UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☑ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarter ended March 31, 2022

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____to _____

Commission File Number 001-38598



BLOOM ENERGY CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	**77-0565408**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
4353 North First Street, San Jose, California	**95134**
(Address of principal executive offices)	(Zip Code)

(408) 543-1500
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class[(1)]	Trading Symbol	Name of each exchange on which registered
Class A Common Stock, $0.0001 par value	BE	New York Stock Exchange

[(1)] Our Class B Common Stock is not registered but is convertible into shares of Class A Common Stock at the election of the holder.

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

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

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

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

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

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

The number of shares of the registrant's common stock outstanding as of May 2, 2022 was as follows:

Class A Common Stock, $0.0001 par value, 162,369,209 shares

Class B Common Stock, $0.0001 par value, 15,829,833 shares

Bloom Energy Corporation

Quarterly Report on Form 10-Q for the Three Months Ended March 31, 2022

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Unless the context otherwise requires, the terms "we," "us," "our," and "Bloom Energy," each refer to Bloom Energy Corporation and all of its subsidiaries.

Part I

ITEM 1 - FINANCIAL STATEMENTS

Bloom Energy Corporation
Condensed Consolidated Balance Sheets
(in thousands, except share data and par values)
(unaudited)

	March 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents[1]	$ 286,007	$ 396,035
Restricted cash[1]	70,141	92,540
Accounts receivable[1]	110,842	87,789
Contract assets	13,533	25,201
Inventories	183,066	143,370
Deferred cost of revenue	17,143	25,040
Customer financing receivable[1]	5,875	5,784
Prepaid expenses and other current assets[1]	37,000	30,661
Total current assets	723,607	806,420
Property, plant and equipment, net[1]	608,912	604,106
Operating lease right-of-use assets	98,119	106,660
Customer financing receivable, non-current[1]	38,005	39,484
Restricted cash, non-current[1]	137,748	126,539
Deferred cost of revenue, non-current	3,212	1,289
Goodwill	1,957	1,957
Other long-term assets[1]	38,412	39,116
Total assets	$ 1,649,972	$ 1,725,571
Liabilities, Redeemable Convertible Preferred Stock, Redeemable Noncontrolling Interest, Stockholders' (Deficit) Equity and Noncontrolling Interest		
Current liabilities:		
Accounts payable	$ 89,012	$ 72,967
Accrued warranty	14,671	11,746
Accrued expenses and other current liabilities[1]	92,170	114,138
Deferred revenue and customer deposits[1]	94,044	89,975
Operating lease liabilities	11,598	13,101
Financing obligations	15,172	14,721
Recourse debt	12,355	8,348
Non-recourse debt[1]	17,936	17,483
Total current liabilities	346,958	342,479
Deferred revenue and customer deposits, non-current[1]	80,457	90,310
Operating lease liabilities, non-current	105,656	106,187
Financing obligations, non-current	452,229	461,900
Recourse debt, non-current	280,056	283,483
Non-recourse debt, non-current[1]	212,465	217,416
Other long-term liabilities	18,356	16,772
Total liabilities	1,496,177	1,518,547
Commitments and contingencies (Note 13)		
Redeemable convertible preferred stock, Series A: 10,000,000 shares authorized and 10,000,000 shares and no shares issued and outstanding at March 31, 2022 and December 31, 2021, respectively.	208,551	208,551
Redeemable noncontrolling interest	—	300
Stockholders'equity (deficit):		
Common stock: $0.0001 par value; Class A shares - 600,000,000 shares authorized and 162,165,862 shares and 160,627,544 shares issued and outstanding and Class B shares - 600,000,000 shares authorized and 15,829,833 shares and 15,832,863 shares issued and outstanding at March 31, 2022 and December 31, 2021, respectively.	18	18
Additional paid-in capital	3,251,128	3,219,081
Accumulated other comprehensive loss	(503)	(350)
Accumulated deficit	(3,341,434)	(3,263,075)
Total stockholders' equity (deficit)	(90,791)	(44,326)
Noncontrolling interest	36,035	42,499

Total liabilities, redeemable noncontrolling interest, stockholders' (deficit) equity and noncontrolling interest	$ 1,649,972	$ 1,725,571

[1]We have variable interest entities, which represent a portion of the consolidated balances recorded within these financial statement line items in the condensed consolidated balance sheets (see Note 11 - *Portfolio Financings*).

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

Bloom Energy Corporation
Condensed Consolidated Statements of Operations
(in thousands, except per share data)
(unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Revenue:		
Product	$ 133,547	$ 137,930
Installation	13,553	2,659
Service	35,239	36,417
Electricity	18,700	17,001
Total revenue	201,039	194,007
Cost of revenue:		
Product	105,742	87,294
Installation	12,773	4,625
Service	41,826	36,118
Electricity	12,761	11,319
Total cost of revenue	173,102	139,356
Gross profit	27,937	54,651
Operating expenses:		
Research and development	34,526	23,295
Sales and marketing	21,334	19,952
General and administrative	37,736	25,801
Total operating expenses	93,596	69,048
Loss from operations	(65,659)	(14,397)
Interest income	59	74
Interest expense	(14,087)	(14,731)
Other income (expense), net	(3,027)	(85)
(Loss) gain on revaluation of embedded derivatives	531	(518)
Loss before income taxes	(82,183)	(29,657)
Income tax provision	564	124
Net loss	(82,747)	(29,781)
Less: Net loss attributable to noncontrolling interest and redeemable noncontrolling interest	(4,388)	(4,892)
Net loss attributable to Class A and Class B common stockholders	$ (78,359)	$ (24,889)
Net loss per share available to Class A and Class B common stockholders, basic and diluted	$ (0.44)	$ (0.15)
Weighted average shares used to compute net loss per share available to Class A and Class B common stockholders, basic and diluted	177,189	170,745

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

Bloom Energy Corporation
Condensed Consolidated Statements of Comprehensive Loss
(in thousands)
(unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Net loss	$ (82,747)	$ (29,781)
Other comprehensive loss, net of taxes:		
Change in derivative instruments designated and qualifying as cash flow hedges	—	(4,653)
Foreign currency translation adjustment	(153)	(228)
Other comprehensive (loss) income, net of taxes	(153)	(4,881)
Comprehensive loss	(82,900)	(34,662)
Less: Comprehensive loss attributable to noncontrolling interest and redeemable noncontrolling interest	(4,388)	(350)
Comprehensive loss attributable to Class A and Class B stockholders	$ (78,512)	$ (34,312)

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

Bloom Energy Corporation

Condensed Consolidated Statements of Convertible Redeemable Preferred Stock, Redeemable Noncontrolling Interest, Stockholders' Equity (Deficit) and Noncontrolling Interest

(in thousands, except share data) (unaudited)

	Three Months Ended March 31, 2022									
	Convertible Redeemable Preferred Stock		Redeemable Noncontrolling Interest	Class A and Class B Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity (Deficit)	Noncontrolling Interest
	Shares	Amount		Shares	Amount					
Balances at December 31, 2021	10,000,000	$ 208,551	$ 300	176,460,407	$ 18	$ 3,219,081	$ (350)	$ (3,263,075)	$ (44,326)	$ 42,499
Issuance of restricted stock awards	—	—	—	964,937	—	—	—	—	—	—
ESPP purchase	—	—	—	420,689	—	5,981	—	—	5,981	—
Exercise of stock options	—	—	—	149,662	—	980	—	—	980	—
Stock-based compensation	—	—	—	—	—	25,586	—	—	25,586	—
Distributions and payments to noncontrolling interests	—	—	—	—	—	(500)	—	—	(500)	(2,376)
Foreign currency translation adjustment	—	—	—	—	—	—	(153)	—	(153)	—
Net loss	—	—	(300)	—	—	—	—	(78,359)	(78,359)	(4,088)
Balances at March 31, 2022	10,000,000	$ 208,551	$ —	177,995,695	$ 18	$ 3,251,128	$ (503)	$ (3,341,434)	$ (90,791)	$ 36,035

	Three Months Ended March 31, 2021									
	Convertible Redeemable Preferred Stock		Redeemable Noncontrolling Interest	Class A and Class B Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity (Deficit)	Noncontrolling Interest
	Shares	Amount		Shares	Amount					
Balances at December 31, 2020	—	$ —	$ 377	168,002,726	$ 17	$ 3,182,753	$ (9)	$ (3,103,937)	$ 78,824	$ 62,195
Cumulative effect upon adoption of new accounting standard (Note 2)	—	—	—	—	—	(126,799)	—	5,308	(121,491)	—
Issuance of restricted stock awards	—	—	—	1,140,502	—	—	—	—	—	—
ESPP purchase	—	—	—	977,508	—	4,726	—	—	4,726	—
Exercise of stock options	—	—	—	1,978,717	—	53,227	—	—	53,227	—
Stock-based compensation expense	—	—	—	—	—	15,780	—	—	15,780	—
Change in effective portion of interest rate swap agreement	—	—	—	—	—	—	—	—	—	4,653
Distributions to noncontrolling interests	—	—	(17)	—	—	—	—	—	—	(3,863)
Cumulative foreign currency translation adjustment	—	—	—	—	—	—	(117)	—	(117)	(111)
Net loss	—	—	(4)	—	—	—	—	(24,889)	(24,889)	(4,888)
Balances at March 31, 2021	—	$ —	$ 356	172,099,453	$ 17	$ 3,129,687	$ (126)	$ (3,123,518)	$ 6,060	$ 57,986

