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 March 31, 2020

or

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

Commission file number 001-36103

TECOGEN INC. (NASDAQ: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)	*(Zip Code)*

Registrant's Telephone Number, Including Area Code: (781) 466-6402

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, April 30, 2020
Common Stock, $0.001 par value	24,850,261

TECOGEN INC.

QUARTERLY REPORT ON FORM 10-Q
FOR THE PERIOD ENDED MARCH 31, 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)

	March 31, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 921,628	$ 877,676
Accounts receivable, net	12,106,440	14,569,397
Unbilled revenue	5,025,835	5,421,811
Inventory, net	7,471,346	6,405,229
Prepaid and other current assets	554,792	635,034
Total current assets	26,080,041	27,909,147
Property, plant and equipment, net	3,343,959	3,465,948
Right of use assets	2,042,269	2,173,951
Intangible assets, net	1,432,759	1,593,781
Goodwill	5,281,867	5,281,867
Other assets	274,567	691,941
TOTAL ASSETS	$ 38,455,462	$ 41,116,635
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Revolving line of credit, bank	$ 1,456,960	$ 2,402,384
Accounts payable	5,534,971	5,271,756
Accrued expenses	2,302,682	2,599,366
Deferred revenue	2,331,832	2,635,619
Lease obligations, current	531,875	536,443
Total current liabilities	12,158,320	13,445,568
Long-term liabilities:		
Deferred revenue, net of current portion	179,106	145,464
Lease obligations, long-term	1,510,394	1,637,508
Unfavorable contract liability, net	2,424,979	2,534,818
Total liabilities	16,272,799	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 March 31, 2020 and December 31, 2019, respectively	24,850	24,849
Additional paid-in capital	56,665,319	56,622,285
Accumulated deficit	(34,581,501)	(33,379,114)
Total Tecogen Inc. stockholders' equity	22,108,668	23,268,020
Noncontrolling interest	73,995	85,257
Total stockholders' equity	22,182,663	23,353,277
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 38,455,462	$ 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	
	March 31, 2020	March 31, 2019
Revenues		
Products	$ 2,750,479	$ 3,024,526
Services	4,461,371	3,911,296
Energy production	750,850	1,240,809
Total revenues	7,962,700	8,176,631
Cost of sales		
Products	1,667,464	1,943,462
Services	3,018,665	2,474,533
Energy production	484,404	799,877
Total cost of sales	5,170,533	5,217,872
Gross profit	2,792,167	2,958,759
Operating expenses		
General and administrative	2,689,461	2,655,411
Selling	855,788	693,253
Research and development	364,336	345,083
Gain on sale of assets	—	(1,081,049)
Goodwill impairment	—	3,693,198
Total operating expenses	3,909,585	6,305,896
Loss from operations	(1,117,418)	(3,347,137)
Other income (expense)		
Interest income	11,727	532
Interest expense	(59,985)	(28,026)
Unrealized loss on investment securities	(19,681)	(39,361)
Total other expense, net	(67,939)	(66,855)
Loss before provision for state income taxes	(1,185,357)	(3,413,992)
Provision (benefit) for state income taxes	5,222	(8,169)
Consolidated net loss	(1,190,579)	(3,405,823)
(Income) loss attributable to the noncontrolling interest	(11,808)	125,746
Net loss attributable to Tecogen Inc.	$ (1,202,387)	(3,280,077)
Net loss per share - basic and diluted	$ (0.05)	$ (0.13)
Weighted average shares outstanding - basic and diluted	24,850,250	24,818,979

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

TECOGEN INC.

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the Three Months Ended March 31, 2020 and 2019
(unaudited)

	Tecogen Inc. Stockholders					
Three months ended March 31, 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	—	—	(401)	—	—	(401)
Stock based compensation expense	—	—	42,236	—	—	42,236
Distributions to non-controlling interest	—	—	—	—	(23,070)	(23,070)
Net loss	—	—	—	(1,202,387)	11,808	(1,190,579)
Balance at March 31, 2020	24,850,261	$ 24,850	$ 56,665,319	$ (34,581,501)	$ 73,995	$ 22,182,663

Three months ended March 31, 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	10,000	10	11,990	—	—	12,000
Stock issuance costs	—	—	(611)	—	—	(611)
Stock based compensation expense	—	—	38,035	—	—	38,035
Net loss	—	—	—	(3,280,077)	(125,746)	(3,405,823)
Balance at March 31, 2019	24,834,746	$ 24,835	$ 56,477,342	$ (31,950,172)	$ 129,370	$ 24,681,375

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

TECOGEN INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	Three Months Ended	
	March 31, 2020	**March 31, 2019**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Consolidated net loss	$ (1,190,579)	$ (3,405,823)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation, accretion and amortization, net	90,152	168,244
Stock-based compensation	42,236	38,035
Goodwill impairment	—	3,693,198
(Gain) loss on sale of assets	—	(1,081,049)
Abandonment of intangible assets	179,944	—
Non-cash interest expense	9,750	12,499
Changes in operating assets and liabilities, net of effects of acquisitions		
(Increase) decrease in:		
Accounts receivable	2,462,957	2,499,798
Unbilled revenue	395,976	(297,133)
Inventory	(1,066,117)	(372,705)
Due from related party	—	9,405
Prepaid expenses and other current assets	80,242	6,317
Other non-current assets	417,374	78,999
Increase (decrease) in:		
Accounts payable	263,215	(1,239,241)
Accrued expenses and other current liabilities	(296,684)	4,154
Deferred revenue	(270,145)	(725,902)
Net cash provided by (used in) operating activities	1,118,321	(611,204)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(53,674)	(24,788)
Proceeds from sale of assets	—	5,000,000
Purchases of intangible assets	(43,250)	(15,780)
Payment of stock issuance costs	(401)	(611)
Distributions to noncontrolling interest	(23,070)	—
Net cash provided by (used in) investing activities	(120,395)	4,958,821
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds (payments) on revolving line of credit, net	(955,174)	(2,021,934)
Proceeds from the exercise of stock options	1,200	12,000
Net cash used in financing activities	(953,974)	(2,009,934)
Change in cash and cash equivalents	43,952	2,337,683
Cash and cash equivalents, beginning of the period	877,676	272,552
Cash and cash equivalents, end of the period	$ 921,628	$ 2,610,235
Supplemental disclosures of cash flows information:		
Cash paid for interest	$ 36,326	$ 18,381
Cash paid for taxes	$ 5,222	$ 12,324

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., or the Company, we, our or us, produces commercial and industrial engine-driven, combined heat and power (CHP) products that reduce energy costs, decrease greenhouse gas emissions and alleviate congestion on the national power grid. The Company's products supply electric power or mechanical power for cooling, while heat from the engine is recovered and purposefully used at a facility. The Company also installs, owns, operates and maintains complete energy systems and other complementary systems at customer sites and sells electricity, hot water, heat and cooling energy under long-term contracts at prices guaranteed to the customer to be below conventional utility rates.

The majority of the Company's customers are located in regions with the highest utility rates, typically California, the Midwest and the Northeast. The Company's common stock is listed on NASDAQ under the ticker symbol TGEN.

On May 18, 2017, the Company acquired 100% of the outstanding common stock of American DG Energy Inc., formerly a related entity, in a stock-for-stock merger.

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 months ended March 31, 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, 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 add 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 months ended March 31, 2020 and 2019.

