
Balance at June 30, 2019	24,840,806	$ 24,841	$ 56,525,590	$ (32,307,301)	$ 111,291	$ 24,354,421
Exercise of stock options	2,455	2	5,659	—	—	5,661
Distributions to non-controlling interest	—	—	—	—	(20,713)	(20,713)
Stock based compensation expense	—	—	42,671	—	—	42,671
Net income (loss)	—	—	—	(586,249)	21,861	(564,388)
Balance at September 30, 2019	24,843,261	$ 24,843	$ 56,573,920	$ (32,893,550)	$ 112,439	$ 23,817,652

	Tecogen Inc. Stockholders					
Nine months ended September 30, 2019	Common Stock Shares	Common Stock 0.001 Par Value	Additional Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Total
Balance at December 31, 2018	24,824,746	$ 24,825	$ 56,427,928	$ (28,670,095)	$ 255,116	$ 28,037,774
Exercise of stock options	18,515	18	26,399	—	—	26,417
Stock issuance costs	—	—	(1,011)	—	—	(1,011)
Distributions to non-controlling interest	—	—	—	—	(48,126)	(48,126)
Stock based compensation expense	—	—	120,604	—	—	120,604
Net loss	—	—	—	(4,223,455)	(94,551)	(4,318,006)
Balance at September 30, 2019	24,843,261	$ 24,843	$ 56,573,920	$ (32,893,550)	$ 112,439	$ 23,817,652

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

TECOGEN INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	Nine Months Ended	
	September 30, 2020	September 30, 2019
CASH FLOWS FROM OPERATING ACTIVITIES:		
Consolidated net loss	$ (2,059,795)	$ (4,318,006)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation, accretion and amortization, net	293,941	362,848
Stock-based compensation	132,312	120,604
Goodwill impairment	—	3,693,198
Gain on sale of assets	—	(1,081,049)
Provision for losses on accounts receivable	—	29,849
Unrealized loss on investment securities	98,403	19,680
Abandonment of intangible assets	179,944	—
Non-cash interest expense	51,190	36,252
Changes in operating assets and liabilities, net of effects of acquisitions		
(Increase) decrease in:		
Accounts receivable	5,683,941	1,097,220
Unbilled revenue	51,389	(763,604)
Inventory	(737,570)	(165,375)
Due from related party	—	9,405
Prepaid expenses and other current assets	117,109	(19,586)
Other non-current assets	692,484	(235,695)
Increase (decrease) in:		
Accounts payable	(1,455,881)	(665,587)
Accrued expenses and other current liabilities	145,848	(203,262)
Deferred revenue	(1,619,696)	(1,142,575)
Net cash provided by (used in) operating activities	1,573,619	(3,225,683)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(59,952)	(73,642)
Proceeds from sale of assets	—	5,000,000
Purchases of intangible assets	(123,252)	(64,656)
Unrealized loss on investment securities	—	—
Payment of stock issuance costs	(1,951)	(1,011)
Distributions to noncontrolling interest	(41,740)	(48,127)
Net cash provided by (used in) investing activities	(226,895)	4,812,564
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments on revolving line of credit, net	(2,452,329)	(1,105,111)
Proceeds from note payable	1,874,200	—
Proceeds from the exercise of stock options	1,200	26,418
Net cash used in financing activities	(576,929)	(1,078,693)
Change in cash and cash equivalents	769,795	508,188
Cash and cash equivalents, beginning of the period	877,676	272,552
Cash and cash equivalents, end of the period	$ 1,647,471	$ 780,740
Supplemental disclosures of cash flows information:		
Cash paid for interest	$ 62,007	$ 24,729
Cash paid for taxes	$ 27,791	$ 29,205

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

Note 1. Description of Business and Basis of Presentation

Description of Business

Tecogen Inc., ("Tecogen," "Company,", "we," "our," or "us"), designs, manufactures, markets, and maintains high efficiency, ultra-clean cogeneration products including natural gas engine driven combined heat and power, air conditioning systems, and water heaters for residential, commercial, recreational and industrial use. We provide cost efficient, environmentally friendly and reliable products for distributed power generation that, through patented technology, nearly eliminate criteria pollutants and significantly reduce a customer's carbon footprint. Tecogen products are expected to run on Renewable Natural Gas (RNG) as it is introduced into the US gas pipeline infrastructure.

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 while recovering the engine's waste heat for water heating, space heating, and/or air conditioning at the customer's building. All of our products are standardized, modular, CHP products that reduce energy costs, carbon emissions, and dependence on the electric grid. Tecogen's products allow customers to produce power on-site in parallel with the electric grid or stand alone when no utility grid is available via inverter-based black-start capability. Because our CHP systems also produce clean, usable heat energy, they provide economic advantages to customers who can benefit from the use of hot water, chilled water, air conditioning and heating.

The majority of the Company's customers are located in regions with the highest utility rates, typically California, the Midwest and the Northeast.

On May 18, 2017, the Company acquired 100% of the outstanding common stock of American DG Energy Inc. in a stock-for-stock merger whereupon American DG Energy became a wholly-owned subsidiary of the Company.

The Company voluntarily delisted its shares of common stock from Nasdaq effective June 19, 2020, and, since that date, the Company's shares of common stock have been quoted on the OTC Markets Group Inc.'s OTCQX Best Market. The Company's shares continue to be quoted under the ticker symbol "TGEN."

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments considered necessary for a fair presentation have been included. Operating results for the three and nine months ended September 30, 2020 are not necessarily indicative of the results that may be expected for the year ending December 31, 2020.

The condensed consolidated balance sheet at December 31, 2019 has been derived from the audited consolidated financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements.

For further information, refer to the consolidated financial statements and footnotes thereto included in Tecogen's Annual Report on Form 10-K for the year ended December 31, 2019.

The accompanying unaudited condensed consolidated financial statements include the accounts of the Company and entities in which it has a controlling financial interest. Those entities include the Company's wholly-owned subsidiaries American DG Energy Inc., TTcogen LLC (liquidated and dissolved in August 2020), and a joint venture, American DG New York, LLC, in which American DG Energy Inc. holds a 51% interest. Investments in partnerships and companies in which the Company does not have a controlling financial interest but where we have significant influence are accounted for under the equity method. Any intercompany transactions have been eliminated in consolidation.

The Company's operations are comprised of two business segments. Our Products and Services segment designs, manufactures and sells industrial and commercial cogeneration systems as described above. Our Energy Production segment sells energy in the form of electricity, heat, hot water and cooling to our customers under long-term sales agreements.

Reclassification

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

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.

Income Taxes

The provisions for income taxes in the accompanying unaudited consolidated statements of operations differ from that which would be expected by applying the federal statutory tax rate primarily due to losses for which no benefit is recognized.

Note 2. Revenue

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 and shipping and handling costs incurred are recorded in cost of sales. The Company has elected to exclude from revenue any value added sales and other taxes which it collects concurrent with revenue-producing activities. These accounting policy elections are consistent with the manner in which the Company 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.

Disaggregated Revenue

In general, the Company's business segmentation is aligned according to the nature and economic characteristics of its 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 three and nine months ended September 30, 2020 and 2019.