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

Bloom Energy Corporation
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Cash flows from operating activities:		
Net loss	$ (82,747)	$ (29,781)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	14,384	13,442
Non-cash lease expense	3,072	2,115
Revaluation of derivative contracts	2,407	290
Stock-based compensation expense	25,542	17,210
Amortization of warranty balance	150	—
Amortization of debt issuance costs and premium, net	706	971
Changes in operating assets and liabilities:		
Accounts receivable	(23,053)	(7,135)
Contract assets	11,668	(1,680)
Inventories	(39,542)	(10,820)
Deferred cost of revenue	5,865	(13,952)
Customer financing receivable	1,388	1,302
Prepaid expenses and other current assets	(6,340)	3,908
Other long-term assets	703	(687)
Accounts payable	16,117	14,145
Accrued warranty	2,925	(4,305)
Accrued expenses and other current liabilities	(25,144)	(24,941)
Operating lease right-of-use assets and operating lease liabilities	3,436	(2,474)
Deferred revenue and customer deposits	(5,783)	(48,036)
Other long-term liabilities	1,803	1,393
Net cash (used in) provided by operating activities	(92,443)	(89,035)
Cash flows from investing activities:		
Purchase of property, plant and equipment	(18,510)	(12,932)
Net cash (used in) provided by investing activities	(18,510)	(12,932)
Cash flows from financing activities:		
Repayment of debt	(4,774)	(4,862)
Proceeds from financing obligations	—	5,016
Repayment of financing obligations	(9,423)	(3,077)
Distributions and payments to noncontrolling interests and redeemable noncontrolling interests	(2,876)	(3,880)
Proceeds from issuance of common stock	6,961	57,953
Net cash (used in) provided by financing activities	(10,112)	51,150
Effect of exchange rate changes on cash, cash equivalent and restricted cash	(153)	(229)
Net (decrease) increase in cash, cash equivalents and restricted cash	(121,218)	(51,046)
Cash, cash equivalents, and restricted cash:		
Beginning of period	615,114	416,710
End of period	$ 493,896	$ 365,664
Supplemental disclosure of cash flow information:		
Cash paid during the period for interest	$ 14,405	$ 14,963
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	2,464	2,830
Operating cash flows from finance leases	230	39
Cash paid during the period for income taxes	381	72
Non-cash investing and financing activities:		
Increase in recourse debt, non-current upon adoption of ASU 2020-06, net (Note 2)	$ —	$ 121,491
Liabilities recorded for property, plant and equipment	6,775	1,172
Recognition of operating lease right-of-use asset during the year-to-date period	147	22,649
Recognition of finance lease right-of-use asset during the year-to-date period	—	1,457

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

Bloom Energy Corporation
Notes to Unaudited Condensed Consolidated Financial Statements

1. Nature of Business, Liquidity and Basis of Presentation

Nature of Business

We design, manufacture, sell and, in certain cases, install solid-oxide fuel cell systems ("Energy Servers") for on-site power generation. Our Energy Servers utilize an innovative fuel cell technology and provide efficient energy generation with reduced operating costs and lower greenhouse gas emissions as compared to conventional fossil fuel generation. By generating power where it is consumed, our energy producing systems offer increased electrical reliability and improved energy security while providing a path to energy independence.

We continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic. There have been a number of supply chain disruptions throughout the global supply chain as countries are in various stages of opening up and demand for certain components increases. Although we were able to find alternatives for many component shortages, we experienced some delays and cost increases with respect to container shortages, ocean shipping and air freight. We have not experienced any supply chain disruption as a result of the events occurring in Ukraine.

Liquidity

We have generally incurred operating losses and negative cash flows from operations since our inception. With the series of new debt offerings, debt extensions and conversions to equity that we completed during 2020 and 2021, we had $292.4 million of total outstanding recourse debt as of March 31, 2022, $280.1 million of which is classified as long-term debt. Our recourse debt scheduled repayments will commence in June 2022.

On October 23, 2021, we entered into a Securities Purchase Agreement (the “SPA”) with SK ecoplant Co., Ltd. (formerly known as SK Engineering and Construction Co., Ltd.) ("SK ecoplant") in connection with a strategic partnership. Pursuant to the SPA, on December 29, 2021, SK ecoplant purchased 10,000,000 shares of zero coupon, non-voting Series A redeemable convertible preferred stock ("RCPS") in Bloom Energy, par value $0.0001 per share, at a purchase price of $25.50 per share for an aggregate purchase price of $255.0 million, including an option to purchase Class A common stock. For more information about the SPA, please see Note 18 - *SK ecoplant Strategic Investment*, and for more information about our joint venture with SK ecoplant, please see Note 12 - *Related Party Transactions*.

In November 2021, PPA V entered into $136.0 million, 3.04% Senior Secured Notes due June 30, 2031, which replaced the LIBOR + 2.5% Term Loan due December 2021.

Our future capital requirements will depend on many factors, including our rate of revenue growth, the timing and extent of spending on research and development efforts and other business initiatives, the rate of growth in the volume of system builds and the need for additional manufacturing space, the expansion of sales and marketing activities both in domestic and international markets, market acceptance of our product, our ability to secure financing for customer use of our Energy Servers, the timing of installations, and overall economic conditions including the impact of COVID-19 on our ongoing and future operations.

In the opinion of management, the combination of our existing cash and cash equivalents and operating cash flows is expected to be sufficient to meet our operational and capital cash flow requirements and other cash flow needs for the next 12 months from the date of issuance of this Quarterly Report on Form 10-Q.

Basis of Presentation

We have prepared the condensed consolidated financial statements included herein pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"), and as permitted by those rules, including all disclosures required by generally accepted accounting principles as applied in the United States (“U.S. GAAP”). Certain prior period amounts have been reclassified to conform to the current period presentation.

Principles of Consolidation

These condensed consolidated financial statements reflect our accounts and operations and those of our subsidiaries in which we have a controlling financial interest. We use a qualitative approach in assessing the consolidation requirement for

each of our variable interest entities ("VIEs"), which we refer to as a tax equity partnership (each such VIE, also referred to as our power purchase agreement ("PPA") entities ("PPA Entities")). This approach focuses on determining whether we have the power to direct those activities of the PPA Entities that most significantly affect their economic performance and whether we have the obligation to absorb losses, or the right to receive benefits, that could potentially be significant to the PPA Entities. For all periods presented, we have determined that we are the primary beneficiary in all of our operational PPA Entities, as discussed in Note 11 - *Portfolio Financings*. We evaluate our relationships with the PPA Entities on an ongoing basis to ensure that we continue to be the primary beneficiary. All intercompany transactions and balances have been eliminated upon consolidation.

The sale of an operating company with a portfolio of PPAs in which we do not have an equity interest is called a “Third-Party PPA.” We have determined that, although these entities are VIEs, we do not have the power to direct those activities of the Third-Party PPAs that most significantly affect their economic performance. We also do not have the obligation to absorb losses, or the right to receive benefits, that could potentially be significant to the Third-Party PPAs. Because we are not the primary beneficiary of these activities, we do not consolidate Third-Party PPAs.

Business Combinations

Acquisitions of a business are accounted by using the acquisition method of accounting. Assets acquired and liabilities assumed, including amounts attributed to noncontrolling interests, are recorded at the acquisition date at their fair values. Assigning fair values requires us to make significant estimates and assumptions regarding the fair value of identifiable intangible assets, property, plant and equipment, deferred tax asset valuation allowances and liabilities, such as uncertain tax positions and contingencies. We may refine these estimates if necessary over a period not to exceed one year by taking into consideration new information that, if known at the acquisition date, would have affected the fair values ascribed to the assets acquired and liabilities assumed.

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and the accompanying notes. The most significant estimates include the determination of the stand-alone selling price, including material rights estimates, inventory valuation, specifically excess and obsolescence provisions for obsolete or unsellable inventory and, in relation to property, plant and equipment (specifically Energy Servers), assumptions relating to economic useful lives and impairment assessments.

Other accounting estimates include variable consideration relating to product performance guaranties, lease and non-lease components and related financing obligations such as incremental borrowing rates, estimated output, efficiency and residual value of the Energy Servers, product performance warranties and guaranties and extended maintenance, derivative valuations, estimates for recapture of the U.S. Investment Tax Credit ("ITC") and similar federal tax benefits, estimates relating to contractual indemnities provisions, estimates for income taxes and deferred tax asset valuation allowances, stock-based compensation expense and the fair value of contingent consideration related to business combinations, and estimates of fair value of preferred stock and equity and non-equity items in relation to the SK ecoplant strategic investment. In addition, because the duration and severity of the COVID-19 pandemic remains uncertain, certain of such estimates could require further judgment or modification and therefore carry a higher degree of variability and volatility. Actual results could differ materially from these estimates under different assumptions and conditions.

Concentration of Risk

Geographic Risk - The majority of our revenue and long-lived assets are attributable to operations in the United States for all periods presented. Additionally, we sell our Energy Servers in Japan, India and the Republic of Korea (collectively, the "Asia Pacific region"). In the three months ended March 31, 2022 and 2021, total revenue in the Asia Pacific region was 65% and 43%, respectively, of our total revenue.

Credit Risk - At March 31, 2022, SK D&D Co., Ltd accounted for approximately 60% of accounts receivable and at December 31, 2021, SK ecoplant accounted for approximately 60% of accounts receivable. To date, we have not experienced any credit losses.

Customer Risk - During the three months ended March 31, 2022, revenue from two customers, SK ecoplant and SK D&D Co, Ltd, accounted for approximately 32% and 32% of our total revenue.

2. Summary of Significant Accounting Policies

Please refer to the accounting policies described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Revenue Recognition

We primarily earn product and installation revenue from the sale and installation of our Energy Servers, service revenue by providing services under operations and maintenance services contracts, and electricity revenue by selling electricity to customers under PPAs and Managed Services Agreements (as defined below). We offer our customers several ways to finance their use of a Bloom Energy Server. Customers, including some of our international channel providers and Third Party PPAs, may choose to purchase our Energy Servers outright. Customers may also enter into contracts with us for the purchase of electricity generated by our Energy Servers (a "Managed Services Agreement"), which is then financed through one of our financing partners ("Managed Services Financings"), or as a traditional lease. Finally, customers may purchase electricity through our PPA Entities ("Portfolio Financings").

Revenue Recognition under ASC 606 Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"). We adopted ASU 2014-09 and its related amendments (collectively, "ASC 606") as of January 1, 2019 using the modified retrospective method.

In applying Accounting Standards Codification 606, *Revenue from Contracts with Customers,* revenue is recognized by following a five-step process:

Identify the contract(s) with a customer. Evidence of a contract generally consists of a purchase order issued pursuant to the terms and conditions of a distributor, reseller, purchase, use and maintenance agreement, maintenance services agreements or energy supply agreement.