Three Months Ended	March 31, 2020		
	Products and Services	Energy Production	Total
Products	$ 2,750,479	$ —	$ 2,750,479
Installation services	1,995,423	—	1,995,423
Maintenance services	2,465,948	—	2,465,948
Energy production	—	750,850	750,850
Total revenue	$ 7,211,850	$ 750,850	$ 7,962,700

Three Months Ended	March 31, 2019		
	Products and Services	Energy Production	Total
Products	$ 3,024,526	$ —	$ 3,024,526
Installation services	1,555,864	—	1,555,864
Maintenance services	2,355,432	—	2,355,432
Energy production	—	1,240,809	1,240,809
Total revenue	$ 6,935,822	$ 1,240,809	$ 8,176,631

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.

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 March 31, 2020 that was included in unbilled revenue at the beginning of the period was approximately $1.2 million. Approximately $0.8 million was billed in this period that had been recognized as revenue in previous periods.

Revenue recognized during the quarter ended March 31, 2020 that was included in deferred revenue at the beginning of the period was approximately $1.4 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 March 31, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately $12.3 million. The Company expects to recognize revenue of approximately 95% of the remaining performance obligations over the next 24 months, 93% recognized in the first 12 months and 2% 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 months ended March 31, 2020 and 2019, respectively, were as follows:

	Three months ended March 31,	
	2020	2019
Net loss attributable to stockholders	$ (1,202,387)	$ (3,280,077)
Weighted average shares outstanding - Basic and diluted	24,850,250	24,818,979
Basic loss per share	$ (0.05)	$ (0.13)

Note 4. Property, Plant and Equipment

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

	Estimated Useful Life (in Years)	March 31, 2020	December 31, 2019
Energy systems	1 - 15 years	$ 4,372,638	$ 4,372,638
Machinery and equipment	5 - 7 years	1,502,930	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
		6,712,923	6,672,201
Less - accumulated depreciation and amortization		(3,368,964)	(3,206,253)
		$ 3,343,959	$ 3,465,948

* Lesser of estimated useful life of asset or lease term

Depreciation and amortization expense on property and equipment for the three months ended March 31, 2020 and 2019 was $175,660 and $341,862, 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 March 31, 2020 and December 31, 2019 the Company had the following amounts related to intangible assets and liabilities other than goodwill:

	March 31, 2020			December 31, 2019		
Intangible assets	Cost	Accumulated Amortization	Total	Cost	Accumulated Amortization	Total
Product certifications	$ 726,159	$ (413,468)	$ 312,691	$ 726,159	$ (399,906)	$ 326,253
Patents	880,416	(210,501)	669,915	1,017,108	(206,499)	810,609
Developed technology	240,000	(112,000)	128,000	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	274,858	(265,742)	9,116	274,858	(263,901)	10,957
TTcogen intangible assets	29,607	(7,402)	22,205	29,607	(6,477)	23,130
	$ 2,441,872	$ (1,009,113)	$ 1,432,759	$ 2,578,564	$ (984,783)	$ 1,593,781
Intangible liability						
Unfavorable contract liability	$ 4,689,025	$ (2,264,046)	$ 2,424,979	$ 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 months ended March 31, 2020 and 2019 was $22,816 and $24,099, respectively. The net credit to cost of sales related to the amortization of contract related intangible assets and liabilities for the three months ended March 31, 2020 and 2019 was $107,998 and $173,292, respectively. During the three months ended March 31, 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	$ (182,301)
Year 2	(226,960)
Year 3	(196,015)
Year 4	(136,446)
Year 5	(87,762)

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 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 March 31, 2020, the Company has a $42,489 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. Should the Company be 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 months ended March 31, 2020 and 2019 was $190,035 and $179,697, respectively.

Supplemental information related to leases for thethree months ended March 31, 2020 was as follows:

Cash paid for amounts included in the measurement of operating lease liabilities	$	160,971
Weighted-average remaining lease term - operating leases		3.8 years
Weighted-average discount rate - operating leases		6 %

Future minimum lease commitments under non-cancellable operating leases as of March 31, 2020 were as follows:

	Operating Leases
Q2 through Q4 2020	$ 488,830
2021	576,698
2022	559,115
2023	566,863
2024	134,700
Total lease payments	2,326,206
Less: imputed interest	283,937
Total	$ 2,042,269

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 March 31, 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 March 31, 2020 was 1,973,458.

Stock option activity for the three months ended March 31, 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	—				
Exercised	(1,000)	$1.20	$ 1.20		
Canceled and forfeited	(67,278)	$1.20-$4.50	$ 1.25		
Outstanding, March 31, 2020	1,284,596	$0.79-$10.33	$ 3.69	5.32 years	$ 3,664
Exercisable, March 31, 2020	905,054		$ 3.71		$ 3,664
Vested and expected to vest, March 31, 2020	1,227,665		$ 3.70		$ 3,664

Consolidated stock-based compensation expense for the three months ended March 31, 2020 and 2019 was $42,236 and $38,035, 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 March 31, 2020 by level within the fair value hierarchy.

March 31, 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.	$ 196,806	$ —	$ 196,806	$ —
Total recurring fair value measurements	$ 196,806	$ —	$ 196,806	$ —

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 three months ended March 31, 2020	(19,681)
Fair value at March 31, 2020	$ 196,806

Note 10. 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%.

The Credit Agreement contains certain affirmative and negative covenants applicable to the Company and its subsidiaries, which include, among other things, restrictions on their ability to (i) incur additional indebtedness, (ii) make certain investments, (iii) acquire other entities, (iv) dispose of assets and (v) make certain payments including those related to dividends or repurchase of equity. The Credit Agreement also contains financial covenants including maintaining a fixed charge coverage ratio of not less than 1.10:1.00 and the Company may not make any financed capital expenditures in excess of $500,000 in the aggregate in any fiscal year. As of March 31, 2020, the Company was not in compliance with all of the covenants. See Note 13. Subsequent Events for further discussion.

The $145,011 of costs incurred in connection with the issuance of the revolving credit facility were capitalized and are being amortized to interest expense on a straight-line basis over three years based on the contractual term of the Agreement. As of March 31, 2020, the outstanding balance on the line of credit was $1,494,821 and the unamortized portion of debt issuance cost related to the Credit Agreement was $37,861 and is netted against the revolving line of credit balance in the accompanying Condensed Consolidated Balance Sheet.

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 March 31, 2020 of approximately $135,000 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 March 31, 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 months ended March 31, 2020 and 2019:

	Products and Services	Energy Production	Corporate, other and elimination (1)	Total
Three months ended March 31, 2020				
Revenue - external customers	$ 7,211,850	$ 750,850	$ —	$ 7,962,700
Intersegment revenue	148,660	—	(148,660)	—
Total revenue	$ 7,360,510	$ 750,850	$ (148,660)	$ 7,962,700
Gross profit	$ 2,525,721	$ 266,446	$ —	$ 2,792,167
Identifiable assets	$ 24,603,621	$ 3,244,076	$ 10,607,765	$ 38,455,462
Three months ended March 31, 2019				
Revenue - external customers	$ 6,935,822	$ 1,240,809	$ —	$ 8,176,631
Intersegment revenue	273,512	—	(273,512)	—
Total revenue	$ 7,209,334	$ 1,240,809	$ (273,512)	$ 8,176,631
Gross profit	$ 2,517,827	$ 440,932	$ —	$ 2,958,759
Identifiable assets	$ 22,924,848	$ 4,854,412	$ 12,625,962	$ 40,405,222

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

Note 13. Subsequent Events

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 repayment of the loan balance is deferred until November 17, 2020, at which time the balance is payable in 18 monthly installments of $104,948 with the final payment due April 17, 2022 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 intends to use the loan proceeds for payroll, rent, and utilities during the next two months, and to then apply for forgiveness of the loan balance as permitted under the CARES Act and the Promissory Note. No waiver is required under the Company's existing line of credit through Webster Bank in connection with the Paycheck Protection Program loan.