Three Months Ended	September 30, 2020		
	Products and Services	Energy Production	Total
Products	$ 2,659,635	$ —	$ 2,659,635
Installation services	1,559,473	—	1,559,473
Maintenance services	2,611,904	—	2,611,904
Energy production	—	368,695	368,695
Total revenue	$ 6,831,012	$ 368,695	$ 7,199,707

Nine Months Ended	September 30, 2020		
	Products and Services	Energy Production	Total
Products	$ 8,752,908	$ —	$ 8,752,908
Installation services	4,915,599	—	4,915,599
Maintenance services	7,533,072	—	7,533,072
Energy production	—	1,395,886	1,395,886
Total revenue	$ 21,201,579	$ 1,395,886	$ 22,597,465

Three Months Ended	September 30, 2019		
	Products and Services	Energy Production	Total
Products	$ 3,790,291	$ —	$ 3,790,291
Installation services	1,794,649	—	1,794,649
Maintenance services	2,453,935	—	2,453,935
Energy production	—	631,602	631,602
Total revenue	$ 8,038,875	$ 631,602	$ 8,670,477

Nine Months Ended	September 30, 2019		
	Products and Services	Energy Production	Total
Products	$ 9,260,265	$ —	$ 9,260,265
Installation services	5,641,540	—	5,641,540
Maintenance services	7,361,989	—	7,361,989
Energy production		2,450,710	2,450,710
Total revenue	$ 22,263,794	$ 2,450,710	$ 24,714,504

Product and Services Segment

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

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.

Installation Services. We provide both complete turnkey installation services and what we refer to as light installation services. Complete turnkey installation services typically include all necessary engineering and design, labor, subcontract labor and service, and ancillary products and parts necessary to install a cogeneration unit including integration into the customers' existing electrical and mechanical systems. Light installation services typically include some engineering and design as well as certain ancillary products and parts necessary for the customers' installation of a cogeneration unit.

Under light installation contracts, revenue related to ancillary products and parts is recognized when we transfer control of such items to the customer, generally when we ship them from our manufacturing facility, with revenue related to engineering and design services being recognized at the point where the customer can benefit from the service, generally as completed. Generally billings under light installation contracts are made when shipped and/or completed, with payment terms generally being 30 days.

Under complete turnkey installation service contracts, revenue is recognized over time using the percentage-of-completion method determined on a cost to cost basis. Our performance obligation under such contracts is satisfied progressively over time as enhancements are made to customer owned and controlled properties. We measure progress towards satisfaction of the performance obligation based on an input method based on cost which we believe is the most faithful depiction of the transfer of products and services to the customer under these contracts. When the financial metrics of a contract indicate a loss, our policy is to record the entire expected loss as soon as it is known. Contract costs and profit recognized to date under the percentage-of-completion method in excess of billings are recognized as contract assets and are recorded as unbilled revenue. Billings in excess of contract costs and profit are recognized as contract liabilities and are recorded as deferred revenue. Generally billings under complete turnkey installation contracts are made when contractually determined milestones of progress have been achieved, with payment terms generally being 30 days.

Maintenance Services. Maintenance services are provided under either long-term maintenance contracts or one-time maintenance contracts. Revenue under one-time 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 where 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.

Energy Production Segment

Energy Production. Revenue from energy contracts is recognized when electricity, heat, hot and/or chilled water is produced by Company 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 the amount that 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 Condensed Balance Sheets.

Revenue recognized during the quarter ended September 30, 2020 that was included in unbilled revenue at the beginning of the period was approximately $2.2 million. Approximately $1.8 million was billed in this period that had been recognized as revenue in previous periods.

Revenue recognized during the quarter ended September 30, 2020 that was included in deferred revenue at the beginning of the period was approximately $2.6 million.

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 September 30, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately $8.3 million. The Company expects to recognize revenue of approximately 99% of the remaining performance obligations over the next 24 months, 98% recognized in the first 12 months and 1% recognized over the subsequent 12 months, and the remainder recognized thereafter.

Note 3. Loss Per Common Share

Basic and diluted loss per share for the three and nine months ended September 30, 2020 and 2019, respectively, were as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2020	2019	2020	2019
Net loss attributable to stockholders	$ (231,920)	$ (586,249)	$ (2,088,195)	$ (4,223,455)
Weighted average shares outstanding - Basic and diluted	24,850,261	24,843,177	24,850,257	24,838,367
Basic loss per share	$ (0.01)	$ (0.02)	$ (0.08)	$ (0.17)
Anti-dilutive shares underlying stock options outstanding	2,536,664	85,272	2,555,097	188,272

Note 4. Property, Plant and Equipment

Property, plant and equipment at September 30, 2020 and December 31, 2019 consisted of the following:

	Estimated Useful Life (in Years)	September 30, 2020	December 31, 2019
Energy systems	1 - 15 years	$ 4,372,638	$ 4,372,638
Machinery and equipment	5 - 7 years	1,509,208	1,462,208
Furniture and fixtures	5 years	193,698	193,698
Computer software	3 - 5 years	192,865	192,865
Leasehold improvements	*	450,792	450,792
		6,719,201	6,672,201
Less - accumulated depreciation and amortization		(3,721,187)	(3,206,253)
		$ 2,998,014	$ 3,465,948

* Lesser of estimated useful life of asset or lease term

Depreciation and amortization expense on property and equipment for the three and nine months ended September 30, 2020 and 2019 was $175,869 and $527,886 and $180,662 and $686,880, respectively.

In March 2019, the Company sold certain energy systems related assets and related energy production contracts. See Note 6. Sale of Energy Producing Assets and Goodwill Impairment for further discussion.

Note 5. Intangible Assets and Liabilities Other Than Goodwill

As of September 30, 2020 and December 31, 2019 the Company had the following amounts related to intangible assets and liabilities other than goodwill:

	September 30, 2020			December 31, 2019		
Intangible assets	Cost	Accumulated Amortization	Total	Cost	Accumulated Amortization	Total
Product certifications	$ 726,159	$ (440,592)	$ 285,567	$ 726,159	$ (399,906)	$ 326,253
Patents	880,416	(218,506)	661,910	1,017,108	(206,499)	810,609
Developed technology	240,000	(120,000)	120,000	240,000	(108,000)	132,000
Trademarks	26,896	—	26,896	26,896	—	26,896
In Process R&D	263,936	—	263,936	263,936	—	263,936
Favorable contract asset	354,858	(292,004)	62,854	274,858	(263,901)	10,957
TTcogen intangible assets	29,607	(9,252)	20,355	29,607	(6,477)	23,130
	$ 2,521,872	$ (1,080,354)	$ 1,441,518	$ 2,578,564	$ (984,783)	$ 1,593,781
Intangible liability						
Unfavorable contract liability	$ 4,689,025	$ (2,483,724)	$ 2,205,301	$ 4,689,025	$ (2,154,207)	$ 2,534,818

The aggregate amortization expense related to intangible assets and liabilities exclusive of contract related intangibles for the three and nine months ended September 30, 2020 and 2019 was $21,564 and $64,692 and $22,951 and $70,699, respectively. The net credit to cost of sales related to the amortization of contract related intangible assets and liabilities for the three and nine months ended September 30, 2020 and 2019 was $98,053 and $301,414 and $107,998 and $394,731, respectively. During the first quarter of 2020, the Company abandoned certain patent applications amounting to a $179,944 abandonment charge for the period.

Favorable/Unfavorable Contract Assets and Liabilities

The favorable contract asset and unfavorable contract liability in the foregoing table represent the estimated fair value of American DG Energy's customer contracts (both positive for favorable contracts and negative for unfavorable contracts) which were acquired by the Company in May 2017.