Identify the performance obligations in the contract. Performance obligations are identified in our contracts and include transferring control of an Energy Server, installation of Energy Servers, providing maintenance services and maintenance services renewal options which, in certain situations, provide customers with material rights.

Determine the transaction price. The purchase price stated in an agreed-upon purchase order or contract is generally representative of the transaction price. When determining the transaction price, we consider the effects of any variable consideration, which include performance guarantees that may be payable to our customers.

Allocate the transaction price to the performance obligations in the contract. The transaction price in a contract is allocated based upon the relative standalone selling price of each distinct performance obligation identified in the contract.

Recognize revenue when (or as) we satisfy a performance obligation. We satisfy performance obligations either over time or at a point in time as discussed in further detail below. Revenue is recognized at the time the related performance obligation is satisfied by transferring control of the promised products or services to a customer.

We frequently combine contracts governing the sale and installation of an Energy Server with the related maintenance services contracts and account for them as a single contract at contract inception to the extent the contracts are with the same customer. These contracts are not combined when the customer for the sale and installation of the Energy Server is different in relation to the maintenance services contract customer. We also assess whether any contract terms including default provisions, put or call options result in components of our contracts being accounted for as financing or leasing transactions outside of the scope of ASC 606.

Most of our contracts contain performance obligations with a combination of our Energy Server product, installation and maintenance services. For these performance obligations, we allocate the total transaction price to each performance obligation based on the relative standalone selling price. Our maintenance services contracts are typically subject to renewal by customers on an annual basis. We assess these maintenance services renewal options at contract inception to determine whether they provide customers with material rights that give rise to separate performance obligations.

The total transaction price is determined based on the total consideration specified in the contract, including variable consideration in the form of a performance guaranty payment that represents potential amounts payable to customers. The expected value method is generally used when estimating variable consideration, which typically reduces the total transaction price due to the nature of the performance obligations to which the variable consideration relates. These estimates reflect our

historical experience and current contractual requirements which cap the maximum amount that may be paid. The expected value method requires judgment and considers multiple factors that may vary over time depending upon the unique facts and circumstances related to each performance obligation. Depending on the facts and circumstances, a change in variable consideration estimate will either be accounted for at the contract level or using the portfolio method.

We exclude from the transaction price all taxes assessed by governmental authorities that are both (i) imposed on and concurrent with a specific revenue-producing transaction and (ii) collected from customers. Accordingly, such tax amounts are not included as a component of net sales or cost of sales. These tax amounts are recorded in cost of electricity revenue, cost of service revenue, and general and administrative operating expenses.

We allocate the transaction price to each distinct performance obligation based on relative standalone selling prices. Given that we typically sell an Energy Server with a maintenance services agreement and have not provided maintenance services to a customer who does not have use of an Energy Server, standalone selling prices are estimated using a cost-plus approach. Costs relating to Energy Servers include all direct and indirect manufacturing costs, applicable overhead costs and costs for normal production inefficiencies (i.e., variances). We then apply a margin to the Energy Servers, which may vary with the size of the customer, geographic region and the scale of the Energy Server deployment. As our business offerings and eligibility for the ITC evolve over time, we may be required to modify the expected margin in subsequent periods and our revenue could be materially affected. Costs relating to installation include all direct and indirect installation costs. The margin we apply reflects our profit objectives relating to installation. Costs for maintenance services arrangements are estimated over the life of the maintenance contracts and include estimated future service costs and future material costs. Material costs over the period of the service arrangement are impacted significantly by the longevity of the fuel cells themselves. After considering the total service costs, we apply a lower margin to our service costs than to our Energy Servers as it best reflects our long-term service margin expectations and comparable historical industry service margins. As a result, our estimate of our selling price is driven primarily by our expected margin on both the Energy Server and the maintenance services agreements based on their respective costs or, in the case of maintenance services agreements, the estimated costs to be incurred.

We generally recognize product and installation revenue at the point in time that the customer obtains control of the Energy Server. For certain instances, such as bill-and-hold transactions, control of installations transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied using the cost-to-total cost (percentage-of-completion) method. We use an input measure of progress to determine the amount of revenue to recognize during each reporting period when such revenue is recognized over time, based on the costs incurred to satisfy the performance obligation. We recognize maintenance services revenue, including revenue associated with any related customer material rights, over time as we perform service maintenance activities.

Amounts billed to customers for shipping and handling activities are considered contract fulfillment activities and not a separate performance obligation of the contract. Shipping and handling costs are recorded within cost of revenue.

The following is a description of the principal activities from which we generate revenue. Our four revenue streams are classified as follows:

Product Revenue - All of our product revenue is generated from the sale of our Energy Servers to direct purchase customers, including financing partners on Third-Party PPAs and sale-and-leaseback transactions, international channel providers and traditional lease customers. We generally recognize product revenue from contracts with customers at the point that control is transferred to the customers. This occurs when we achieve customer acceptance, which typically occurs upon transfer of control to our customers, which depending on the contract terms is when the system is shipped and delivered to our customers, when the system is shipped and delivered and is physically ready for startup and commissioning, or when the system is shipped and delivered and is turned on and producing power. Certain customer arrangements include bill-and-hold terms under which transfer of control criteria have been met, including the passing of title and significant risk and reward of ownership to the customers. Therefore, the customers can direct the use of the bill-and-hold product while we retain physical possession of the product until it is delivered to a customer site at a point in time in the future.

Under our traditional lease financing option, we sell our Energy Servers through a direct sale to a financing partner who, in turn, leases the Energy Servers to the customer under a lease agreement. With our sales to our international channel providers, our international channel providers typically sell the Energy Servers to, or sometimes provide a PPA to, an end customer. In both traditional lease and international channel providers transactions, we contract directly with the end customer to provide extended maintenance services after the end of the standard warranty period. As a result, since the customer that purchases the server is a different and unrelated party to the customer that purchases extended warranty services, the product and maintenance services contract are not combined.

Installation Revenue - Nearly all of our installation revenue relates to the installation of Energy Servers sold to customers as part of a direct purchase and to financing parties as part of a traditional lease or Portfolio Financing. Generally, we recognize installation revenue when the system is physically ready for startup and commissioning, or when the system is turned on and producing power. For instances when control for installation services is transferred over time, we use an input measure of progress to determine the amount of revenue to recognize during each reporting period based on the costs incurred to satisfy the performance obligation.

Payments received from customers are recorded within deferred revenue and customer deposits in the condensed consolidated balance sheets until control is transferred. The related cost of such product and installation is also deferred as a component of deferred cost of revenue in the condensed consolidated balance sheets until control is transferred.

Service Revenue - Service revenue is generated from maintenance services agreements. As part of our initial contract with customers for the sale and installation of our Energy Servers, we typically provide a standard one-year warranty which covers defects in materials and workmanship and manufacturing or performance conditions under normal use and service for the first year following commencement of operations. As part of this standard first-year warranty, we also monitor the operations of the underlying systems and provide output and efficiency guaranties. We have determined that this standard first-year warranty is a distinct performance obligation - being a promise to stand-ready to maintain the Energy Servers when and if required during the first year following installation. We also sell to our customers extended annual maintenance services that effectively extend the standard first-year warranty coverage at the customer’s option. These customers generally have an option to renew or cancel the extended maintenance services on an annual basis and nearly every customer has renewed historically. Similar to the standard first-year warranty, the optional extended annual maintenance services are considered a distinct performance obligation – being a promise to stand-ready to maintain the Energy Servers when and if required during the renewal service year.

Given our customers' renewal history, we anticipate that most of them will continue to renew their maintenance services agreements each year for the period of their expected use of the Energy Server. The contractual renewal price may be less than the standalone selling price of the maintenance services and consequently the contract renewal option may provide the customer with a material right. We estimate the standalone selling price for customer renewal options that give rise to material rights using the practical alternative by reference to optional maintenance services renewal periods expected to be provided and the corresponding expected consideration for these services. This reflects the fact that our additional performance obligations in any contractual renewal period are consistent with the services provided under the standard first-year warranty. Where we have determined that a customer has a material right as a result of their contract renewal option, we recognize that portion of the transaction price allocated to the material right over the period in which such rights are exercised.

Payments from customers for the extended maintenance contracts are generally received at the beginning of each service year. Accordingly, the customer payment received is recorded as a customer deposit and revenue is recognized over the related service period as the services are performed.

Electricity Revenue - We sell electricity produced by our Energy Servers owned directly by us or by our consolidated PPA Entities. Our PPA Entities purchase Energy Servers from us and sell electricity produced by these systems to customers through long-term PPAs. Customers are required to purchase all of the electricity produced by those Energy Servers at agreed-upon rates over the course of the PPAs' contractual term.

In addition, in certain Managed Services Financings pursuant to which we are party to a Managed Services Agreement with a customer in a sale-leaseback-sublease arrangement, we may recognize electricity revenue. We first determine whether the Energy Servers under the sale-leaseback arrangement of a Managed Services Financing were “integral equipment." As the Energy Servers were determined not to be integral equipment, we determine if the leaseback was classified as a finance lease or an operating lease.

Under ASC 840, *Leases* ("ASC 840"), our Managed Services Agreements with the financiers were classified as capital leases and were accordingly recorded as financing transactions, while the sub-lease arrangements with the end customer were classified as operating leases. We have determined that the financiers are our customers in our Managed Services Agreements. In these Managed Services Financings, we enter into an agreement with a customer for a certain term. In exchange for the use of the Energy Server and its generated electricity, the customer makes a monthly payment. The customer's monthly payment includes a fixed monthly capacity-based payment, and in some cases also includes a performance-based payment based on the performance of the Energy Server. The fixed capacity-based payments made by the customer are applied toward our obligation to pay down the financing obligation with the financier. The performance-based payment is transferred to us as compensation for operations and maintenance services and is recognized as service revenue. We allocate the total payments received based on

the relative standalone selling prices to electricity revenue and to service revenue. Electricity revenue relating to PPAs was typically accounted for in accordance with ASC 840, and service revenue in accordance with ASC 606.