On May 11, 2020 Tecogen Inc. (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 plans to continue using cash management services provided by Webster Bank.

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

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

Forward-looking statements are made throughout this Management’s Discussion and Analysis of Financial Condition and Results of Operations. Any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words “believes,” “anticipates,” “plans,” “expects,” “seeks,” “estimates” and similar expressions are intended to identify forward-looking statements. Such forward-looking statements include, among other things, statements regarding our current and future cash requirements, our expectations regarding suppliers of cogeneration units, and statements regarding potential financing activities in the future. 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 readers 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 Quarterly Report. There are a number of important factors that could cause the actual results of the Company to differ materially from those indicated by such forward-looking statements, including those detailed under the heading “Risk Factors” in our Annual Report on Form 10-K for our fiscal year ended December 31, 2019.

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. The safety of our employees is our primary concern, and we make 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 are being operated remotely while our manufacturing team continues to function. We have expanded our cleaning services for our manufacturing facility each day and have established protocols for the mandatory use of personal protective equipment and sanitation upon entering or exiting the building. Our service centers continue to operate normally as part of our essential services designation. Out of an abundance of caution, on April 14, 2020 we closed our Waltham facility and ceased operations for approximately one week for the purpose of disinfecting the facility after learning that an individual from our cleaning company tested positive for COVID-19 ten days after his last visit to our facility. We reopened the Waltham facility within a week and resumed normal operations. Our service operations continue to function normally throughout this period.

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, provided that employees are kept on the payroll for eight weeks and the loan is used for payroll, rent, or utilities the loan may be forgiven by the SBA. There can be no assurance that the Paycheck Protection Program Loan will be ultimately be forgiven.

Overview

Tecogen designs, manufactures and sells industrial and commercial cogeneration systems that produce combinations of electricity, hot water and air conditioning using automotive engines that have been adapted to run on natural gas. In some cases, our customers may choose to have the Company engineer and install the system for them rather than simply purchase the cogeneration and/or chiller units, which we refer to as "turnkey" projects. Cogeneration systems are efficient because, in addition to supplying mechanical energy to power electric generators or compressors – displacing utility supplied electricity – they provide an opportunity for the facility to incorporate the engine’s waste heat into onsite processes, such as space and potable water heating. We produce standardized, modular, small-scale products, with a limited number of product configurations that are adaptable to multiple applications. We refer to these combined heat and power products as CHP (electricity plus heat) and MCHP (mechanical power plus heat).

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

First Three Months of 2020 Compared to First Three Months of 2019

Revenues

Total revenues for the first three months of 2020 were $7,962,700 compared to $8,176,631 for the same period in 2019, a decrease of $213,931 or 2.6% year over year.

Segment 1 - Products and Services

Product revenues in the first three months of 2020 were $2,750,479 compared to $3,024,526 for the same period in 2019, a decrease of $274,047 or 9.1%.This decrease was a combination of an increase in cogeneration sales of $1,417,215 and a decrease in chiller sales of $1,691,262. Such variations in product mix from period to period are not unusual and expected. Furthermore, the first quarter of 2020 included a return of chiller products of approximately $655 thousand. These returned products are new and included in inventory as of March 31, 2020.

Service revenues in the first three months of 2020 were $4,461,371, compared to $3,911,296 for the same period in 2019, an increase of $550,075 or 14.1%. This increase in the first three months of 2020 is due to an increase in installation activity of $439,559 and an increase of $110,516 in service contract revenues. While service contract revenue generally remains relatively constant, installation activity can vary widely depending on the status of various projects.

Segment 2 - Energy Production

Energy production revenues in the first three months of 2020 were $750,850, compared to $1,240,809 for the same period in 2019. This decrease is representative of the reduction in energy producing assets owned due to the sales of a portion of these assets as discussed in Note 6. Sale of Energy Producing Assets and Goodwill Impairment

Cost of Sales

Cost of sales in the first three months of 2020 was $5,170,533 compared to $5,217,872 for the same period in 2019, a decrease of $47,339, or 0.9%.

Segment 1 - Products and Services

Cost of sales for products and services in the first three months of 2020 was $4,686,129 compared to $4,417,995 for the same period in 2019, an increase of $268,134 or 6.1%. During the first three months of 2020, our product and service gross margin was 35.0% compared to 36.3% for the same period in 2019, a 1.3% decrease.

Segment 2 - Energy Production

Cost of sales for energy production in the first three months of 2020 was $484,404 compared to $799,877 for the same period in 2019. During first three months of 2020 and 2019, our gross margin for energy production was consistent at 35.5%.

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 three months ended March 31, 2020 were $2,689,461 compared to $2,655,411 for the same period in 2019, an increase of $34,050 or 1.3%.

Selling expenses consist of sales staff, commissions, marketing, travel and other selling related expenses. Selling expenses for the three months ended March 31, 2020 were $855,788 compared to $693,253 for the same period in 2019, an increase of $162,535 or 23.4%. The increase is due to larger sales commissions and other sales activities.

Research and development expenses consist of engineering and technical staff, materials, outside consulting and other related expenses. Research and development expenses for the three months ended March 31, 2020 were $364,336 compared to $345,083 for the same period in 2019, an increase of $19,253 or 5.6%. 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 for certain non-stationary applications.

A gain on the sale of assets of $1,081,049 was recognized during the three months ended March 31, 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 three months ended March 31, 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 three months ended March 31, 2020 was $1,117,418 compared to a loss of $3,347,137 for the same period in 2019, a difference of $2,229,719. The 2019 goodwill impairment, net of the gain on the sale of assets discussed above accounts for the significant difference from the three months ended March 31, 2020 compared to the same period in 2019.

Other Income (Expense), net

Other expense, net for the three months ended March 31, 2020 was $67,939 compared to $66,855 for the same period in 2019. Other income (expense) includes interest income of $11,727, interest expense of $59,985, and unrealized loss on investment securities of $19,681. For the same period in 2019, interest income was $532, interest expense was $28,026, and unrealized loss on investment securities was $39,361.

Provision for state income taxes

The provision (benefit) for state income taxes for the three months ended March 31, 2020 and 2019 was a provision of $5,222 and a benefit of $8,169, respectively and represents estimated income tax payments net of refunds to various states.

Noncontrolling Interest

Income attributable to the noncontrolling interest was $11,808 for the three months ended March 31, 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 $125,746 due to goodwill impairment recorded in the first quarter of 2019..

Net Loss Attributable to Tecogen Inc

Net loss attributable to Tecogen for the three months ended March 31, 2020 was $1,202,387 compared to $3,280,077 for the same period in 2019, an improvement of $2,077,690. The 2019 goodwill impairment of $3,693,198 and gain on sale of assets of $1,081,049 accounts for the significant difference from the three months ended March 31, 2020 compared to the same period in 2019.