Amortization of intangibles including contract related amounts is calculated using the straight-line method over the remaining useful life or contract term. Aggregate future amortization over the next five years is estimated to be as follows:

Year 1	$ (160,086)
Year 2	(197,999)
Year 3	(154,182)
Year 4	(117,947)
Year 5	(64,340)

Note 6. Sale of Energy Producing Assets and Goodwill Impairment

During the first quarter of 2019, the Company recognized two individual sales of energy producing assets, for a total of eight power purchase agreements, including the associated energy production contracts for total consideration of $7 million, which resulted in a combined gain on sale of assets of $1,081,049 included in the September 30, 2019 accompanying statement of operations.

In connection with the sales, the Company 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 the Company has 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, with the Company making up any shortfall. To the extent actual results are in excess of the minimum threshold, the Company is entitled to forty percent of such excess under the agreements. As of September 30, 2020, the Company had a $40,425 receivable relating to this arrangement due to timing of payments from customers.

The foregoing agreements also contain provisions whereby the Company has 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. If the Company is required to make whole the purchaser under such provisions, the Company 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.

The Company is 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.

The combined gain on sale of these assets was determined after deducting from the gross proceeds the remaining net book value of the assets sold and an estimate of the remaining costs to complete installation of certain of the site assets as well as deducting an estimate of amounts which the Company believes it will be required to pay under the minimum cash flow guarantee described above. In determining the combined gain on the sale of these assets, no amount of goodwill assigned to the energy production segment and reporting unit was included as individual sites and related site energy producing assets are not considered businesses. The aggregate of the assets sold represents a significant portion of the energy production segment and reporting unit's assets and cash flows which is the basis for determination of the fair value of the energy production reporting unit as used for goodwill impairment determinations. Accordingly, the sale of these assets caused the Company to assess the impact of the sales on the valuation of remaining goodwill assigned to the energy production reporting unit. That assessment included a determination of whether the remaining carrying value of the energy production reporting unit including goodwill exceeded its fair value. Following a goodwill impairment charge in 2018 which reduced the carrying value of the energy production reporting unit including goodwill to fair value based on discounted cash flows, exclusion of the discounted cash flows related to the assets sold resulted in impairment of the remaining goodwill assigned to the energy production reporting unit in an amount proportionate to the discounted cash flows related to the assets sold to the total discounted cash flows of the energy production reporting unit before the sales. The goodwill impairment as a result of the sales and recognized in the first quarter of 2019 totaled approximately $3.7 million, reducing the remaining carrying value of the energy production reporting unit, including goodwill to the discounted cash flow of the remaining sites or fair value.

Note 7. Leases

Our leases principally consist of operating leases related to our corporate office, field offices, and our research, manufacturing and storage facilities. Our lease terms do not include options to extend or terminate the lease until we are reasonably certain that we will exercise that option.

At inception, the Company determines if an arrangement contains a lease and whether that lease meets the classification criteria of a finance or operating lease. Some of the Company's lease arrangements contain lease components (e.g. minimum rent payments) and non-lease components (e.g. maintenance, labor charges, etc.). The Company generally accounts for each component separately based on the estimated standalone price of each component.

Operating leases are included in Right-of-use assets, Lease obligations, current and Lease obligations, long term 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 using an incremental borrowing rate consistent with the lease terms or implicit rates, when readily determinable. Short-term operating leases, which have an initial term of 12 months or less, are not recorded on the balance sheet.

Lease expense for operating leases, which principally consist of fixed payments for base rent, is recognized on a straight-line basis over the lease term. Lease expense for the three and nine months ended September 30, 2020 and 2019 was $179,042 and $565,180 and $196,476 and $568,847, respectively.

Supplemental information related to leases for thenine months ended September 30, 2020 was as follows:

Cash paid for amounts included in the measurement of operating lease liabilities	$	486,907
Weighted-average remaining lease term - operating leases		3.5 years
Weighted-average discount rate - operating leases		6 %

Future minimum lease commitments under non-cancelable operating leases as of September 30, 2020 were as follows:

	Operating Leases
Q4 2020	$ 163,287
2021	594,312
2022	576,793
2023	585,309
2024	153,502
Total lease payments	2,106,940
Less: imputed interest	242,940
Total	$ 1,864,000

Note 8. Stock-Based Compensation

Stock-Based Compensation

The Company adopted a 2006 Stock Option and Incentive Plan, or the Plan, under which the Board of Directors may grant incentive or non-qualified stock options and stock grants to key employees, directors, advisors and consultants of the Company. The Plan was amended at various dates by the Board of Directors to increase the reserved shares of common stock issuable under the Amended Plan to 3,838,750 as of September 30, 2020.

Stock options vest based upon the terms within the individual option grants, with an acceleration of the unvested portion of such options upon a change in control event, as defined in the Amended Plan. The options are not transferable except by will or domestic relations order. The option price per share under the Amended Plan cannot be less than the fair market value of the underlying shares on the date of the grant. The number of shares remaining available for future issuance under the Amended Plan as of September 30, 2020 was 602,350.

Stock option activity for the nine months ended September 30, 2020 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, 2019	1,352,874	$0.79-$10.33	$ 3.57	5.30 years	$ 95,381
Granted	1,440,000	$0.71-$0.78	$ 0.72		
Exercised	(1,000)	$1.20	$ 1.20		
Canceled and forfeited	(136,170)	$1.20-$4.50	$ 2.41		
Outstanding, September 30, 2020	2,655,704	$0.71-$10.33	$ 2.09	7.48 years	$ 278,921
Exercisable, September 30, 2020	969,287		$ 3.73		$ 3,181
Vested and expected to vest, September 30, 2020	2,402,741		$ 2.18		$ 274,740

Consolidated stock-based compensation expense for the three and nine months ended September 30, 2020 and 2019 was $50,482 and $42,671, and $132,312 and $120,604, respectively. No tax benefit was recognized related to the stock-based compensation recorded during the period.

Note 9. 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. The Company currently does not have any Level 1 financial assets or liabilities.

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

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

The following table presents the asset reported in "other assets" in the consolidated balance sheet measured at its fair value on a recurring basis as of September 30, 2020 by level within the fair value hierarchy.

September 30, 2020	Total	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Recurring fair value measurements				
Marketable equity securities				
EuroSite Power Inc.	$ 118,084	$ —	$ 118,084	$ —
Total recurring fair value measurements	$ 118,084	$ —	$ 118,084	$ —

The Company utilizes a Level 2 category fair value measurement to value its investment in EuroSite Power as a marketable equity security at period end. That measurement is equal to the quoted market closing price at period end. Since this security is not actively traded, the Company classifies it as Level 2.

The following table summarizes changes in Level 2 assets which are comprised of marketable equity securities for the period:

Fair value at December 31, 2019	$ 216,487
Unrealized loss included in net income for the nine months ended September 30, 2020	(98,403)
Fair value at September 30, 2020	$ 118,084

Note 10. Note Payable and Revolving Line of Credit, Bank

On May 4, 2018 ("Closing Date"), the Company, and its wholly owned subsidiaries, American DG Energy Inc. and TTcogen LLC (collectively, the "Borrowers"), entered into a Credit Agreement with Webster Business Credit Corporation (the "Lender") that matures in May 2021 and provides Borrowers a line of credit of up to $10 million on a revolving and secured basis, with availability based on certain accounts receivables, raw materials, and finished goods.