We adopted ASC 842, *Leases* ("ASC 842"), with effect from January 1, 2020. Managed Services Financings entered from January 1, 2020 until June 30, 2021, including some of our agreements with financiers are accounted for as financing transactions because the repurchase options in these agreements prevent the transfer of control of the systems to the financier. Additionally, some of our leaseback agreements with financiers are not operating leases and are therefore accounted for as failed sale-and-leaseback transactions. We also determined that the sub-lease arrangements under the Managed Services Agreements with the customer are not within the scope of ASC 842 because the customer does not have the right to control the use of the underlying assets (i.e., the Energy Servers). Accordingly, such agreements are accounted for under ASC 606. Under ASC 606, we recognize customer payments for electricity as electricity revenue.

The transition guidance associated with ASC 842 also permitted certain practical expedients. We elected the practical expedient, which allowed us to carryforward certain aspects of our historical lease accounting under ASC 840 for leases that commenced before the effective date, including not to reassess (i) whether any expired or existing contracts are or contain leases, (ii) lease classification for any expired or existing leases, and (iii) initial direct costs for any existing leases. We also elected the practical expedient to not separate non-lease and lease components and instead account for them as a single lease component for all classes of underlying assets. Lastly, for all classes of underlying assets, we elected to adopt an accounting policy for which we will not record on our condensed consolidated balance sheets leases whose terms are 12 months or less. Instead, these lease payments are recognized in profit or loss on a straight-line basis over the lease term.

During the second half of fiscal 2021, we completed several successful sale-and-lease back transactions in which we transferred control of the Energy Server to the financier and leased it back as an operating lease to provide electricity to the end customer.

In order for the transaction to meet the criteria for sale-leaseback accounting, control of the Energy Servers must transfer to the financier, which requires, among other criteria, the leaseback to meet the criteria for an operating lease in accordance with ASC 842. Accordingly, for such transactions where control transfers and the leaseback is classified as an operating lease, the proceeds from the sale to the financier are recognized as revenue based on the fair value of the Energy Servers sold and are allocated between Product Revenue and Installation Revenue based on the relative standalone selling prices.

We recognize a lease liability for the Energy Server leaseback obligation based on the present value of the future payments to the financier that are attributed to the Energy Server leaseback using our incremental borrowing rate. We also record a right-of-use asset, which is amortized over the term of the leaseback, and is included as a cost of electricity revenue on the condensed consolidated statements of operations.

For certain sale-leaseback transactions, we receive proceeds from the financier in excess of the fair value of the Energy Servers in order to finance our ongoing costs associated with the operation of the Energy Servers during the term of the end customer agreement to provide electricity. Such proceeds are recognized as a financing obligation.

We allocate payments we are obligated to make under the leaseback agreement with the financier between the lease liability and the financing obligation based on the proportion of the financing obligation to the total proceeds to be received.

We recognize revenue from the satisfaction of performance obligations under our PPAs and Managed Services Financings to provide electricity to our end customers as the electricity is provided over the term of the agreement in the amount invoiced, which reflects the amount of consideration to which we have the right to invoice and which corresponds to the value transferred under such arrangements.

Modifications

Contract modifications are accounted for as separate contracts if the additional products and services are distinct and priced at standalone selling prices. If the additional products and services are distinct, but not priced at standalone selling prices, the modification is treated as a termination of the existing contract and the creation of a new contract. If the additional products and services are not distinct within the context of the contract, the modification is combined with the original contract and either an increase or decrease in revenue is recognized on the modification date.

Deferred Revenue

We recognize a contract liability (referred to as deferred revenue in our condensed consolidated financial statements) when we have an obligation to transfer products or services to a customer in advance of us satisfying a performance obligation and the contract liability is reduced as performance obligations are satisfied and revenue is recognized. The related cost of such product is deferred as a component of deferred cost of revenue in the condensed consolidated balance sheets. Prior to shipment of the product or the commencement of performance of maintenance services, any prepayment made by the customer is recorded as a customer deposit. Deferred revenue related to material rights for options to renew are recognized in revenue over the maintenance services period.

A description of the principal activities from which we recognize cost of revenues associated with each of our revenue streams are classified as follows:

Cost of Product Revenue - Cost of product revenue consists of costs of our Energy Servers that we sell to direct purchase, including financing partners on Third-Party PPAs, international channel providers and traditional lease customers. It includes costs paid to our materials suppliers, direct labor, manufacturing and other overhead costs, shipping costs, provisions for excess and obsolete inventory and the depreciation costs of our equipment. For Energy Servers sold to customers pending installation, we provide warranty reserves as a part of product costs for the period from transfer of control of Energy Servers to commencement of operations.

Cost of Installation Revenue - Cost of installation revenue primarily consists of the costs to install our Energy Servers that we sell to direct purchase, including financing partners on Third-Party PPAs and traditional lease customers. It includes cost of materials and service providers, personnel costs, shipping costs and allocated costs.

Cost of Service Revenue - Cost of service revenue consists of costs incurred under maintenance service contracts for all customers. It includes personnel costs for our customer support organization, certain allocated costs, and extended maintenance-related product repair and replacement costs.

Cost of Electricity Revenue - Cost of electricity revenue primarily consists of the depreciation of the cost of the Energy Servers owned by us or the consolidated PPA Entities and the cost of gas purchased in connection with our first PPA Entity. The cost of electricity revenue is generally recognized over the term of the Managed Services Agreement or customer's PPA contract. The cost of depreciation of the Energy Servers is reduced by the amortization of any U.S. Treasury Department grant payment in lieu of the energy investment tax credit associated with these systems.

Revenue Recognized from Portfolio Financings Through PPA Entities *(See Note 11 - Portfolio Financings)*

In 2010, we began selling our Energy Servers to tax equity partnerships in which we held an equity interest as a managing member, or a PPA Entity. The investors in a PPA Entity contribute cash to the PPA Entity in exchange for an equity interest, which then allows the PPA Entity to purchase the Operating Company and the Energy Servers.

The cash contributions held are classified as short-term or long-term restricted cash according to the terms of each PPA Entity's governing documents. As we identified customers, the Operating Company entered into a PPA with the customer pursuant to which the customer agreed to purchase the power generated by one or more Energy Servers at a specified rate per kilowatt hour for a specified term, which can range from 10 to 21 years. The Operating Company, wholly owned by the PPA Entity, typically entered into a maintenance services agreement with us following the first year of service to extend the standard one-year performance warranties and guaranties. This intercompany arrangement is eliminated on consolidation. Those PPAs that qualify as leases are classified as either sales-type leases or operating leases and those that do not qualify as leases are classified as tariff agreements or revenue arrangements with customers. For arrangements classified as operating leases, tariff agreements, or revenue arrangements with customers, income is recognized as contractual amounts are due when the electricity is generated and presented within electricity revenue on the condensed consolidated statements of operations.

Sales-type Leases - Certain Portfolio Financings with PPA Entities entered into prior to our adoption of ASC 842 qualified as sales-type leases in accordance with ASC 840. The classification for such arrangements were carried over and accounted for as sales-type leases under ASC 842. We are responsible for the installation, operation and maintenance of the Energy Servers at the customers' sites, including running the Energy Servers during the term of the PPA which ranges from 10 to 15 years. Based on the terms of the PPAs, we may also be obligated to supply fuel for the Energy Servers. The amount billed for the delivery of electricity to customers primarily consists of returns on the amounts financed including interest revenue, service revenue and fuel revenue for certain arrangements.

As the Portfolio Financings through PPA Entities entered into prior to our adoption of ASC 842 contain a lease, the consideration received is allocated between the lease elements (lease of property and related executory costs) and non-lease elements (other products and services, excluding any derivatives) based on relative fair value. Lease elements include the leased system and the related executory costs (i.e. installation of the system, electricity generated by the system, maintenance costs). Non-lease elements include service, fuel and interest related to the leased systems.

Service revenue and fuel revenue are recognized over the term of the PPA as electricity is generated. For those transactions that contain a lease, the interest component related to the leased system is recognized as interest revenue over the life of the lease term. The customer has the option to purchase the Energy Servers at the then fair market value at the end of the PPA contract term.

Service revenue related to sales-type leases is included in electricity revenue in the condensed consolidated statements of operations. We have not entered into any new Portfolio Financing arrangements through PPA Entities during the last three years.

Operating Leases - Certain Portfolio Financings with PPA Entities entered into prior to the adoption of ASC 842 that were deemed leases in substance, but did not meet the criteria of sales-type leases or direct financing leases in accordance with ASC 840, were accounted for as operating leases. The classification for such arrangements were carried over and accounted for as operating leases under ASC 842. Revenue under these arrangements is recognized as electricity sales and service revenue and is provided to the customer at rates specified under the PPAs.

Recent Accounting Pronouncements

There have been no significant changes in our reported financial position or results of operations and cash flows resulting from the adoption of new accounting pronouncements.

Accounting Guidance Not Yet Adopted

Lessor with Variable Lease Payments - In July 2021, the FASB issued ASU No. 2021-05, *Leases (Topic 842): Lessors - Certain Leases with Variable Lease Payments* ("ASU 2021-05"), which modifies ASC 842 to require lessors to classify leases as operating leases if they have variable lease payments that do not depend on an index or rate and would have selling losses if they were classified as sales-type or direct financing leases. The amendments in ASU 2021-05 are effective for fiscal years beginning after December 15, 2021, and interim periods beginning after December 15, 2022. Early adoption is permitted. We are currently evaluating the impact of the adoption of ASU 2021-05 on our condensed consolidated financial statements.

3. Revenue Recognition

Contract Balances

The following table provides information about accounts receivables, contract assets, customer deposits and deferred revenue from contracts with customers (in thousands):

	March 31, 2022	December 31, 2021
Accounts receivable	$ 110,842	$ 87,788
Contract assets	13,533	25,201
Customer deposits	71,013	64,809
Deferred revenue	103,489	115,476

Contract assets relate to contracts for which revenue is recognized upon transfer of control of performance obligations, however billing milestones have not been reached. Customer deposits and deferred revenue are payments received from customers or invoiced amounts prior to transfer of controls of performance obligations. Customer deposits, except for those related to the transaction with SK ecoplant, are refundable fees until certain milestones are met.