Liquidity and Capital Resources

Consolidated working capital at March 31, 2020 was $13,921,721 compared to $14,463,579 at December 31, 2019, a decrease of $541,858. Included in working capital were cash and cash equivalents of $921,628 at March 31, 2020, compared to $877,676 at December 31, 2019, an increase of $43,952. The decrease in working capital was the result of a reduction in accounts receivable and unbilled revenue offset by the payments made on our line of credit during the quarter.

Cash provided by operating activities for the three months ended March 31, 2020 was $1,118,321 compared to $611,204 for the same period in 2019. Our accounts receivable and unbilled revenue balances decreased to $12,106,440 and $5,025,835, respectively, at March 31, 2020 compared to $14,569,397 and $5,421,811 at December 31, 2019, providing $2,462,957 and $395,976 of cash due to timing of billing, shipments, and collections. In addition, inventory increased by $1,066,117, using $670,141 of cash from operations.

Accounts payable increased to $5,534,971 as of March 31, 2020 from $5,271,756 at December 31, 2019, providing $263,215, in cash flow from operations. Deferred revenue decreased as of March 31, 2020 compared to December 31, 2019, using $270,145 of cash from operations. The Company expects accounts payable and deferred revenue to fluctuate with routine changes in operations.

During the first three months of 2020 our investing activities used $120,395 mainly from purchases of property and of $53,674, and purchases of intangible assets of $43,250, along with distributions to the 49% noncontrolling interest holders of ADGNY LLC of $23,070.

During the first three months of 2020 our financing activities used $953,974 compared to $2,009,934 for the same period in 2019. Financing activities for the first three months of 2020 included net payments on the line of credit of $955,174 as well as proceeds from the exercise of stock options of $1,200.

As of March 31, 2020, the Company's backlog of product and installation projects, excluding service contracts, was $12.5 million, consisting of $9.8 million of purchase orders received by us and $2.7 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.

On April 6, 2020, the Company filed Post-Effective Amendment No. 1 to its Universal Shelf Registration that expired in December 2017 in order to deregister all unsold shares registered under the Company's Universal Shelf Registration filed in December 2014. Also on April 6, 2020, the Company filed a Universal Shelf Registration on Form S-3 to register up to $25 million of securities for potential sale in the event that the Company determines that it is advantageous to raise capital through the sale of equity in the Company. The Universal Shelf Registration filed April 6, 2020 was declared effective on April 23, 2020.

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 (PPP) 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 repayment of the loan balance is deferred until November 17, 2020, at which time the balance is payable in 18 monthly installments of $104,948 with the final payment due April 17, 2022 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 intends to use the loan proceeds for payroll, rent, and utilities during the two months following April 17, 2020, and to then apply for forgiveness of the loan balance as permitted under the CARES Act and the Promissory Note.

In light of the coronavirus pandemic, we concluded that without the PPP loan the Company may not have immediate access to sufficient capital to maintain ongoing operations without furloughing employees and significantly disrupting the business. The need for the PPP loan became apparent due to a number of factors including revenue losses from a large sale return resulting from a customer's loss of funding, concern regarding potential reduction in new sales and a potential slow down in collections from customers, as well as difficulty meeting our fixed charge covenant ratio under our line of credit with Webster Bank. In addition, raising capital through equity sales in capital markets is not attractive at the current time due to a significant decline in our stock price since March 2020.

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

Except for the updates to the Company's lease accounting policy for the adoption of ASU No. 2016-02, "Leases" ("the new lease standard" or "ASC 842"), 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:

The Company maintains "disclosure controls and procedures,” as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are designed to provide reasonable assurance that information required to be disclosed by the Company in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and that such information is accumulated and communicated to the Company's management, including our principal executive officer and principal accounting officer, as appropriate, 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 management, including our Chief Executive Officer and Chief Accounting Officer, after evaluating the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report, have 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:

The Company has been 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 partially implemented as of year end 2019 and continues to work on its implementation.

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 amount due under one purchase agreement with a customer may be material to the Company's financial statements, and the Company has indicated to the customer that the Company may be willing to retake possession of the equipment in exchange for a restocking fee in an amount to be agreed.

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 factors discussed under “Risk Factors” in our Annual Report on Form 10-K for our fiscal year ended December 31, 2019. 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 facing us. 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 that was first detected in Wuhan, China in December 2019 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.The safety of our employees is our primary concern. 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 are being operated remotely while our manufacturing team continues to function. We have expanded our cleaning services for our manufacturing facility and have established protocols for sanitation upon entering or exiting the building. Our service centers continue to operate normally as part of our essential services designation. Out of an abundance of caution, we closed our Waltham facility and ceased operations for approximately one week in April 2020 for the purpose of disinfecting the facility after learning that an individual from our cleaning company tested positive for COVID-19 ten days after his last visit to our facility. We reopened the Waltham facility within a week and resumed normal operations. Our service operations will continue to function normally throughout this period.

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, provided that employees are maintained on the payroll for eight weeks and the loan is used for payroll, rent, or utilities, the loan may be forgiven by the SBA. There can be no assurance that the Paycheck Protection Program Loan will ultimately be forgiven.

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.

TECOGEN INC.