Borrowings under the Credit Agreement bear interest at a rate equal to, at the Borrower's option, either (1) One Month LIBOR, plus 3.00%, or (2) Lender's Base Rate, plus 1.5%. Lender's Base Rate is defined as the highest of (a) the Federal Funds rate plus 0.5%, (b) Lender's Prime Rate as adjusted by Lender from time to time, and (c) One Month LIBOR, plus 2.75%.

On May 11, 2020 the Company and Webster Business Credit Corporation ("Webster") agreed to terminate the Credit Agreement dated May 4, 2018 by and between Webster and the Company and its wholly owned subsidiaries, together with related agreements, including a Revolving Note, Security Agreement, Blocked Account Agreement, and Master Letter of Credit Agreement. Tecogen paid an early termination fee in the amount of $25,000 in connection with the termination of the Credit Agreement, and continues to use depository and cash management services provided by Webster Bank. The $145,011 of costs incurred in connection with the issuance of the revolving credit facility were capitalized and were being amortized to interest expense on a straight-line basis over three years based on the contractual term of the Agreement. Upon termination of the Credit Agreement, the unamortized balance of debt issuance cost of $37,861 was expensed in the accompanying Condensed Consolidated Statement of Operations.

On April 17, 2020, the Company obtained an unsecured loan through Webster Bank, N.A. in the amount of $1,874,200 in connection with the Paycheck Protection Program pursuant to the Coronavirus Aid, Relief, and Economic Security Act (the

“CARES Act”) administered by the United States Small Business Administration (the "SBA"). The loan is guaranteed by the SBA. Interest on the loan balance is at the rate of 1% per year, and as a result of the enactment of the Paycheck Protection Program Flexibility Act of 2020 (the “PPP Flexibility Act”), repayment of the loan balance could be deferred until August 2021, at which time the balance would be payable in18 monthly installments of $106,356 with the final payment due in January 2023 if not forgiven in accordance with the Cares Act and the terms of the Promissory Note executed by the Company in connection with the loan. The PPP loan may be prepaid at any time without penalty. The loan agreement and promissory note include customary provisions for a loan of this type, including prohibitions on our payment of dividends or repurchase of shares of our common stock while the PPP Loan remains outstanding. The loan agreement and promissory note also defines events of default to include, among other things, payment defaults, breaches of provisions of the loan agreement or the promissory note and cross-defaults on other loans, if applicable.

In June 2020, the PPP Flexibility Act postponed the commencement of repayment obligations for Cares Act loans to the date on which the amount of forgiveness as determined under the Cares Act is remitted to the lender, but not later than 10 months after the last day of the applicable Covered Period (the period during which costs eligible for forgiveness may be paid or accrued). The Company has used 100% of the loan proceeds for payroll, rent, and utilities (which are costs expected to be eligible for loan forgiveness under the CARES Act and the Promissory Note) during the 24 week Covered Period following the disbursement of the loan as permitted under the PPP Flexibility Act in order to maximize the amount forgivable under the loan. Whether our application for forgiveness will be granted and in what amount is subject to an application to, and approval by, the SBA and may also be subject to further requirements in any regulations and guidelines the SBA may adopt. On November 10, 2020, we submitted a loan forgiveness application to Webster seeking forgiveness for the full amount of the PPP loan. To the extent that there is a loan balance after the application of permissible forgiveness, the Company will seek to extend the loan maturity for the remaining balance to the maximum maturity of five years as permitted under the Cares Act as amended by the PPP Flexibility Act.

Note 11. Commitments and Contingencies

The Company guarantees certain obligations of a former subsidiary of American DG Energy, EuroSite Power Inc. These guarantees include a payment performance guarantee in respect of collateralized equipment financing loans, with a remaining principal amount outstanding subject to the guarantee at September 30, 2020 of $78,560 due ratably in equal installments through September 2021, and certain guarantees of performance in respect of certain customer contracts. Based on current conditions, the Company does not believe there to be any amounts probable of payment by the Company under any of the guarantees and has estimated the value associated with the non-contingent aspect of the guarantees is approximately $7,000 which is recorded as a liability in the accompanying financial statements.

Note 12. Segments

As of September 30, 2020, the Company was organized into two operating segments through which senior management evaluates the Company’s business. These segments, as described in more detail in Note 1, are organized around the products and services provided to customers and represent the Company’s reportable segments. The following table presents information by reportable segment for the three and nine months ended September 30, 2020 and 2019:

	Products and Services	Energy Production	Corporate, other and elimination (1)	Total
Three months ended September 30, 2020				
Revenue - external customers	$ 6,831,012	$ 368,695	$ —	$ 7,199,707
Intersegment revenue	77,514	—	(77,514)	—
Total revenue	$ 6,908,526	$ 368,695	$ (77,514)	$ 7,199,707
Gross profit	$ 2,615,657	$ 171,087	$ —	$ 2,786,744
Identifiable assets	$ 21,031,221	$ 2,877,859	$ 11,338,685	$ 35,247,765
Three months ended September 30, 2019				
Revenue - external customers	$ 8,038,875	$ 631,602	$ —	$ 8,670,477
Intersegment revenue	113,008	—	(113,008)	—
Total revenue	$ 8,151,883	$ 631,602	$ (113,008)	$ 8,670,477
Gross profit	$ 2,493,568	$ 337,673	$ —	$ 2,831,241
Identifiable assets	$ 25,166,483	$ 3,375,306	$ 11,412,533	$ 39,954,322
Nine months ended September 30, 2020				
Revenue - external customers	$ 21,201,579	$ 1,395,886	$ —	$ 22,597,465
Intersegment revenue	309,224	—	(309,224)	—
Total revenue	$ 21,510,803	$ 1,395,886	$ (309,224)	$ 22,597,465
Gross profit	$ 7,976,904	$ 507,998	$ —	$ 8,484,902
Identifiable assets	$ 21,031,221	$ 2,877,859	$ 11,338,685	$ 35,247,765
Nine months ended September 30, 2019				
Revenue - external customers	$ 22,263,794	$ 2,450,710	$ —	$ 24,714,504
Intersegment revenue	470,169	—	(470,169)	—
Total revenue	$ 22,733,963	$ 2,450,710	$ (470,169)	$ 24,714,504
Gross profit	$ 8,223,565	$ 992,350	$ —	$ 9,215,915
Identifiable assets	$ 25,166,483	$ 3,375,306	$ 11,412,533	$ 39,954,322

(1) Corporate, intersegment revenue, other and elimination includes various corporate assets.