Contract Assets

	Three Months Ended March 31,	
	2022	2021
Beginning balance	$ 25,201	$ 3,327
Transferred to accounts receivable from contract assets recognized at the beginning of the period	(14,576)	(4,277)
Revenue recognized and not billed as of the end of the period	2,908	5,958
Ending balance	$ 13,533	$ 5,008

Deferred Revenue

Deferred revenue activity, including deferred incentive revenue activity, during the three months ended March 31, 2022 and 2021 consisted of the following (in thousands):

	Three Months Ended March 31,	
	2022	2021
Beginning balance	$ 115,476	$ 135,578
Additions	166,676	156,586
Revenue recognized	(178,663)	(171,521)
Ending balance	$ 103,489	$ 120,643

Deferred revenue is equivalent to the total transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied, as of the end of the period. The significant component of deferred revenue at the end of the period consists of performance obligations relating to the provision of maintenance services under current contracts and future renewal periods. These obligations provide customers with material rights over a period that we estimate will be largely commensurate with the period of their expected use of the associated Energy Server. As a result, we expect to recognize these amounts as revenue over a period of up to 21 years, predominantly on a relative standalone selling price basis that reflects the cost of providing these services. Deferred revenue also includes performance obligations relating to product acceptance and installation. A significant amount of this deferred revenue is reflected as additions and revenue recognized in the same period and we expect to recognize substantially all amounts within a year.

We do not disclose the value of the unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed.

Disaggregated Revenue

We disaggregate revenue from contracts with customers into four revenue categories: product, installation, services and electricity (in thousands):

	Three Months Ended March 31,	
	2022	**2021**
Revenue from contracts with customers:		
Product revenue	$ 133,547	$ 137,930
Installation revenue	13,553	2,659
Services revenue	35,239	36,417
Electricity revenue	2,682	595
Total revenue from contract with customers	185,021	177,601
Revenue from contracts accounted for as leases:		
Electricity revenue	16,018	16,406
Total revenue	$ 201,039	$ 194,007

4. Financial Instruments

Cash, Cash Equivalents and Restricted Cash

The carrying values of cash, cash equivalents and restricted cash approximate fair values and were as follows (in thousands):

	March 31, 2022	December 31, 2021
As Held:		
Cash	$ 246,476	$ 318,080
Money market funds	247,420	297,034
	$ 493,896	$ 615,114
As Reported:		
Cash and cash equivalents	$ 286,007	$ 396,035
Restricted cash	207,889	219,079
	$ 493,896	$ 615,114

Restricted cash consisted of the following (in thousands):

	March 31, 2022	December 31, 2021
Current:		
Restricted cash	$ 67,983	$ 89,462
Restricted cash related to PPA Entities[1]	2,158	3,078
Restricted cash, current	70,141	92,540
Non-current:		
Restricted cash	114,484	103,300
Restricted cash related to PPA Entities[1]	23,264	23,239
Restricted cash, non-current	137,748	126,539
	$ 207,889	$ 219,079

[1] We have VIEs that represent a portion of the consolidated balances recorded within the "restricted cash" and other financial statement line items in the condensed consolidated balance sheets (see Note 11 - *Portfolio Financings*). In addition, the restricted cash held in the PPA II, PPA IIIa and PPA IIIb entities as of March 31, 2022, includes $41.2 million, $0.4 million and $1.5 million of current restricted cash, respectively, and $50.4 million, $6.1 million and $6.7 million of non-current restricted cash, respectively. PPA IIIa is no longer a VIE as of 03/31/2022. The restricted cash held in the PPA II and PPA IIIb entities as of December 31, 2021, includes $41.7 million and $1.2 million of current restricted cash, respectively, and $57.7 million and $6.7 million of non-current restricted cash, respectively. These entities are not considered VIEs.

Factoring Arrangements

We sell certain customer trade receivables on a non-recourse basis under factoring arrangements with our designated financial institution. These transactions are accounted for as sales and cash proceeds are included in cash used in operating activities. We derecognized $46.1 million of accounts receivable during the three months ended March 31, 2022 and none during the three months ended March 31, 2021. The costs of factoring such accounts receivable on our condensed consolidated statements of operations for the three months ended March 31, 2022 were not material.

5. Fair Value

Our accounting policy for the fair value measurement of cash equivalents, the fair value of contingent consideration related to business combinations, natural gas fixed price forward contracts, embedded Escalation Protection Plan ("EPP") derivatives and interest rate swap agreements is described in Note 2 - *Significant Accounting Policies*.

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis

The tables below set forth, by level, our financial assets that are accounted for at fair value for the respective periods. The table does not include assets and liabilities that are measured at historical cost or any basis other than fair value (in thousands):

	Fair Value Measured at Reporting Date Using			
March 31, 2022	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 247,420	$ —	$ —	$ 247,420
	$ 247,420	$ —	$ —	$ 247,420
Liabilities				
Derivatives:				
Option to acquire a variable number of shares of Class A Common Stock (Note 18)	$ —	$ 16,198	$ —	$ 16,198
Embedded EPP derivatives	—	—	5,929	5,929
	$ —	$ 16,198	$ 5,929	$ 22,127

	Fair Value Measured at Reporting Date Using			
December 31, 2021	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 297,034	$ —	$ —	$ 297,034
	$ 297,034	$ —	$ —	$ 297,034
Liabilities				
Derivatives:				
Option to acquire a variable number of shares of Class A Common Stock	$ —	$ 13,200	$ —	$ 13,200
Embedded EPP derivatives	—	—	6,461	6,461
	$ —	$ 13,200	$ 6,461	$ 19,661

Money Market Funds - Money market funds are valued using quoted market prices for identical securities and are therefore classified as Level 1 financial assets.

Option to acquire a variable number of shares of Class A Common Stock - We estimated the fair value of the Option (as defined in Note 8) to acquire a variable number of shares of Class A Common Stock using a Monte Carlo simulation model using a stochastic volatility parameter, which is calibrated and considers the observable implied volatility, the stock price of our Class A Common Stock and market interest rates. As the fair value is determined based on observable inputs, the Option to acquire a variable number of shares of Class A Common Stock is classified as a Level 2 financial liability.

Embedded Escalation Protection Plan Derivative Liability in Sales Contracts - We estimate the fair value of the embedded EPP derivatives in certain sales contracts using a Monte Carlo simulation model, which considers various potential electricity price curves over the sales contracts' terms. We use historical grid prices and available forecasts of future electricity prices to estimate future electricity prices. We have classified these derivatives as a Level 3 financial liability.

For the three months ended March 31, 2022 and 2021, we recorded the fair value of the embedded EPP derivatives and recognized an unrealized gain of $0.5 million and an unrealized loss of $0.5 million, respectively, in (loss) gain on revaluation of embedded derivatives on our condensed consolidated statements of operations (in thousands in the table below).

	Embedded EPP Derivative Liability
Liabilities at December 31, 2021	$ 6,461
Changes in fair value	(532)
Liabilities at March 31, 2022	$ 5,929

To estimate the liabilities related to the EPP contracts an option pricing method was implemented through a Monte Carlo simulation. The unobservable inputs were simulated based on the available values for avoided cost and cost of electricity as calculated for March 31, 2022 and 2021, using an expected growth rate of 7% over the contracts' life and volatility of 20%. The estimated growth rate and volatility were estimated based on the historical tariff changes for the period 2008 to 2021. Avoided cost is the transmission and distribution cost expressed in dollars per kilowatt hours avoided in the given year of the contract, calculated using the billing rates of the effective utility tariff applied during the year to the host account for which usage is offset by the generator. If the billing rates within the utility tariff change during the measurement period, the average of the amount of charge for each rate shall be weighted by the number of effective months for each amount.

The inputs listed above would have had a direct impact on the fair values of the above derivatives if they were adjusted. Generally, an increase in natural gas prices and a decrease in electric grid prices would each result in an increase in the estimated fair value of our derivative liabilities.

Interest Rate Swap Agreements - Interest rate swap agreements are valued using quoted prices for similar contracts and are therefore classified as Level 2 financial assets. Interest rate swaps are designed as hedging instruments and are recognized at fair value on our condensed consolidated balance sheets. During the fourth quarter of 2021, we terminated our hedges.

Option - We revalued the Option to purchase Class A common stock to its fair value as of March 31, 2022, and recorded a loss of $3.0 million which is included in other income (expense), net in our condensed consolidated statements of operations. The fair value of the Option is reflected in Accrued expenses and other current liabilities in our condensed consolidated balance sheet.

Financial Assets and Liabilities and Other Items Not Measured at Fair Value on a Recurring Basis

Customer Receivables and Debt Instruments - The fair value for customer financing receivables is based on a discounted cash flow model, whereby the fair value approximates the present value of the receivables (Level 3). The senior secured notes, term loans and convertible notes are based on rates currently offered for instruments with similar maturities and terms (Level 3). The following table presents the estimated fair values and carrying values of customer receivables and debt instruments (in thousands):

	March 31, 2022		December 31, 2021	
	Net Carrying Value	Fair Value	Net Carrying Value	Fair Value
Customer receivables				
Customer financing receivables	$ 43,880	$ 36,273	$ 45,269	$ 38,334
Debt instruments				
Recourse:				
10.25% Senior Secured Notes due March 2027	69,056	70,056	68,968	72,573
2.5% Green Convertible Senior Notes due August 2025	223,355	384,330	222,863	356,822
Non-recourse:				
7.5% Term Loan due September 2028	28,298	33,377	29,006	35,669
6.07% Senior Secured Notes due March 2030	72,193	78,311	73,262	83,251
3.04% Senior Secured Notes due June 2031	129,910	129,101	132,631	137,983

6. Balance Sheet Components

Inventories

The components of inventory consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Raw materials	$ 98,417	$ 80,809
Work-in-progress	41,345	31,893
Finished goods	43,304	30,668
	$ 183,066	$ 143,370

The inventory reserves were $14.0 million and $13.9 million as of March 31, 2022 and 2021, respectively.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Prepaid hardware and software maintenance	$ 3,691	$ 3,494
Receivables from employees	8,410	5,463
Other prepaid expenses and other current assets	24,899	21,704
	$ 37,000	$ 30,661

Property, Plant and Equipment, Net

Property, plant and equipment, net, consists of the following (in thousands):

	March 31, 2022	December 31, 2021
Energy Servers	$ 674,799	$ 674,799
Computers, software and hardware	22,382	21,276
Machinery and equipment	123,938	110,600
Furniture and fixtures	8,684	8,607
Leasehold improvements	63,852	52,936
Building	49,226	48,934
Construction-in-progress	36,619	43,544
	979,500	960,696
Less: accumulated depreciation	(370,588)	(356,590)
	$ 608,912	$ 604,106

Depreciation expense related to property, plant and equipment was $14.4 million and $13.4 million for the three months ended March 31, 2022 and 2021, respectively.