Item 6. Exhibits

Exhibit No.	Description of Exhibit
2.1	Agreement and Plan of Merger, dated as of November 1, 2016, by and among Tecogen Inc., American DG Energy Inc., and ADGE.Tecogen Merger Sub Inc. (Incorporated by reference to exhibit 2.1 to the registrant's Current Report on Form 8-K, as filed with the SEC on November 2, 2016).
2.2	Amendment No. 1 to the Agreement and Plan of Merger, dated as of March 23, 2017, by and among Tecogen Inc., American DG Energy Inc. and ADGE.Tecogen Merger Sub Inc. (Incorporated by reference to exhibit 2.2 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 24, 2017).
3.1	Amended and Restated Certificate of Incorporation (Incorporated by reference to exhibit 3.1 to the registrant's Registration Statement on Form S-1, as amended (Registration No. 333-193791), filed with the SEC on June 27, 2014).
3.2	Amended and Restated Bylaws (Incorporated by reference to exhibit 3.2 to the registrant's Registration Statement on Form S-1, as amended (Registration No. 333-193791), filed with the SEC on June 27, 2014).
4.1	Specimen Stock Certificate of Tecogen, Inc. (Incorporated by reference to exhibit 4.1 to the registrant's Registration Statement on Form S-1, as amended (Registration No. 333-193791), filed with the SEC on June 27, 2014).
4.3+	Form of Stock Option Agreement (Incorporated by reference to exhibit 4.3 to the registrant's Registration Statement on Form S-1, as amended (Registration No. 333-193791), filed with the SEC on June 27, 2014).
4.4	Description of Registrant's securities Incorporated by reference to Exhibit 4.4 to the registrant's Annual Report on Form 10-K, as filed with the SEC on March 12, 2020.
10.1+	Tecogen Inc. 2006 Stock Incentive Plan, as amended and restated on November 1, 2016 with stockholder approval on June 29, 2017 (Incorporated by reference to exhibit 10.1 to the registrant's Annual Report on Form 10-K, as filed with the SEC on March 21, 2018).
10.7	Lease Agreement between Atlantic-Waltham Investment II, LLC, and Tecogen Inc., dated May 14, 2008 (Incorporated by reference to exhibit 10.7 to the registrant's Registration Statement on Form S-1, as amended (Registration No. 333-193791), filed with the SEC on June 27, 2014).
10.8	Second Amendment to Lease between Atlantic-Waltham Investment II, LLC, and Tecogen Inc., dated January 16, 2013 (Incorporated by reference to exhibit 10.2 to the registrant's Quarterly Report on Form 10-Q, as filed with the SEC on May 15, 2014).
10.13	Exclusive License Agreement between Tecogen Inc. and the Wisconsin Alumni Research Foundation, dated February 5, 2007 (Incorporated by reference to exhibit 10.13 to the registrant's Registration Statement on Form S-1, as amended (Registration No. 333-193791), filed with the SEC on June 27, 2014).
10.42+	Advisory Agreement, dated January 3, 2018, between Tecogen Inc. and John N. Hatsopoulos (Incorporated by reference to exhibit 10.1 to the registrant's Current Report on Form 8-K, as filed with the SEC on January 8, 2018).
10.43	Research and Development Contract between Southwest Research Institute and Tecogen Inc. (Incorporated by reference to exhibit 10.1 to the registrant's Current Report on Form 8-K, as filed with the SEC on January 9, 2018).
10.45	Credit Agreement with Webster Business Credit Corporation, dated as of May 4, 2018 (Incorporated by reference to exhibit 10.45 to the registrant's Quarterly Report on Form 10-Q, as filed with the SEC on August 14, 2018).
10.46	Amendment No. 1 to, and Waiver No. 1 under, Credit Agreement, dated as of December 14, 2018 (Incorporated by reference to exhibit 99.01 to the registrant's Current Report on Form 8-K, as filed with the SEC on December 17, 2018).
10.47	Waiver No. 2 under Credit Agreement, dated as of December 27, 2018 (Incorporated by reference to Exhibit 10.47 to the registrant's Annual Report on Form 10-K, as filed with the SEC on March 29, 2019).
10.48	Amendment No. 2 to, and Waiver No. 3 under, Credit Agreement, dated as of March 5, 2019 (Incorporated by reference to exhibit 10.47 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).
10.49	Membership Interest Purchase Agreement by and among SDCL TG Cogen LLC, as Purchaser, and American DG Energy Inc., as Seller, and Tecogen Inc. dated as of December 14, 2018 (Incorporated by reference to exhibit 10.48 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).
10.50	Guaranty Agreement by Tecogen Inc. in favor of CogenOne LLC and SDCL TG Cogen LLC dated December 14, 2018 (Incorporated by reference to exhibit 10.49 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).
10.51	Membership Interest Purchase Agreement by and among SDCL TG Cogen LLC, as Purchaser, and American DG Energy Inc., as Seller, and Tecogen Inc. dated as of March 5, 2019 (Incorporated by reference to exhibit 10.50 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).

10.52	Guaranty Agreement by Tecogen Inc. in favor of CogenTwo LLC and SDCL TG Cogen LLC dated March 5, 2019 (Incorporated by reference to exhibit 10.51 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).
10.53	Billing and Asset Management Agreement by and between CogenTwo LLC and Tecogen Inc. dated as of March 5, 2019 (Incorporated by reference to exhibit 10.52 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).
10.54	Billing and Asset Management Agreement by and between CogenOne LLC and Tecogen Inc. as amended and restated as of March 5, 2019 (Incorporated by reference to exhibit 10.53 to the registrant's Current Report on Form 8-K, as filed with the SEC on March 8, 2019).
10.55	Transition Agreement with Bonnie Brown dated as of June 6, 2019 (Incorporated by reference to exhibit 10.01 to the registrant's Current Report on Form 8-K as filed with the SEC on June 10, 2019).
10.56	Results of Stockholder Votes on matters submitted for votes at registrant's Annual Meeting of Stockholders held June 6, 2019 (Incorporated by reference to registrant's Current Report on Form 8-K as filed with the SEC on June 10, 2019).
10.57	Results of Board Vote dated July 22, 2019 regarding frequency of stockholder say-on-pay votes (Incorporated by reference to registrant's Current Report on Form 8-K/A as filed with the SEC on July 25, 2019).
10.58+	Amendment to Advisory Agreement with John Hatsopoulos dated July 22, 2019 (Incorporated by reference to exhibit 10.1 to the registrant's Current Report on Form 8-K, as filed with the SEC on July 25, 2019).
10.59	Post Effective Amendment No. 1 to Registrant's Universal Shelf Registration on Form S-3 (Incorporated by reference to Form S-3 filed with the SEC on April 6, 2020).
10.60	Registrant's Universal Shelf Registration on Form S-3 (Incorporated by reference to Form S-3 filed with the SEC on April 6, 2020).
10.61*	Loan Documentation for Paycheck Protection Program Loan through Webster Bank dated April 17, 2020.
31.1*	Rule 13a-14(a) Certification of Chief Executive Officer
31.2*	Rule 13a-14(a) Certification of Chief Accounting Officer
32.1*	Section 1350 Certifications of Chief Executive Officer and Chief Accounting 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 May 14, 2020.

TECOGEN INC.
(Registrant)

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

By: /s/ Bonnie J. Brown
Chief Accounting Officer, Treasurer and Secretary
(Principal Accounting Officer)

BUSINESS BANKING
CLOSING DOCUMENTATION TRANSMITTAL / CHECKLIST
Return To:

Borrower: TECOGEN INC

Guarantor(s)

Transaction: $ 1,874,200.00 Term Loan

Collateral:

Existing Customer:

ALS #: 4750845009
Cust #: 043536131
Auto Payment #:
Overdraft #: N/A
Closer Name:
Telephone:
Cost Center #: 161

Originator: **RM#:**
Date: April 17, 2020 **Branch:**

You must scan the COMPLETE NOTE & CHECKLIST TO THE BB MONETARY MAILBOX IMMEDIATELY AFTER CLOSING AND PRIOR TO FUNDING

Required Documents	LOAN Documents	Reviewed By Closing Officer
Note		
X	7a Paycheck Protection Program	
	Other: Borrower Paycheck Protection Application	

Req'd	SBA Documents	Rec'd	Req'd		Rec'd
	WB Approval Document				
	SBA Lender Checklist			SBA Express ONLY:	
	SBA Supplemental Info for PLP/SBA Express Ln			SBA Form 1919	
	Joint PFS (Signed & Dated)			SBA Certification	
	SBA Form 4506				
	Credit Elsewhere			PLP ONLY:	
	Personal Resources Memo			Lender App for Guaranty	
	PLP/SBA Approval w/GP#			SBA Form 1846	
	SBA Form 159			SBA Form 4	
	Signed Authorization			SBA Form 4-1	
	Certification of Use of Proceeds (working capital)			SBA Form 912	
	Cash Injection Affidait			SBA Form 1624	

FEES TO COLLECT and WE WILL Credit to GENERAL LEDGER

_____ SBA Packaging Fees $ __________ _____
_____ SBA Guarantee Fees $ __________ _____
_____ UCC-1 Fees & Post UCC-1 Fees* $ __________ _____
*If not closed by Bank Counsel
_____ $ __________ Re: __________ _____
_____ $ __________ Re: __________ _____
_____ $ __________ Re: __________ _____

LOAN PROCEEDS:

_____ **Debit 100 00058 1895320001 and deposit $** __________ **to Customer DDA Acct #** 10963300 _____
_____ **Debit Suspense GL#100 00058 1895320001 for $** __________ **Cut a teller check for that amount** _____
_____ **and make it payable to:** __________ _____
__________ **Put loan # in ALPHA desc.** _____