Note 13. Subsequent Events

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

On November 10, 2020, we submitted a loan forgiveness application to Webster Bank seeking forgiveness for the full amount of the PPP loan.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

This Management's Discussion and Analysis of Financial Condition and Results of Operations and other parts of this Quarterly Report on Form 10-Q ("Form 10-Q") contain forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, that involve risks and uncertainties. Any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. For example, statements in this Form 10-Q regarding the potential future impact of the COVID-19 pandemic on the Company's business and results of operations are forward-looking statements. Forward-looking statements can also be identified by words such as "future," "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "will," "would," "could," "can," "may," and similar terms. Forward-looking statements are not guarantees of future performance and the Company's actual results may differ significantly from the results discussed in the forward-looking statements. Such forward-looking statements include, among other things, statements regarding the impact of the coronavirus pandemic on demand for our products and services, the availability of incentives, rebates, and tax benefits relating to our products, changes in the regulatory environment relating to our products, competing technological developments, and the availability of financing to fund our operations and growth. Factors that might cause such differences include, but are not limited to, those discussed in Part I, Item 1A of the Company's Annual Report on Form 10-K for the year ended December 31, 2019 ("2019 Form 10-K"), as supplemented, and Part II, Item 1A of this Form 10-Q, in each case under the heading "Risk Factors." The following discussion should be read in conjunction with the 2019 Form 10-K filed with the Securities and Exchange Commission ("SEC") and the condensed consolidated financial statements and accompanying notes included in Part I, Item 1 of this Form 10-Q. Each of the terms the "Company," "Tecogen," "we," "our," and "us" as used herein refers collectively to Tecogen Inc. and its wholly owned subsidiaries, unless otherwise stated. While the Company may elect to update forward-looking statements in the future, it specifically disclaims any obligation to do so, even if the Company's estimates change, and you should not rely on those forward-looking statements as representing the Company's views as of any date subsequent to the date of the filing of this Form 10-Q.

COVID-19 Update

During the first fiscal quarter of 2020, a novel strain of coronavirus ("COVID-19") began spreading rapidly throughout the world, prompting governments and businesses to take unprecedented measures in response. Such measures included restrictions on travel and business operations, temporary closures of businesses, and quarantines and shelter-in-place orders. The COVID-19 pandemic has significantly curtailed global economic activity and caused significant volatility and disruption in global financial markets. The COVID-19 pandemic and the measures taken by U.S. Federal, state and local governments in response have adversely affected and could in the future materially adversely impact the Company's business, results of operations, financial condition and stock price. The impact of the pandemic remains uncertain and will depend on the growth in the number of infections, fatalities, the duration of the pandemic, steps taken to combat the pandemic, and the development and availability of effective treatments.

Significant portions of our business are deemed "essential services" under various state shelter-in-place orders, and we have been able to maintain critical manufacturing and service operations. We have made every effort to keep our employees who operate our business safe and minimize unnecessary risk of exposure to the virus, and as part of our pandemic response plan, during a relatively short period in April our sales, engineering, and select administrative functions were operated remotely while our manufacturing team continued to function at our manufacturing facility. Our service centers continued to operate due to our essential services designation, however from time to time our service personnel have been unable to perform maintenance services for customers that temporarily ceased or reduced operations at facilities served by our equipment, and certain customers closed their operations, reducing the amount of energy produced and sold to customers during these periods. During the pandemic we have also experienced slower payments from certain customers. These business interruptions resulted in reductions in service and installation revenue, energy production revenue, and margins in the affected portions of our business.

On April 17, 2020, we obtained a loan in the amount of $1,874,200 under the Paycheck Protection Program pursuant to the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") through Webster Bank. The loan is guaranteed by the United States Small Business Administration ("SBA") and, subject to certain limitations, to the extent that the loan is used for payroll, rent, or utilities during the applicable Covered Period following the disbursement of the loan, the loan may be forgiven by the SBA. See Note 10. Note Payable and Revolving Line of Credit, Bank. There can be no assurance that the Paycheck Protection Program loan ultimately will be forgiven.

TECOGEN INC.

Overview

Tecogen designs, manufactures, markets, and maintains high efficiency, ultra-clean cogeneration products including natural gas engine driven combined heat and power, air conditioning systems, and water heaters for residential, commercial, recreational and industrial use. We provide cost efficient, environmentally friendly and reliable products for distributed power generation that, through patented technology, nearly eliminate criteria pollutants and significantly reduce a customer's carbon footprint. Tecogen products are expected to run on Renewable Natural Gas (RNG) as it is introduced into the US gas pipeline infrastructure.

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 while recovering the engine's waste heat for water heating, space heating, and/or air conditioning at the customer's building. All of our products are standardized modular CHP products that reduce energy costs, carbon emissions, and dependence on the electric grid. Tecogen's products allow customers to produce power on-site in parallel with the electric grid or stand alone when no utility grid is available via inverter-based black-start capability. Because our CHP systems also produce clean, usable heat energy, they provide economic advantages to customers who can benefit from the use of hot water, chilled water, air conditioning and heating.

Our products are sold directly to end-users by our in-house marketing 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. We have an installed base of more than 3,000 units. Our products have long useful lives with proper maintenance. Some of our units have been operating for over 35 years.

With the acquisition of American DG Energy Inc. ("ADGE") in May 2017, we added an additional source of revenue. Through ADGE, we install, own, operate and maintain complete distributed generation of electricity systems, or DG systems or energy systems, and other complementary systems at customer sites, and sell electricity, hot water, heat and cooling energy under long-term contracts at prices guaranteed to the customer to be below conventional utility rates. Each month we obtain readings from our energy meters to determine the amount of energy produced for each customer. We use a contractually defined formula to multiply these readings by the appropriate published price of energy (electricity, natural gas or oil) from each customer's local energy utility, to derive the value of our monthly energy sale, which includes a negotiated discount. Our revenues per customer on a monthly basis vary based on the amount of energy produced by our energy systems and the published price of energy (electricity, natural gas or oil) from our customer's local energy utility that month.

The Company's operations are comprised of two business segments. Our Products and Services segment ("Segment 1") designs, manufactures and sells industrial and commercial cogeneration systems as described above. Our Energy Production segment ("Segment 2") sells energy in the form of electricity, heat, hot water and cooling to our customers under long-term sales agreements.

Results of Operations

Third Quarter of 2020 Compared to Third Quarter of 2019

Revenues

Total revenues in the third quarter of 2020 were $7,199,707 compared to $8,670,477 for the same period in 2019, a decrease of $1,470,770 or 17.0%. This decrease is due to the decline in products, service and energy revenue during the third quarter of 2020 compared to the same period in 2019.

Segment 1 - Products and Services

Product revenues in the third quarter of 2020 were $2,659,635 compared to $3,790,291 for the same period in 2019, a decrease of $1,130,656 or 29.8%. This decrease is due primarily to a decrease in chiller sales of $1,365,028, partially offset by an increase in cogeneration sales of $234,372, year over year. Such variations in product mix are not unusual and are expected and to some degree attributable to the impact of COVID-19. Service revenues in the third quarter of 2020 were $4,171,377 compared to $4,248,584 for the same period in 2019, a decrease of $77,207 or 1.8%. This decrease in the third quarter is due mostly to a decrease in installation activity of $235,176, partially offset by an increase of $157,969 in service contract revenues. Certain installation projects, particularly those in New York City were stopped due to COVID-19 in the third quarter of 2020 accounting for the decrease in installation revenue. In addition, certain cogeneration sites such as hotels and gyms for example, were shut down and therefore service revenue decreased.

Segment 2 - Energy Production

Energy production revenue earned by our American DG Energy sites, in the third quarter of 2020 was $368,695, compared to $631,602 for the same period in 2019, a decrease of $262,907 or 41.6%. This decrease is due to several sites being shut down during the COVID-19 pandemic.

Cost of Sales

Cost of sales in the third quarter of 2020 was $4,412,963 compared to $5,839,236 for the same period in 2019, a decrease of $1,426,273, or 24.4% due lower revenues which are primarily due to COVID-19. Overall gross margin percent for the third quarter of 2020 was 38.7% compared to 32.7% for the same period in 2019.