Property, plant and equipment under operating leases by the PPA Entities was $368.0 million and $368.0 million and accumulated depreciation for these assets was $145.3 million and $139.4 million as of March 31, 2022 and December 31, 2021, respectively. Depreciation expense for these assets was $5.9 million and $5.8 million for the three months ended March 31, 2022 and 2021, respectively.

Other Long-Term Assets

Other long-term assets consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Prepaid insurance	$ 9,006	$ 9,534
Deferred commissions	7,448	7,569
Long-term lease receivable	8,063	7,953
Prepaid and other long-term assets	13,895	14,060
	$ 38,412	$ 39,116

Accrued Warranty

Accrued warranty liabilities consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Product warranty	$ 1,089	$ 961
Product performance	13,582	10,785
	$ 14,671	$ 11,746

Changes in the product warranty and product performance liabilities were as follows (in thousands):

Balances at December 31, 2021	$	11,746
Accrued warranty, net		3,229
Warranty expenditures during the year-to-date period		(304)
Balances at March 31, 2022	$	14,671

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Compensation and benefits	$ 24,099	$ 38,222
Current portion of derivative liabilities	3,654	6,059
Sales-related liabilities	5,523	6,040
Accrued installation	5,094	13,968
Sales tax liabilities	1,176	1,491
Interest payable	719	2,159
Other	51,905	46,198
	$ 92,170	$ 114,138

Other Long-Term Liabilities

Other long-term liabilities consist of the following (in thousands):

	March 31, 2022	December 31, 2021
Delaware grant	$ 9,495	$ 9,495
Other	8,861	7,277
	$ 18,356	$ 16,772

We recorded a long-term liability for the potential future repayment of the incentive grant received from the Delaware Economic Development Authority of $9.5 million and $9.5 million as of March 31, 2022 and December 31, 2021, respectively. See Note 13 - *Commitments and Contingencies* for a full description of the grant.

7. Outstanding Loans and Security Agreements

The following is a summary of our debt as of March 31, 2022 (in thousands, except percentage data):

	Unpaid Principal Balance	Net Carrying Value			Interest Rate	Maturity Dates	Entity	Recourse
		Current	Long-Term	Total				
10.25% Senior Secured Notes due March 2027	$ 70,000	$ 12,355	$ 56,701	$ 69,056	10.25%	March 2027	Company	Yes
2.5% Green Convertible Senior Notes due August 2025	230,000	—	223,355	223,355	2.5%	August 2025	Company	Yes
Total recourse debt	300,000	12,355	280,056	292,411				
3.04% Senior Secured Notes due June 30, 2031	131,830	9,404	120,506	129,910	3.04%	June 2031	PPA V	No
7.5% Term Loan due September 2028	30,213	3,653	24,645	28,298	7.5%	September 2028	PPA IIIa	No
6.07% Senior Secured Notes due March 2030	72,852	4,879	67,314	72,193	6.07%	March 2030	PPA IV	No
Total non-recourse debt	234,895	17,936	212,465	230,401				
Total debt	$ 534,895	$ 30,291	$ 492,521	$ 522,812				

The following is a summary of our debt as of December 31, 2021 (in thousands, except percentage data):

	Unpaid Principal Balance	Net Carrying Value			Interest Rate	Maturity Dates	Entity	Recourse
		Current	Long-Term	Total				
10.25% Senior Secured Notes due March 2027	$ 70,000	$ 8,348	$ 60,620	$ 68,968	10.25%	March 2027	Company	Yes
2.5% Green Convertible Senior Notes due August 2025	230,000	—	222,863	222,863	2.5%	August 2025	Company	Yes
Total recourse debt	300,000	8,348	283,483	291,831				
3.04% Senior Secured Notes due June 30, 2031	134,644	9,376	123,255	132,631	3.04%	June 2031	PPA V	No
7.5% Term Loan due September 2028	31,070	3,436	25,570	29,006	7.5%	September 2028	PPA IIIa	No
6.07% Senior Secured Notes due March 2030	73,955	4,671	68,591	73,262	6.07%	March 2030	PPA IV	No
Total non-recourse debt	239,669	17,483	217,416	234,899				
Total debt	$ 539,669	$ 25,831	$ 500,899	$ 526,730				

Recourse debt refers to debt that we have an obligation to pay. Non-recourse debt refers to debt that is recourse to only our subsidiaries. The differences between the unpaid principal balances and the net carrying values apply to deferred financing costs. We and all of our subsidiaries were in compliance with all financial covenants as of March 31, 2022 and December 31, 2021.

Recourse Debt Facilities

10.25% Senior Secured Notes due March 2027 - On May 1, 2020, we issued $70.0 million of 10.25% Senior Secured Notes in a private placement ("10.25% Senior Secured Notes"). The 10.25% Senior Secured Notes are governed by an indenture (the “Senior Secured Notes Indenture”) entered into among us, the guarantor party thereto and U.S. Bank National Association, in its capacity as trustee and collateral agent. The 10.25% Senior Secured Notes are secured by certain of our operations and maintenance agreements that previously were part of the security for the 6% Convertible Notes. The 10.25% Senior Secured Notes are supported by a $70.0 million indenture between us and U.S. Bank National Association.

Interest on the 10.25% Senior Secured Notes is payable quarterly, commencing June 30, 2020. The 10.25% Senior Secured Notes Indenture contains customary events of default and covenants relating to, among other things, the incurrence of new debt, affiliate transactions, liens and restricted payments. On or after March 27, 2022, we may redeem all of the 10.25% Senior Secured Notes at a price equal to 108% of the principal amount of the 10.25% Senior Secured Notes plus accrued and

unpaid interest, with such optional redemption prices decreasing to 104% on and after March 27, 2023, 102% on and after March 27, 2024 and 100% on and after March 27, 2026. Before March 27, 2022, we may redeem the 10.25% Senior Secured Notes upon repayment of a make-whole premium. If we experience a change of control, we must offer to purchase for cash all or any part of each holder's 10.25% Senior Secured Notes at a purchase price equal to 101% of the principal amount of the 10.25% Senior Secured Notes, plus accrued and unpaid interest. The non-current balance of the outstanding unpaid principal of the 10.25% Senior Secured Notes was $57.6 million as of March 31, 2022. The current balance of the outstanding unpaid principal of the 10.25% Senior Secured Notes was $12.4 million as of March 31, 2022.

2.5% Green Convertible Senior Notes due August 2025 - In August 2020, we issued $230.0 million aggregate principal amount of our 2.5% Green Convertible Senior Notes due August 2025 (the "Green Notes"), unless earlier repurchased, redeemed or converted. The principal amount of the Green Notes are $230.0 million, less initial purchaser's discount of $6.9 million and other issuance costs of $3.0 million resulting in net proceeds of $220.1 million.

The Green Notes are senior, unsecured obligations accruing interest at a rate of 2.5% per annum, payable semi-annually in arrears on February 15 and August 15 of each year, beginning on February 15, 2021.

We may not redeem the Green Notes prior to August 21, 2023. We may elect to redeem, at face value, all or any portion of the Green Notes at any time on or after August 21, 2023 and on or before the twenty-sixth trading day immediately before the maturity date, provided certain conditions are met.

Before May 15, 2025, the noteholders have the right to convert their Green Notes only upon the occurrence of certain events, including a conversion upon satisfaction of a condition relating to the closing price of our common stock ("the Closing Price Condition"). If the Closing Price Condition is met on at least 20 of the last 30 consecutive trading days in any quarter, the noteholders may convert their Green Notes at any time during the immediately following quarter. The Closing Price Condition was not met during the three months ended September 30, 2021 and accordingly, the noteholders may not convert their Green Notes at any time during the quarter ending December 31, 2021. From and after May 15, 2025, the noteholders may convert their Green Notes at any time at their election until the close of business on the second trading day immediately before the maturity date. Should the noteholders elect to convert their Green Notes, we may elect to settle the conversion by paying or delivering, as applicable, cash, shares of our Class A common stock or a combination thereof.

The initial conversion rate is 61.6808 shares of Class A common stock per $1,000 principal amount of notes, which represents an initial conversion price of approximately $16.21 per share of Class A common stock. The conversion rate and conversion price are subject to customary adjustments upon the occurrence of certain events. In addition, if certain corporate events that constitute a "Make-Whole Fundamental Change" as defined occur, the conversion rate will, in certain circumstances, be increased for a specified period of time.

We adopted ASU 2020-06 as of January 1, 2021 using the modified retrospective transition method. Upon adoption, we combined the previously separated equity component of the Green Notes with the liability component, which is now together classified as debt, thereby eliminating the subsequent amortization of the debt discount as interest expense. Similarly, the portion of issuance costs previously allocated to equity was reclassified to debt and amortized as interest expense. Accordingly, we recorded a net decrease to accumulated deficit of $5.3 million, a decrease to additional paid-in capital of $126.8 million, and an increase to recourse debt, non-current, of approximately $121.5 million upon adoption as of January 1, 2021.

Interest on the Green Notes for the three months ended March 31, 2022 was $1.9 million, including amortization of issuance costs of $0.5 million.