FASB

Business Valuation Fee

General Ledger Entries FAS91	#	DR	CR	
100 00 161	6170010001		150.00	FAS91 Compensation Contra
100 00 161	6702030001			FAS91 Expense Contra
100 00 161	2891180001	56,226.00		FAS91 Deferred Fees
100 00 161	5242010001			FAS91 Doc Prep Fee
		56,226.00	150.00	

	56,226.00	150.00	
Deferred Fees	56,226.00	150.00	Deferred Expenses

Loan Documents Executed as drawn. By: ____________________
Bank Officer:

Note sent to Comml Loan Ops: ____________________ **Final QC Date:** ____________________ **Pkg to Comml Loan Ops:** ____________________

SBATRANSPPP

SBA
U.S Small Business Administration

U.S. Small Business Administration

NOTE

SBA Loan #	3095287210
SBA Loan Name:	Paycheck Protection Program.
Date:	4/17/20
Loan Amount:	$1,874,200.00
Interest Rate:	1.0% fixed interest rate
Borrower Name and Address:	TECOGEN INC 45 FIRST AVENUE, WALTHAM, MA 02451
Operating Company:	TECOGEN INC
Lender:	Webster Bank, National Association

1. PROMISE TO PAY:

In Return for the Loan, Borrower promises to pay to the order of Lender the amount of **One Million, Eight Hundred Seventy-Four Thousand, Two Hundred and No/100** Dollars, interest on the unpaid Principal Balance, and all other amounts required by this Note.

2. DEFINITIONS: ***(to the extent applicable to the subject transaction):***

"Collateral" means any property taken as security for payment of this Note or any guarantee of this Note.
"Guarantor" means each person or entity that signs a guarantee of payment of this Note.
"Loan" means the loan evidenced by this Note.
"Loan Documents" means the documents related to this loan signed by Borrower, any Guarantor, or anyone who pledges collateral.
"SBA" means the Small Business Administration, an Agency of the United States of America.

3. PAYMENT TERMS:

Borrower must make all payments at the place Lender designates. The payment terms for this Note are:

(3) (a) Payments and Interest Rate

Borrower(s) understand it will have a six (6) month repayment deferral period, ("Deferral Period") which starts on 5/17/2020 and ends on 10/17/2020. Upon expiration of the Deferral Period, Borrower understands and agrees to pay (18) equal monthly installments of $ 104948.47 . Starting on 11/17/2020 . Borrower payments are first applied to interest and then principal owed. If Borrower still owes any amount under this Note after making its final payment on 4/17/2022 , Borrower will pay all of those amounts in full on that date, subject to the forgiveness provision set forth in section (f).

The Interest Rate on this Note shall be calculated on an actual / 365 basis on the unpaid principal balance.

Borrower will make its monthly payments to Webster Bank, N.A. P.O. Box 1809 Hartford, CT 06144-1809 or a different place if required by Note Holder.

(b) Late Fees: There are no late charges for an overdue payment(s).

(c) Prepayment: Borrower may prepay this loan in whole or part at any time without penalty.

(d) THIS NOTE IS NOT SECURED AND THERE IS NO PERSONAL GUARANTEE ASSOCIATED WITH THIS NOTE. BORROWER CERTIFIES THAT THE LOAN PROCEEDS SHALL BE USED TO MAINTAIN CERTAIN PAYROLL COSTS, COVERED MORTGAGE INTEREST PAYMENTS, LEASE PAYMENTS, AND UTILITIES.

(e) For Borrowers who currently have any additional loans outstanding with Lender, the Paycheck Protection Program shall not constitute additional debt under any outstanding credit facility with Lender.

(f) Loan Forgiveness. Borrower understands and acknowledges that:

You will owe money when your loan is due if you use the loan proceeds for anything other than payroll costs, mortgage interest, rent, and utilities payments over the 8 weeks following obtaining the loan proceeds.

It is anticipated that not more than 25% of the forgiven amount may be for non-payroll costs.

4. DEFAULT: ***(to the extent applicable to the subject transaction)***

Borrower is in default under this Note if Borrower does not make a payment when due under this Note, or if Borrower or Operating Company:

A. Fails to do anything required by this Note and other Loan Documents;
B. Defaults on any other loan with Lender;
C. Does not preserve, or account to Lender's satisfaction for, any of the Collateral or its proceeds;
D. Does not disclose, or anyone acting on their behalf does not disclose, any material fact to Lender or SBA;
E. Makes, or anyone acting on their behalf makes, a materially false or misleading representation to Lender or SBA;
F. Defaults on any loan or agreement with another creditor, if Lender believes the default may materially affect Borrower's ability to pay this Note;
G. Fails to pay any taxes when due;
H. Becomes the subject of a proceeding under any bankruptcy or insolvency law;
I. Has a receiver or liquidator appointed for any part of their business or property;
J. Makes an assignment for the benefit of creditors;
K. Has an adverse change in financial condition or business operation that Lender believes may materially affect Borrower's ability to pay this Note;
L. Reorganizes, merges, consolidates, or otherwise changes ownership or business structure without Lender's prior written consent; or
M. Becomes the subject of a civil or criminal action that Lender believes may materially affect Borrower's ability to pay this Note.

5. **LENDER'S RIGHTS IF THERE IS A DEFAULT:** ***(to the extent applicable to the subject transaction).***

Without notice or demand and without giving up any of its rights, Lender may:

A. Require immediate payment of all amounts owing under this Note;
B. Collect all amounts owing from any Borrower or Guarantor;
C. File suit and obtain judgement;
D. Take possession of any Collateral; or
E. Sell, lease, or otherwise dispose of, any Collateral at public or private sale, with or without advertisement;

6. **LENDER'S GENERAL POWERS:** ***(to the extent applicable to the subject transaction)***

Without notice and without Borrower's consent. Lender may:

A. Bid on or buy the Collateral at its sale or the sale of another lienholder, at any price it chooses:
B. Incur expenses to collect amounts due under this Note, enforce the terms of this Note or any other Loan Document, and preserve or dispose of the Collateral. Among other things, the expenses may include payments for property taxes, prior liens, insurance, appraisals, environmental remediation costs, and reasonable attorney's fees and costs. If Lender incurs such expenses, it may demand immediate repayment from Borrower or add the expenses to the principal balance;
C. Release anyone obligated to pay this Note;
D. Compromise, release, renew, extend or substitute any of the Collateral; and
E. Take any action necessary to protect the Collateral or collect amounts owing on this Note.

7. WHEN FEDERAL LAW APPLIES:

When SBA is the holder, this Note will be interpreted and enforced under federal law, including SBA regulations. Lender or SBA may use state or local procedures for filing papers, recording documents, giving notice, foreclosing liens, and other purposes. By using such procedures, SBA does not waive any federal immunity from state or local control, penalty, tax, or liability. As to this Note, Borrower may not claim or assert against SBA any local or state law to deny any obligation, defeat any claim of SBA, or preempt federal law.

8. SUCCESSORS AND ASSIGNS:

Under this Note, Borrower and Operating Company include the successors of each, and Lender includes its successors and assigns.

9. GENERAL PROVISIONS: *(to the extent applicable to the subject transaction)*

A. All individuals and entities signing this Note are jointly and severally liable.

B. Borrower waives all suretyship defenses.

C. Borrower must sign all documents necessary at any time to comply with the Loan Documents and to enable Lender to acquire, perfect, or maintain Lender's liens on Collateral.