Segment 1 - Products and Services

Cost of sales for products and services in the third quarter of 2020 was $4,215,355 compared to $5,545,307 for the same period in 2019, a decrease of $1,329,952 or 24.0%. During the third quarter our overall gross margin percent for our product and services segment was 38.3% compared to 31.0% for the same period in 2019. Product margins for the third quarter of 2020 were 40.1% compared to 33.6% for the same period in 2019, due to improved manufacturing efficiencies. Service margins for the third quarter of 2020 were 37.1% compared to 28.7% for the same period in 2019. This increase in gross margin percent is mainly due to certain efficiencies in service activities.

Segment 2 - Energy Production

Cost of sales for energy production in the third quarter of 2020 was $197,608 compared to $293,929 for the same period in 2019, a decrease of $96,321 or 32.8% due to the decrease in revenue as discussed above. The gross margin percent for this segment was 46.5% for the third quarter of 2020 compared to 53.5% for the same period in 2019. The margin decrease is due to the effects of COVID-19 on the reduction of operational hours of the cogeneration units since several sites were idled or closed down.

Operating Expenses

General and administrative expenses consist of executive staff, accounting and legal expenses, office space, general insurance and other administrative expenses. General and administrative expenses for the quarter ended September 30, 2020 were $2,318,789 compared to $2,333,887 for the same period in 2019, a decrease of $15,098 or 0.6%, due to management's effort to control overhead costs wherever possible.

Selling expenses consist of sales staff, commissions, marketing, travel and other selling related expenses. Selling expenses for the third quarter of 2020 were $563,857 compared to $669,720 for the same period in 2019, a decrease of $105,863 or 15.8% which tends to vary quarter to quarter depending on timing of certain selling activities and outside commissions on chiller and cogeneration sales and reduced travel expenses.

Research and development (R&D) expenses consist of engineering and technical staff, materials, outside consulting and other related expenses. Research and development expenses in the quarter ended September 30, 2020 were $111,253 compared to $365,817 for the same period in 2019, a decrease of $254,564 or 69.6%. R&D expenses decreased as certain projects slowed or stopped as a consequence of the COVID-19 shut-downs.

Loss from Operations

Loss from operations for the third quarter of 2020 was $207,155 compared to a loss of $538,183 for the same period in 2019, a decrease in the loss from operations of $331,028 or (61.5)%. The decreased loss was primarily due to a decrease in selling, general and administrative expenses, partially offset by a decrease in gross profit for the third quarter of 2020 compared to the same period in 2019, as discussed above.

Other Income (Expense), net

Other expense, net for the three months ended September 30, 2020 was $4,857 compared to other expense of $18,324 for the same period in 2019. Other income (expense) includes interest income of $12 and interest expense of $4,845 for the third quarter of 2020. For the comparable period in 2019, interest income was $192 and interest expense was $18,516. The decrease in interest expense is due to the termination of the Company's line of credit facility on May 11, 2020, partially offset by interest expense incurred under the Company's unsecured Paycheck Protection Program loan during the third quarter of 2020.

Provision for state income taxes

The provision for state income taxes in the third quarter of 2020 and 2019 was $9,397 and $7,881, respectively and represents estimated income tax payments to various states.

Noncontrolling Interest

The income attributable to the noncontrolling interest was $10,511 and $21,861 for the three months ended September 30, 2020 and 2019, which represents the noncontrolling interest portion of American DG Energy's 51% owned subsidiary, ADGNY, LLC.

Net Loss Attributable to Tecogen Inc.

Net loss attributable to Tecogen Inc. for the three months ended September 30, 2020 was $231,920 compared to $586,249 for the same period in 2019, a decrease in net loss of $354,329 or (60.4)%, year over year. The decreased loss was primarily due to a decrease in selling, general and administrative expenses, partially offset by a decrease in gross profit for the third quarter of 2020 compared to the same period in 2019.

First Nine Months of 2020 Compared to First Nine Months of 2019

Revenues

Total revenues for the first nine months of 2020 were $22,597,465 compared to $24,714,504 for the same period in 2019, a decrease of $2,117,039 or 8.6%, year over year.

Segment 1 - Products and Services

Product revenues in the first nine months of 2020 were $8,752,908 compared to $9,260,265 for the same period in 2019, a decrease of $507,357 or 5.5%.This decrease was primarily due to a decrease in chiller sales of $3,853,206, partially offset by an increase of $3,345,849 in cogeneration sales. Sales of our cogeneration products increased in the nine months ended September 30, 2020 due to increased unit volume. Such variations in product mix from period to period are not unusual and expected. Furthermore, during the first quarter of 2020, we accepted the return of chiller products which reduced revenues by approximately $655 thousand. These returned products are new and included in inventory as of September 30, 2020.

Service revenues in the first nine months of 2020 were $12,448,671, compared to $13,003,529 for the same period in 2019, a decrease of $554,858 or 4.3%. This decrease in the first nine months of 2020 is due to a decrease in installation activity of $725,941, partially offset by an increase of $171,083 in service contract revenues. Certain installation activities were halted in certain locations due to the mandatory construction project shut-downs as a result of COVID-19.

Segment 2 - Energy Production

Energy production revenues in the first nine months of 2020 were $1,395,886, compared to $2,450,710 for the same period in 2019, a decrease of $1,054,824 or 43.0%. This decrease is primarily due to the mandatory COVID-19 shut down of certain energy producing sites.

Cost of Sales

Cost of sales in the first nine months of 2020 was $14,112,563 compared to $15,498,589 for the same period in 2019, a decrease of $1,386,026, or 8.9%.

Segment 1 - Products and Services

Cost of sales for products and services in the first nine months of 2020 was $13,224,675 compared to $14,040,229 for the same period in 2019, a decrease of $815,554 or 5.8%. During the first nine months of 2020, our product and service gross margin percent was37.6% compared to 36.9% for the same period in 2019, a 0.7% increase, due to improved manufacturing and service efficiencies.

Segment 2 - Energy Production

Cost of sales for energy production in thefirst nine months of 2020 was $887,888 compared to $1,458,360 for the same period in 2019, a decrease of $570,472 or 39.1%. During the first nine months of 2020 and 2019 our gross margin for energy production declined to36.4% from 40.5% due largely to the effects of COVID-19.

Operating Expenses

General and administrative expenses consist of executive staff, accounting and legal expenses, office space, general insurance and other administrative expenses. General and administrative expenses for the nine months ended September 30, 2020 were $7,645,729 compared to $7,672,550 for the same period in 2019, a decrease of $26,821 or 0.3%.

Selling expenses consist of sales staff, commissions, marketing, travel and other selling related expenses. Selling expenses for thenine months ended September 30, 2020 were $2,022,027 compared to $2,067,674 for the same period in 2019, a decrease of $45,647 or 2.2%. The decrease is due to fewer commissionable sales during the 2020 period and reduced travel expenses.

Research and development expenses consist of engineering and technical staff, materials, outside consulting and other related expenses. Research and development expenses for the nine months ended September 30, 2020 were $641,616 compared to $1,083,444 for the same period in 2019, a decrease of $441,828 or 40.8%. R&D expenses were incurred due to the

Company's continued efforts in connection with the Tecofrost and projects relating to industrial refrigeration and potential commercialization of the Company's Ultera emissions technology. Certain activities have been slowed due to the pandemic, particularly those requiring international travel.

A gain on the sale of assets of$1,081,049 was recognized during the nine months ended September 30, 2019 in connection with the sale of certain energy producing assets. See discussion in Note 6.Sale of Energy Producing Assets and Goodwill Impairment in the accompanying consolidated financial statements.