Non-recourse Debt Facilities

3.04% Senior Secured Notes due June 2031 - In November 2021, PPA V issued senior secured notes in an aggregate principal amount of $136.0 million due June 2031. The note bears a fixed rate of 3.04% per annum payable quarterly. The proceeds from the 3.04% Senior Secured Notes due June 2031 were utilized to (i) repay all obligations of the existing LIBOR + 2.5% Term Loan due December 2021, including an outstanding principal balance of $109.1 million, accrued interest of $0.1 million, and fees required to terminate associated interest rate swaps of $11.5 million, (ii) pay the required premium for the PPA V production insurance of $6.5 million, (iii) and pay related fees and expenses related to the refinancing totaling $2.1 million, resulting in a net cash flow of $6.7 million. The note purchase agreement requires us to maintain a debt service reserve, the balance of which was $8.0 million as of March 31, 2022, which was included as part of long-term restricted cash in the condensed consolidated balance sheets. The loan is secured by all assets of PPA V.

7.5% Term Loan due September 2028 - In December 2012 and later amended in August 2013, PPA IIIa entered into a $46.8 million credit agreement to fund the purchase and installation of our Energy Servers. The loan bears a fixed interest rate of 7.5% payable quarterly. The loan requires quarterly principal payments, which began in March 2014. The credit agreement requires us to maintain a debt service reserve for all funded systems, the balance of which was $3.6 million and $3.6 million as of March 31, 2022 and December 31, 2021, respectively, which was included as part of long-term restricted cash in the condensed consolidated balance sheets. The loan is secured by all assets of PPA IIIa.

6.07% Senior Secured Notes due March 2030 - The notes bear a fixed interest rate of 6.07% per annum payable quarterly, which began in December 2015 and ends in March 2030. The note purchase agreement requires us to maintain a debt service reserve, the balance of which was $9.2 million and $9.1 million as of March 31, 2022 and December 31, 2021, respectively, which was included as part of long-term restricted cash in the condensed consolidated balance sheets. The notes are secured by all the assets of the PPA IV.

Repayment Schedule and Interest Expense

The following table presents details of our outstanding loan principal repayment schedule as of March 31, 2022 (in thousands):

Remainder of 2022	$	21,195
2023		32,430
2024		36,369
2025		270,613
2026		44,870
Thereafter		129,418
	$	534,895

Interest expense of $14.1 million and $14.7 million for the three months ended March 31, 2022 and 2021, respectively, was recorded in interest expense on the condensed consolidated statements of operations.

8. Derivative Financial Instruments

Option to Acquire a Variable Number of Shares of Class A Common Stock (Note 18)

In December 2021, we provided SK ecoplant with an option to acquire a variable number of shares of Class A Common Stock (the "Option"). We concluded that the Option is a freestanding financial instrument that should be separately recorded at fair value on the date the SPA was executed. We determined the fair value of the Option on that date to be $9.6 million. We revalued the Option to its fair value of $13.2 million as of December 31, 2021, and $16.2 million as of March 31, 2022. We recorded a loss of $3.0 million in other income (expense), net in our condensed consolidated statements of operations. The fair value of the Option is reflected in accrued expenses and other current liabilities in our condensed consolidated balance sheet. For additional information, see Note 18 - *SK ecoplant Strategic Investment.*

Interest Rate Swaps

We use various financial instruments to minimize the impact of variable market conditions on our results of operations. We use interest rate swaps to minimize the impact of fluctuations of interest rate changes on our outstanding debt where LIBOR is applied. We do not enter into derivative contracts for trading or speculative purposes. In July 2015, PPA V entered into interest rate swap agreements to convert a variable interest rate debt to a fixed rate. During 2021, the variable rate debts were refinanced into fixed rate debt and the notational amount as the swaps were settled.

Cash Flow Hedges

As of December 31, 2021, we had settled our derivative contracts designated as cash flow hedges. The changes in fair value of the derivative contracts designated as cash flow hedges and the amounts recognized in accumulated other comprehensive loss and in earnings were as follows during the three months ended March 31, 2021 (in thousands):

	Three Months Ended March 31,	
	2022	2021
Beginning balance	$ —	$ 15,989
Loss (gain) recognized in other comprehensive loss	—	(4,164)
Amounts reclassified from other comprehensive loss to earnings	—	(489)
Net loss (gain) recognized in other comprehensive loss	—	(4,653)
Gain recognized in earnings	—	(35)
Ending balance	$ —	$ 11,301

Embedded EPP Derivatives in Sales Contracts

We estimate the fair value of the embedded EPP derivatives in certain of the contracts with our customers using a Monte Carlo simulation model, which considers various potential electricity price forward curves over the sales contracts' terms. We use historical grid prices and available forecasts of future electricity prices to estimate future electricity prices. The grid pricing EPP guarantees that we provided in some of our sales arrangements represent an embedded derivative, with the initial value accounted for as a reduction in product revenue and any changes, reevaluated quarterly, in the fair market value of the derivative recorded in gain (loss) on revaluation of embedded derivatives. For the three months ended March 31, 2022 and 2021, we recorded the fair value of the embedded EPP derivatives and recognized an unrealized gain of $0.5 million and an unrealized loss of $0.5 million, respectively. These gains and losses are included within loss on revaluation of embedded derivatives in the condensed consolidated statements of operations. The fair value of these derivatives was $5.9 million and $6.0 million as of March 31, 2022 and 2021, respectively.

9. Leases

Facilities, Energy Servers, and Vehicles

Most of our leases are facilities, Energy Servers, and vehicles under operating and finance leases that expire at various dates through February 2036. We lease various manufacturing facilities in California and Delaware. Our Sunnyvale, California manufacturing facility lease was entered into in April 2005 and expires in December 2023. In June 2020 and in March 2021, we signed leases in Fremont, California that will expire in 2027 and 2036, respectively, to replace our manufacturing facilities in Sunnyvale and Mountain View, California. These existing plants in California together comprise over 500,000 square feet of space. In 2021, we extended the lease term for our headquarters in San Jose, California to 2031 and leased three additional floors. We lease additional office space as field offices in the United States and around the world including in China, India, Japan, the Republic of Korea, Taiwan, and the United Arab Emirates.

Some of these arrangements have free rent periods or escalating rent payment provisions. We recognize lease cost under such arrangements on a straight-line basis over the life of the leases. For the three months ended March 31, 2022 and 2021, rent expense for all occupied facilities was $4.5 million and $3.1 million, respectively.

At inception of the contract, we assess whether a contract is a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Lease classification, measurement, and recognition are determined at lease commencement, which is the date the underlying asset is available for use by us. The accounting classification of a lease is based on whether the arrangement is effectively a financed purchase of the underlying asset (finance lease) or not (operating lease). Our operating leases are comprised primarily of leases for facilities, office buildings, and vehicles, and our finance leases are comprised primarily of vehicles.

Our leases have lease terms ranging from less than 1 year to 14 years, some of which include options to extend the leases. The lease term is the non-cancelable period of the lease and includes options to extend the lease when it is reasonably certain that an option will be exercised.

Lease liabilities are measured at the lease commencement date as the present value of future lease payments. Lease right-of-use assets are measured as the lease liability plus initial direct costs and prepaid lease payments less lease incentives. In measuring the present value of the future lease payments, the discount rate for the lease is the rate implicit in the lease unless that rate cannot be readily determined. In that case, the lessee is required to use its incremental borrowing rate. In computing our lease liabilities, we use the incremental borrowing rate based on the information available on the commencement date using an estimate of company-specific rate in the United States on a collateralized basis and consistent with the lease term for each lease. The lease term is the non-cancelable period of the lease and includes options to extend or terminate the lease when it is reasonably certain that an option will be exercised.

Operating and finance lease right-of-use assets and lease liabilities for facilities, Energy Servers, and vehicles as of March 31, 2022 and December 31, 2021 were as follows (in thousands):

	March 31, 2022	December 31, 2021
Assets:		
Operating lease right-of-use assets, net [1, 2]	$ 98,119	$ 106,660
Finance lease right-of-use assets, net [2, 3, 4]	2,686	2,944
Total	$ 100,805	$ 109,604
Liabilities:		
Current:		
Operating lease liabilities	$ 11,598	$ 13,101
Finance lease liabilities [5]	880	863
Total current lease liabilities	12,478	13,964
Non-current:		
Operating lease liabilities	105,656	106,187
Finance lease liabilities [6]	1,937	2,157
Total non-current lease liabilities	107,593	108,344
Total lease liabilities	$ 120,071	$ 122,308

[1] These assets primarily include leases for facilities, Energy Servers, and vehicles.

[2] Net of accumulated amortization.

[3] These assets primarily include leases for vehicles.

[4] Included in property, plant and equipment, net, in the condensed consolidated balance sheets, net of accumulated amortization.

[5] Included in accrued expenses and other current liabilities in the condensed consolidated balance sheets.

[6] Included in other long-term liabilities in the condensed consolidated balance sheets.

The components of our facilities, Energy Servers, and vehicles' lease costs for the years ended March 31, 2022 and 2021 were as follows (in thousands):

	Three Months Ended March 31,	
	2022	2021
Operating lease costs	$ 5,818	$ 3,018
Finance lease costs:		
Amortization of finance lease right-of-use assets	258	708
Interest expense for finance lease liabilities	54	199
Total finance lease costs	312	907
Short-term lease costs	36	168
Total lease costs	$ 6,166	$ 4,093

Weighted average remaining lease terms and discount rates for our facilities, Energy Servers and vehicles as of March 31, 2022 and December 31, 2021 were as follows:

	March 31, 2022	December 31, 2021
Remaining lease term (years):		
Operating leases	8.7 years	8.9 years
Finance leases	3.3 years	3.5 years
Discount rate:		
Operating leases	9.7 %	9.6 %
Finance leases	7.6 %	7.6 %

Future lease payments under lease agreements for our facilities, Energy Servers and vehicles as of March 31, 2022 were as follows (in thousands):

	Operating Leases	Finance Leases
Remainder of 2022	$ 13,357	$ 725
2023	19,971	935
2024	18,096	771
2025	18,320	301
2026	17,901	97
Thereafter	76,472	—
Total minimum lease payments	164,117	2,829
Less: amounts representing interest or imputed interest	(46,863)	(12)
Present value of lease liabilities	$ 117,254	$ 2,817

Managed Services and Portfolio Financings Through PPA Entities

Certain of our customers enter into Managed Services or Portfolio Financings through a PPA Entity to finance their lease of Bloom Energy Servers. Prior to our adoption of ASC 842 as of January 1, 2020, such arrangements with customers that qualified as leases were classified as either sales-type leases or operating leases. For all pre-existing Managed Services Financings or Portfolio Financings through PPA Entities, we have carried over the accounting classifications for those transactions and continue to account for such transactions as either sales-type leases or operating leases under ASC 842. Customer arrangements under Managed Services and Portfolio Financings through PPA Entities entered into after January 1, 2021 do not contain a lease under ASC 842 and are accounted for under ASC 606 as revenue arrangements.