D. Lender may exercise any of its rights separately or together, as many times and in any order it chooses. Lender may delay or forgo enforcing any of its rights without giving up any of them.

E. Borrower may not use an oral statement of Lender or SBA to contradict or alter the written terms of this Note.

F. If any part of this Note is unenforceable, all other parts remain in effect.

G. To the extent allowed by law, Borrower waives all demands and notices in connection with this Note, including presentment, demand, protest, and notice of dishonor. Borrower also waives any defenses based upon any claim that Lender did not obtain any guarantee; did not obtain, perfect, or maintain a lien upon Collateral; impaired Collateral; or did not obtain the fair market value of Collateral at a sale.

10. **Giving of Notices:** Any notice that must be given to Borrower under this Note will be given by delivering it or by mailing it by first class mail addressed to Borrower at the address above. A notice will be delivered or mailed to Borrower at a different address if Borrower gives the Note Holder a notice of a different address. Any notice that must be given to the Note Holder under this Note will be given by mailing it by first class mail addressed to the Note Holder at the address stated in Section 3 above. A notice will be mailed to the Note Holder at a different address if Borrower is given a notice of that different address.

11. **GOVERNING LAW:** Borrower understands and agrees that Lender is a national bank headquartered in Connecticut, Lender's decision to make (or not make) any Loan to Borrower occurs in Connecticut, and the Loan will be disbursed by Lender from Connecticut. **Consequently, the provisions of this Agreement will be governed by federal law and (to the extent not preempted by federal law) the laws of the State of Connecticut, without regard to conflict of law rules.**

12. **Changes to Agreement:** Except as otherwise indicated in this Agreement, no term or provision of this Agreement may be changed unless agreed to in writing by both Lender and Borrower.

13. **Communicating with Borrower:** To the extent permitted by applicable law, and without limiting any other rights you may have, Borrower expressly consents and authorizes Lender, and its affiliates or agents, and any subsequent holder or servicer of the Loan to communicate with it, in connection with the Application or the Loan, and in connection with all other current or future loans, using any phone number or email address that Borrower provided in the Application, or using any phone number or email address that Borrower provides in the future. Lender, and its affiliates or agents, and any subsequent holder or servicer of the Loan, may communicate with Borrower using any current or future means of communication, including, but not limited to, automated telephone dialing equipment, artificial or pre-recorded voice messages, SMS text messages, email directed to me at a mobile telephone service, or email otherwise directed to me, for any purpose other than telemarketing communications. BORROWER AUTHORIZES THE USE OF SUCH MEANS OF COMMUNICATION EVEN IF BORROWER WILL INCUR COSTS TO RECEIVE SUCH PHONE MESSAGES, TEXT MESSAGES, OR EMAILS.

14. **Electronic Signatures and Records. If Borrower executed this Agreement using an electronic signature, Borrower intends: (i) the electronic signature to be an electronic signature under applicable federal and state law, (ii) to conduct business with the Lender using electronic records and electronic signatures. If Borrower has signed this Agreement on paper and scanned the signed Agreement for electronic transmission and delivery to Lender (via facsimile, electronic mail or otherwise), then Borrower has consented to the use of electronic signatures and records in connection with this Agreement, and the provisions of this paragraph apply. Borrower agrees that this Agreement, any printout of Lender's electronic record of this Agreement and related notices to be an original document any related document or notice, and any related signature may not be denied legal effect or enforceability solely because the record or signature is in electronic form. Any transfer of the obligations of this Agreement set forth herein will be subject to Article 9 of the Uniform Commercial Code.**

15. **COMMUNICATIONS UNDER THE FEDERAL BANKRUPTCY CODE.** Any communication with you required or permitted under the Federal Bankruptcy Code must be in writing, must include my account number and must be sent to Webster Bank, N.A. PO Box 30, Waterbury CT 06720-0030.

16. **Severability.** If any provision of this Agreement is held invalid or unenforceable by a court having jurisdiction, the remaining provisions of this Agreement shall not be affected, and this Agreement shall be construed as if such invalid or unenforceable provisions had not been included in this Agreement.

By signing below, each individual or entity becomes obligated under this Note as Borrower.

DocuSigned by: Benjamin Locke D246EBBCD818462...	
By: BENJAMIN LOCKE	By:
Name: **TECOGEN INC**	Name: **TECOGEN INC**
Title: CEO	Title:
Date: **April 17, 2020** 4/17/2020 | 8:58 AM PDT	Date: **April 17, 2020**

OMB Control No.: 3245-0407
Expiration Date: 09/30/2020

Paycheck Protection Program
Lender Application Form - Paycheck Protection Program Loan Guaranty

The purpose of this form is to collect identifying information about the Lender, the Applicant, the loan guaranty request, sources and uses of funds, the proposed structure (which includes pricing and the loan term), and compliance with SBA Loan Program Requirements. This form reflects the data fields that will be collected electronically from lenders; no paper version of this form is required or permitted to be submitted. As used in this application, "Paycheck Protection Program Rule" refers to the rules in effect at the time you submit this application that have been issued by the Small Business Administration (SBA) implementing the Paycheck Protection Program under Division A, Title I of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act).

Instructions for Lenders
All Paycheck Protection Program (PPP) loans are processed by all Lenders under delegated authority from SBA. This application must be submitted and signed electronically in accordance with program requirements, and the information requested is to be retained in the Lender's loan file.

A. Lender Information

Lender Name: Webster Bank, National Association   Lender Location ID: 15940
Address: 200 Executive Blvd.- Mail stop SO105   City: Southington   State: CT   Zip: 06489
Lender Contact: Matthew Cammarota   Ph: (203) 271-7288   Cell or Ext:
Contact Email: MCammarota@WebsterBank.com   Title: Director Bank Operations

B. Applicant Information

Applicant

Check One: ☐ Sole Proprietor ☐ Partnership ☐ C-Corp ☐ S-Corp ☐ LLC ☐ Independent contractor
☐ Eligible self-employed individual ☐ 501(c)(3) nonprofit ☐ 501(c)(19) veterans organization
☐ Tribal business (sec. 31(b)(2)(C) of Small Business Act) ☐ Other

Applicant Legal Name: TECOGEN INC
DBA: Business Tax ID: 04-3536131
Applicant Address: 45 FIRST AVENUE
City, State, Zip: WALTHAM, MA 02451
Applicant Primary Contact: BONNIE J BROWN   Phone: 339-793-1676

C. Loan Structure Information

Amount of Loan Request:	$ 1,874,200.00	Guarantee %:	100%	Loan Term in # of Months:	24	Payment:	Deffered 6 mos
Applicant must provide documentation to Lender supporting how the loan amount was calculated in accordance with the Paycheck Protection Program Rule and the CARES Act, and Lender must retain all such supporting documentation in Lender's file.							
Interest Rate:	1%						

D. Loan Amount Information	
Average Monthly Payroll multiplied by 2.5	$
Refinance of Eligible Economic Injury Disaster Loan, net of Advance (if Applicable; see Paycheck Protection Program Rule)	$
Total	$