Goodwill impairment relating to the ADG sites of$3,693,198 was recognized during the nine months ended September 30, 2019. See Note 6. Sale of Energy Producing Assets and Goodwill Impairment to the accompanying consolidated financial statements for further discussion of this charge.

Loss from Operations

Loss from operations for the nine months ended September 30, 2020 was $1,824,470 compared to a loss of$4,219,902 for the same period in 2019, a reduction in loss from operations of $2,395,432. The decrease in the loss from operations in the nine months ended September 30, 2020 is primarily due to the 2019 goodwill impairment of $3,693,198, net of the gain on the sale of assets of $1,081,049 discussed above and to a lesser extent, a decrease in selling, general and administrative expenses of $514,550. These reductions were partially offset by a $731,013 decrease in gross margin, which is due to lower revenues recognized in 2020.

Other Income (Expense), net

Other expense, net for the nine months ended September 30, 2020 was $207,534 compared to $82,437 for the same period in 2019, an increase of $125,097 or 152%. Other income (expense) includes interest income of $11,953, interest expense of $121,084, and unrealized loss on investment securities of$98,403. For the same period in 2019, interest income was $790, interest expense was $63,547, and unrealized loss on investment securities was $19,680.

Provision for state income taxes

The provision for state income taxes for the nine months ended September 30, 2020 and 2019 was $27,791 and $15,667, respectively and represents estimated income tax payments net of refunds to various states.

Noncontrolling Interest

Income attributable to the noncontrolling interest was $28,400 for the nine months ended September 30, 2020 which represents the noncontrolling interest portion of American DG Energy's 51% owned subsidiary, ADGNY, LLC. For the same period in 2019, loss attributable to noncontrolling interest was $94,551 due to goodwill impairment recorded in the same period in 2019.

Net Loss Attributable to Tecogen Inc

Net loss attributable to Tecogen for the nine months ended September 30, 2020 was $2,088,195 compared to $4,223,455 for the same period in 2019, an improvement of $2,135,260. The decrease in the loss attributable to the Company in the nine months ended September 30, 2020, is primarily due to the 2019 goodwill impairment of $3,693,198 and gain on sale of assets of$1,081,049, and to a lesser extent, a decrease in selling, general and administrative expenses of $514,296.
These reductions were partially offset by a $731,013 decrease in gross margin, which is due to lower revenues recognized in 2020.

Liquidity and Capital Resources

Consolidated working capital at September 30, 2020 was $15,039,730 compared to $14,463,579 at December 31, 2019, an increase of $576,151. Included in working capital were cash and cash equivalents of $1,647,471 at September 30, 2020, compared to $877,676 at December 31, 2019, an increase of $769,795. The increase in working capital was the result of a reduction in accounts receivable and unbilled revenue offset by the payoff of our line of credit during the quarter.

Cash Flows from Operating Activities

Cash provided by operating activities for the nine months ended September 30, 2020 was $1,573,619 compared to $3,225,683 for the same period in 2019. During the nine months ended September 30, 2020, we had a net loss of $2,088,195 compared to a net loss of $4,223,455 in the comparable period in 2019.

Our accounts receivable and unbilled revenue balances decreased to $8,885,455 and $5,370,422, respectively, at September 30, 2020 compared to $14,569,397 and $5,421,811 at December 31, 2019, providing $5,683,941 and $51,389 of cash due to timing of billing, shipments, and collections. We had four large product sales during the period with customers who paid early or within terms, accounting for much of the accounts receivable decrease. In addition, inventory increased by $737,570, using $686,181 of cash from operations.

Accounts payable decreased by $1,455,881 to $3,815,875 as of September 30, 2020 from $5,271,756 at December 31, 2019. Deferred revenue decreased as of September 30, 2020 compared to December 31, 2019, using $1,619,696 of cash from operations. Approximately $1.2 million of this decrease was due to a large project that was completed and shipped during the second quarter of 2020. The Company expects accounts payable and deferred revenue to fluctuate with routine changes in operations.

During the first nine months of 2020 our investing activities used $226,895 mainly from purchases of property and of$59,952, and purchases of intangible assets of $123,252, along with distributions to the 49% noncontrolling interest holders of ADGNY LLC of$41,740.

Cash Flows from Financing Activities

During the first nine months of 2020 our financing activities used $576,929 compared to $1,078,693 for the same period in 2019. Financing activities for the first nine months of 2020 included net payments on the line of credit of$2,452,329 as well as proceeds from the PPP loan of$1,874,200 and the exercise of stock options of $1,200.

Backlog

As of September 30, 2020, the Company's backlog of product and installation projects, excluding service contracts, was$10.7 million, consisting of $8.1 million of purchase orders received by us and $2.5 million of projects in which the customer's internal approval process is complete, financial resources have been allocated and the customer has made a firm verbal commitment that the order is in the process of execution. Backlog at the beginning of any period is not necessarily indicative of future performance. Our presentation of backlog may differ from other companies in our industry.

Paycheck Protection Program Loan

On April 17, 2020, the Company obtained an unsecured loan through Webster Bank, N.A. in the amount of$1,874,200 in connection with the Paycheck Protection Program pursuant to the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”). The loan is guaranteed by the United States Small Business Administration.

Interest on the loan balance is at the rate of 1% per year, and commencement of monthly repayments of the loan balance could be deferred until as late asAugust 2021, at which time the balance is payable in 18 monthly installments of $106,356 with the final payment due in January 2023 if not forgiven in accordance with the Cares Act and the terms of the Promissory Note executed by the Company in connection with the loan. The Company used the loan proceeds for payroll, rent, and utilities and will apply for forgiveness of the full loan balance as permitted under the CARES Act, the PPP Flexibility Act, and the Promissory Note. See Note 10. Note Payable and Revolving Line of Credit, Bank.

Termination of Line of Credit

On May 11, 2020 the Company and Webster Business Credit Corporation ("Webster") agreed to terminate the Credit Agreement dated May 4, 2018 by and between Webster and the Company and its wholly owned subsidiaries, together with related agreements, including a Revolving Note, Security Agreement, Blocked Account Agreement, and Master Letter of Credit Agreement. Tecogen paid an early termination fee in the amount of $25,000 in connection with the termination of the Credit Agreement, and continues to use depository and cash management services provided by Webster Bank.

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. As we continue to grow our business, we expect that our cash requirements will increase. As a result, we may need to raise additional capital through debt financing or an equity offering to meet our operating and capital needs for future growth.

Significant Accounting Policies and Critical Estimates

The Company’s significant accounting policies are discussed in the Notes to its respective Consolidated Financial Statements in its Annual Report on Form 10-K. The accounting policies and estimates that can have a significant impact upon the operating results, financial position and footnote disclosures of the Company are described in the above notes and in the respective Annual Report.

Significant New Accounting Standards or Updates Not Yet Effective

The Company's critical accounting policies have remained consistent as discussed in the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 12, 2020.

See Note 1, *Description of Business and Basis of Presentation*, to the Condensed Consolidated Financial Statements included elsewhere in this Quarterly Report on Form 10-Q.

Seasonality

We expect that the majority of our heating systems sold will be operational for the winter and the majority of our chilling systems sold will be operational for the summer. Our cogeneration sales are not generally affected by seasonality. Our service team does experience higher demand in the warmer months when cooling is required. Chiller units are generally shut down in the winter and started up again in the spring. The chiller "busy season' for the service team generally runs from May through the end of September.

Off-Balance Sheet Arrangements

Currently, we do not have any material off-balance sheet arrangements, including any outstanding derivative financial instruments, off-balance sheet guarantees, interest rate swap transactions or foreign currency contracts. We do not engage in trading activities involving non-exchange traded contracts.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Not applicable.

Item 4. Controls and Procedures.

Management’s Evaluation of Disclosure Controls and Procedures:

As of the end of the period covered by this report, the Chief Executive Officer and Principal Financial Officer of the Company (the “Certifying Officer”) conducted evaluations of the Company’s disclosure controls and procedures. As defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (“Securities Exchange Act”), the term “disclosure controls and procedures” means controls and other procedures of an issuer that are designed to ensure the 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 Securities and Exchange Commission’s (“SEC”) 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 the Certifying Officer, to allow timely decisions regarding required disclosure.

Our disclosure controls and procedures are designed to provide reasonable assurance that the control system’s objectives will be met. Our Chief Executive Officer, after evaluating the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report, concluded that our disclosure controls and procedures were not effective due to a material weakness with respect to a small number of individuals dealing with general controls over information technology. Management will continue to evaluate the above weaknesses. The Company is taking steps to remediate the weaknesses as resources become available.

Changes in Internal Control over Financial Reporting:

There were no changes in the Company’s internal controls over financial reporting during the period covered by this Report that have materially affected, or are reasonably likely to materially affect, the Company’s internal controls over financial reporting. However, the Company is in the process of implementing a new computer system to remediate its material weaknesses with respect to the small number of individuals dealing with general controls over information technology. Management had the system substantially implemented as of September 30, 2020 and continues to work on its implementation.

Benjamin Locke was appointed as Principal Financial Officer and Treasurer of the Company effective June 5, 2020.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

The Company has initiated legal action and anticipates initiating legal action against certain customers regarding payment of amounts due pursuant to agreements to purchase equipment from the Company, and pursuant to certain energy purchase agreements with customers of the Company. The Company has obtained settlements and/or judgments against several customers, has received settlement payments from certain customers, and is seeking to enforce judgments against others.

Except as set forth above, as of the date of this filing the Company is currently not a party to any legal or administrative proceedings material to the Company's financial statements and is not aware of any pending or threatened legal or administrative proceeding that is material to the Company's financial statements.

Item 1A. Risk Factors

In addition to the other information set forth in this report, you should carefully consider the risk factors discussed under “Risk Factors” in our Annual Report on Form 10-K for our fiscal year ended December 31, 2019, as supplemented or amended. The risks discussed in our Annual Report on Form 10-K could materially affect our business, financial condition and future results. The risks described in our Annual Report on Form 10-K are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially and adversely affect our business, financial condition or operating results.

Our financial condition and results of operations may be materially adversely affected by the recent 2019 novel Coronavirus (COVID-19) outbreak

The outbreak of the 2019 novel coronavirus has developed into a global pandemic that could have a material and adverse effect on our business, financial condition and results of operations. These effects could include disruptions or restrictions on our employees’ ability to travel, as well as temporary closures of our manufacturing and other facilities or the facilities of our customers, suppliers, or other vendors in our supply chain. In addition, the coronavirus has resulted in a widespread health crisis that has adversely affected, and may continue to adversely affect, the economies and financial markets of many countries, resulting in an economic downturn and may result in a global recession that could affect demand for our products or our ability to obtain financing for our business or projects. Any of these events, which may result in disruptions to our supply chain or customer demand, could materially and adversely affect our business and our results of operations. The extent to which the coronavirus will impact our business and our financial results will depend on future developments, which are highly uncertain and cannot be predicted. Such developments may include the geographic spread of the virus, the severity of the disease, the duration of the outbreak, the actions that may be taken by various governmental authorities in response to the outbreak, such as quarantine or “shelter-in-place” orders and business closures imposed by numerous states within the United States, and the possible impact on the U.S. or global economy. Significant portions of our business are deemed “essential services” under various state shelter-in-place orders, and we have been able to maintain critical manufacturing and service operations. There can be no assurances, however, that we will be able to maintain these operations at full or limited capacity as conditions change. We operate an essential service which means we must take every effort to keep our employees who operate our business safe and minimize unnecessary risk of exposure to the virus. As part of our pandemic response plan, our sales, engineering, and select administrative functions may be operated remotely when necessary or appropriate while our manufacturing and service teams continues to function normally, subject to customer-initiated disruptions in service.

Due to the impact of the coronavirus pandemic on our customers, including the closure of certain customers' facilities and difficulties that customers may have in maintaining their business and operations during the pandemic, the Company anticipates that collections from certain existing customers may be deferred or more difficult to collect, and that there may be delays in the implementation of current projects and the completion of sales of the Company's products and services.

On April 17, 2020, we were granted a loan under the Paycheck Protection Program pursuant to the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) through Webster Bank. The loan is guaranteed by the United States Small Business Administration (“SBA”) and, subject to certain limitations, to the extent the loan is used for payroll, rent, or utilities during the applicable Covered Period, the loan may be forgiven by the SBA. See Note 10. Note Payable and Revolving Line of Credit, Bank. There can be no assurance that the Paycheck Protection Program Loan will ultimately be forgiven.

TECOGEN INC.

Item 6. Exhibits

Exhibit No.	Description of Exhibit
21.1*	List of Subsidiaries
31.1*	Rule 13a-14(a) Certification of Chief Executive Officer
31.2*	Rule 13a-14(a) Certification of Principal Financial Officer
32.1*	Section 1350 Certifications of Chief Executive Officer and Principal Financial Officer
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema
100.CAL**	XBRL Taxonomy Extension Calculation Linkbase
100.DEF**	XBRL Taxonomy Extension Definition Linkbase
101.LAB**	XBRL Taxonomy Extension Label Linkbase
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase

* Filed herewith
** Furnished herewith
+ Compensatory plan or arrangement

TECOGEN INC.

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, on November 12, 2020.

TECOGEN INC.
(Registrant)

By: /s/ Benjamin M. Locke
Chief Executive Officer
(Principal Executive & Financial Officer)

LIST OF SUBSIDIARIES

TECOGEN INC.

a Delaware Corporation

Subsidiaries	Ownership %	Jurisdiction
American DG Energy Inc.	100%	Delaware
American DG New York, LLC	51%	Delaware

EXHIBIT 31.1

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, Benjamin M. Locke, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q 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 certifying officer(s) 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 my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to me 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 my 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 my 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 certifying officer(s) have disclosed, based on my 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: November 12, 2020

/s/ Benjamin M. Locke
Benjamin M. Locke
Chief Executive Officer

EXHIBIT 31.2

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, Benjamin Locke, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q 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 certifying officer(s) 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 my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to me 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 my 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 certifying officer(s) have disclosed, based on my 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: November 12, 2020

/s/ Benjamin M. Locke
Benjamin M. Locke
Principal Financial Officer

EXHIBIT 32.1

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

Benjamin M. Locke, Chief Executive Officer and Principal Financial Officer of Tecogen Inc., or the Company, certifies, pursuant to Section 1350, Chapter 63 of Title 18, United States Code that, to his knowledge:

1. The Quarterly Report on Form 10-Q of the Company for the quarter endedSeptember 30, 2020 (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: November 12, 2020

/s/ Benjamin M. Locke
Benjamin M. Locke
Chief Executive Officer and
Principal Financial Officer