E. General Eligibility ***(If the answer is no to either, the loan cannot be approved)***

- The Applicant has certified to the Lender that (1) it was in operation on February 15, 2020 and had employees for whom the Applicant paid salaries and payroll taxes or paid independent contractors, as reported on Form(s) 1099- MISC, (2) current economic uncertainty makes this loan request necessary to support the ongoing operations of the Applicant, (3) the funds will be used to retain workers and maintain payroll or make mortgage interest payments, lease payments, and utility payments, and (4) the Applicant has not received another Paycheck Protection Program loan. ☐ Yes ☐ No
- The Applicant has certified to the Lender that it (1) is an independent contractor, eligible self-employed individual, or sole proprietor or (2) employs no more than the greater of 500 or employees or, if applicable, meets the size standard in number of employees established by the SBA in 13 C.F.R. 121.201 for the Applicant's industry. ☐ Yes ☐ No

F. Applicant Certification of Eligibility *(If not true, the loan cannot be approved)*

- The Applicant has certified to the Lender that the Applicant is eligible under the Paycheck Protection Program Rule. ☐ True

G. Franchise/License/Jobber/Membership or Similar Agreement *(If applicable and no, the loan cannot be approved)*	
● The Applicant has represented to the Lender that it is a franchise that is listed in the SBA's Franchise Directory.	☐ Yes ☐ No

H. Character Determination *(If no, the loan cannot be approved)*

• The Applicant has represented to the Lender that neither the Applicant (if an individual) nor any individual owning 20% or more of the equity of the Applicant is subject to an indictment, criminal information, arraignment, or other means by which formal criminal charges are brought in any jurisdiction, or is presently incarcerated, or on probation or parole.	☐ Yes ☐ No
• The Applicant has represented to the Lender that neither the Applicant (if an individual) nor any individual owning 20% or more of the equity of the Applicant has within the last 5 years, for any felony: 1) been convicted; 2) pleaded guilty; 3) pleaded nolo contendere; 4) been placed on pretrial diversion; or 5) been placed on any form of parole or probation (including probation before judgment).	☐ Yes ☐ No

I. Prior Loss to Government/Delinquent Federal Debt *(If no, the loan cannot be approved)*

• The Applicant has certified to the Lender that neither the Applicant nor any owner (as defined in the Applicant's SBA Form 2483) is presently suspended, debarred, proposed for debarment, declared ineligible, voluntarily excluded from participation in this transaction by any Federal department or agency, or presently involved in any bankruptcy.	☐ Yes ☐ No
• The Applicant has certified to the Lender that neither the Applicant nor any of its owners, nor any business owned or controlled by any of them, ever obtained a direct or guaranteed loan from SBA or any other Federal agency that is currently delinquent or has defaulted in the last 7 years and caused a loss to the government.	☐ Yes ☐ No

J. U.S. Employees *(If no, the loan cannot be approved)*

• The Applicant has certified that the principal place of residence for all employees included in the Applicant's payroll calculation is the United States.	☐ Yes ☐ No

K. Fees *(If yes, Lender may not pass any agent fee through to the Applicant or offset or pay the fee with the proceeds of this loan)*

• Is the Lender using a third party to assist in the preparation of the loan application or application materials, or to perform other services in connection with this loan?	☐ Yes ☐ No

SBA Certification to Financial Institution under Right to Financial Privacy Act (12 U.S.C. 3401)

By signing SBA Form 2483, Borrower Information Form in connection with this application for an SBA-guaranteed loan, the Applicant certifies that it has read the Statements Required by Law and Executive Orders, which is attached to Form 2483. As such, SBA certifies that it has complied with the applicable provisions of the Right to Financial Privacy Act of 1978 (12 U.S.C. 3401) and, pursuant to that Act, no further certification is required for subsequent access by SBA to financial records of the Applicant/Borrower during the term of the loan guaranty.

Lender Certification

On behalf of the Lender, I certify that:

- The Lender has complied with the applicable lender obligations set forth in paragraphs 3.b(i)-(iii) of the Paycheck Protection Program Rule.
- The Lender has obtained and reviewed the required application (including documents demonstrating qualifying payroll amounts) of the Applicant and will retain copies of such documents in the Applicant's loan file.

I certify that:

- Neither the undersigned Authorized Lender Official, nor such individual's spouse or children, has a financial interest in the Applicant.

______________________	**4/17/20**
Authorized Lender Official:	Date:
Matthew Cammarota	**Director Bank Operations**
Type or Print Name:	Title:

NOTE: According to the Paperwork Reduction Act, you are not required to respond to this collection of information unless it displays a currently valid OMB Control Number. The estimated burden for completing this form, including time for reviewing instructions, gathering data needed, and completing and reviewing the form is 25 minutes per response. Comments or questions on the burden estimates should be sent to U.S. Small Business Administration, Director, Records Management Division, 409 3rd St., SW, Washington DC 20416, and/or SBA Desk Officer, Office of Management and Budget, New Executive Office Building, Rm. 10202, Washington DC 20503. **PLEASE DO NOT SEND FORMS TO THESE ADDRESSES.**

Certificate Of Completion

Envelope Id: C730F4BBCE884870BBC6EB7BE7FCFAC6		Status: Completed
Subject: Electronic Signature requested by Webster Bank for PPP Loan		
Last4DigAppID: 5009		
PrimBwrLastName: TECOGEN INC		
Source Envelope:		
Document Pages: 9	Signatures: 1	Envelope Originator:
Certificate Pages: 2	Initials: 0	Nancy Reilly
AutoNav: Enabled		200 Executive Blvd.
EnvelopeId Stamping: Enabled		Southington, CT 06489
Time Zone: (UTC-05:00) Eastern Time (US & Canada)		nreilly@websterbank.com
		IP Address: 163.116.135.113

Record Tracking

Status: Original 4/17/2020 11:47:32 AM	Holder: Nancy Reilly nreilly@websterbank.com	Location: DocuSign
Status: Authoritative Copy (1 of 1 documents) 4/17/2020 11:58:03 AM	Holder: Nancy Reilly nreilly@websterbank.com	Location: DocuSign

Signer Events	Signature	Timestamp
Benjamin Locke benjamin.locke@tecogen.com Security Level: Email, Account Authentication (None)	DocuSigned by: Benjamin Locke D246EBBCD818462... Signature Adoption: Drawn on Device Using IP Address: 173.166.0.225	Sent: 4/17/2020 11:50:20 AM Viewed: 4/17/2020 11:52:11 AM Signed: 4/17/2020 11:58:02 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
BBMonetary BBMonetary@websterbank.com Security Level: Email, Account Authentication (None) Electronic Record and Signature Disclosure: Not Offered via DocuSign	COPIED	Sent: 4/17/2020 11:58:02 AM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps

Envelope Sent	Hashed/Encrypted	4/17/2020 11:58:02 AM
Certified Delivered	Security Checked	4/17/2020 11:58:02 AM

Envelope Summary Events	Status	Timestamps
Signing Complete	Security Checked	4/17/2020 11:58:02 AM
Completed	Security Checked	4/17/2020 11:58:02 AM

Payment Events	Status	Timestamps

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 other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 14, 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, Bonnie J. Brown, 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 other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 14, 2020

/s/ Bonnie J. Brown
Bonnie J. Brown
Principal Financial & Accounting 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

Each of, Benjamin M. Locke, Chief Executive Officer, and Bonnie J. Brown, Chief Accounting Officer, of Tecogen Inc., or the Company, certify, pursuant to Section 1350, Chapter 63 of Title 18, United States Code that, to his knowledge:

1. The Quarterly Report on Form 10-Q of the Company for the quarter endedMarch 31, 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: May 14, 2020

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

/s/ Bonnie J. Brown
Bonnie J. Brown
Principal Financial & Accounting Officer