Lease agreements under our Managed Services Financings and Portfolio Financings through PPA Entities include non-cancellable lease terms, during which terms the majority of our investment in Energy Servers under lease are typically recovered. We mitigate remaining residual value risk of its Energy Servers through its provision of maintenance on the Energy Servers during the lease term and through insurance whose proceeds are payable in the event of theft, loss, damage, or destruction.

Managed Services - Our Managed Services Financings with financiers that result in failed sale-and-leaseback transactions are accounted for as financing transactions. Payments received from the financier are recognized as financing obligations in our condensed consolidated balance sheets. Proceeds from the financiers in excess of fair value of Energy Servers under successful sale-and-leaseback transactions are also accounted for as a financing liability. These financing obligations are included in each agreements' contract value and are recognized as short-term or long-term liabilities based on the estimated payment dates. The lease agreements expire on various dates through 2034. For successful sale-and-leaseback transactions, we recorded right-of-use assets and lease liabilities and recorded lease expense over the lease term. The recognized lease expense has been immaterial.

At March 31, 2022, future lease payments under the Managed Services Agreements financing obligations and the sublease payments from the customers under the related operating leases were as follows (in thousands):

	Financing Obligations
Remainder of 2022	$ 32,518
2023	44,173
2024	42,100
2025	41,075
2026	36,477
Thereafter	55,780
Total lease payments	252,123
Less: imputed interest	(142,181)
Total lease financing obligations	109,942
Less: current financing obligations	(15,172)
Long-term lease financing obligations	$ 94,770

The long-term financing obligations, as reflected in our condensed consolidated balance sheets, were $452.2 million and $461.9 million as of March 31, 2022 and December 31, 2021, respectively. The difference between these obligations and the principal obligations in the table above will be offset against the carrying value of the related Energy Servers at the end of the lease and the remainder recognized as a gain at that point.

Portfolio Financings through PPA Entities - Customer arrangements entered into prior to January 1, 2020 under Portfolio Financing arrangements through a PPA Entity that qualified as leases are accounted for as either sales-type leases or operating leases. Since January 1, 2020, we have not entered into any new PPAs with customers under such arrangements.

The components of our aggregate net investment in sales-type leases under our Portfolio Financings through PPA entities consisted of the following (in thousands):

	March 31, 2022	December 31, 2021
Lease payment receivables, net[1]	$ 42,990	$ 44,378
Estimated residual value of leased assets (unguaranteed)	890	890
Net investment in sales-type leases	43,880	45,268
Less: current portion	(5,875)	(5,784)
Non-current portion of net investment in sales-type leases	$ 38,005	$ 39,484

[1] Net of current estimated credit losses of approximately $0.1 million as of March 31, 2022 and December 31, 2021.

As of March 31, 2022, the future scheduled customer payments from sales-type leases were as follows (in thousands):

	Future Minimum Lease Payments
Remainder of 2022	$ 4,636
2023	6,435
2024	6,797
2025	7,125
2026	7,491
Thereafter	11,690
Total undiscounted cash flows	44,174
Less: imputed interest	(1,133)
Present value of lease payments[1]	$ 43,041

[1] Amount comprises a current and long-term portion of lease receivables of $5.9 million and $38.0 million, respectively, after giving effect to a $0.1 million current expected credit loss reserve on the long-term portion, which is reflected as a component of the net investment in sales-type leases presented in our condensed consolidated statement of financial position as customer financing receivables.

Future estimated operating lease payments we expect to receive from Portfolio Financing arrangements through PPA Entities as of March 31, 2022, were as follows (in thousands):

	Operating Leases
Remainder of 2022	$ 32,305
2023	44,570
2024	46,373
2025	47,435
2026	48,610
Thereafter	215,029
Total lease payments	$ 434,322

10. Stock-Based Compensation Expense and Employee Benefit Plans

Stock-Based Compensation Expense

The following table summarizes the components of stock-based compensation expense in the condensed consolidated statements of operations (in thousands):

	Three Months Ended March 31,	
	2022	2021
Cost of revenue	$ 3,860	$ 2,999
Research and development	7,082	4,908
Sales and marketing	4,775	4,085
General and administrative	10,591	5,218
	$ 26,308	$ 17,210

Stock Option and Stock Award Activity

The following table summarizes the stock option activity under our stock plans during the reporting period:

	Outstanding Options			
	Number of Shares	Weighted Average Exercise Price	Remaining Contractual Life (Years)	Aggregate Intrinsic Value
				(in thousands)
Balances at December 31, 2021	10,737,295	$ 21.23	5.2	$ 60,304
Exercised	(149,662)			
Cancelled	(188,289)			
Balances at March 31, 2022	10,399,344	21.31	5.0	67,413
Vested and expected to vest at March 31, 2022	10,322,713	21.40	5.0	66,271
Exercisable at March 31, 2022	8,841,572	23.30	4.7	45,009

Stock Options - During the three months ended March 31, 2022 and 2021, we recognized $2.1 million and $4.0 million of stock-based compensation expense for stock options, respectively. We did not grant options in the three months ended March 31, 2022.

As of March 31, 2022 and 2021, we had unrecognized compensation expense related to unvested stock options of $4.4 million and $16.8 million, respectively. This expense is expected to be recognized over the remaining weighted-average period of 0.6 years and 1.6 years, respectively. Cash received from stock options exercised totaled $1.0 million and $53.2 million for the three months ended March 31, 2022 and 2021, respectively.

A summary of our stock awards activity and related information is as follows:

	Number of Awards Outstanding	Weighted Average Grant Date Fair Value
Unvested Balance at December 31, 2021	8,367,664	$ 20.52
Granted	3,841,604	19.82
Vested	(964,937)	15.95
Forfeited	(89,251)	18.53
Unvested Balance at March 31, 2022	11,155,080	20.07

Stock Awards - The estimated fair value of restricted stock units ("RSUs") and performance stock units ("PSUs") is based on the fair value of our Class A common stock on the date of grant. For the three months ended March 31, 2022 and 2021, we recognized $21.0 million and $10.7 million of stock-based compensation expense for stock awards, respectively.

As of March 31, 2022 and 2021, we had $192.2 million and $126.2 million of unrecognized stock-based compensation expense related to unvested stock awards, expected to be recognized over a weighted average period of 2.4 years and 2.4 years, respectively.

The following table presents the stock activity for the three months ended March 31, 2022 and the total number of shares available for grant under our stock plans as of March 31, 2022:

	Plan Shares Available for Grant
Balances at December 31, 2021	24,146,784
Added to plan	8,384,460
Granted	(3,972,652)
Cancelled	261,572
Expired	(161,292)
Balances at March 31, 2022	28,658,872

2018 Employee Stock Purchase Plan

During the three months ended March 31, 2022 and 2021, we recognized $2.5 million and $1.1 million of stock-based compensation expense for the 2018 Employee Stock Purchase Plan, respectively. We issued 420,689 shares in the three months ended March 31, 2022. During the three months ended March 31, 2022, we added an additional 2,055,792 shares and there were 4,179,771 shares available for issuance as of March 31, 2022. We issued 977,508 shares in the three months ended March 31, 2021.

As of March 31, 2022 and 2021, we had $9.1 million and $1.2 million of unrecognized stock-based compensation expense, expected to be recognized over a weighted average period of 1.1 years and 0.5 years, respectively.

11. Portfolio Financings

Overview

We have developed various financing options that enable customers' use of the Energy Servers through third-party ownership financing arrangements. For additional information on these financing options, see our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

On March 31, 2022, we entered into a Membership Interest Purchase Agreement where we bought out the equity interest of the third-party investor, wherein the PPA IIIa Investment Company and Operating Company ("PPA IIIa") became wholly-owned by us and no longer met the definition of a VIE. We therefore consolidate PPA IIIa in our condensed consolidated financial statements commencing March 31, 2022.

PPA Entities' Aggregate Assets and Liabilities

Generally, the assets of an operating company owned by an investment company can be used to settle only the operating company obligations, and the operating company creditors do not have recourse to us. The following are the aggregate carrying values of our VIEs' assets and liabilities in our condensed consolidated balance sheets, after eliminations of intercompany transactions and balances, including as of March 31, 2022 each of the PPA Entities in the PPA IV transaction and the PPA V transaction, and as of December 31, 2021 each of the PPA Entities in the PPA IIIa transaction, the PPA IV transaction and the PPA V transaction (in thousands):

	March 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 1,704	$ 1,541
Restricted cash	1,710	3,078
Accounts receivable	3,611	5,112
Customer financing receivable	—	5,784
Prepaid expenses and other current assets	1,682	3,071
Total current assets	8,707	18,586
Property and equipment, net	219,791	228,546
Customer financing receivable, non-current	—	39,484
Restricted cash, non-current	17,196	23,239
Other long-term assets	2,239	2,362
Total assets	$ 247,933	$ 312,217
Liabilities		
Current liabilities:		
Accrued expenses and other current liabilities	$ 96	$ 194
Deferred revenue and customer deposits	662	662
Non-recourse debt	14,283	17,483
Total current liabilities	15,041	18,339
Deferred revenue and customer deposits, non-current	5,247	5,410
Non-recourse debt, non-current	187,819	217,417
Total liabilities	$ 208,107	$ 241,166

We consolidated each PPA Entity as VIEs in the PPA IV transaction and the PPA V transaction, as we remain the minority shareholder in each of these transactions but have determined that we are the primary beneficiary of these VIEs. These PPA Entities contain debt that is non-recourse to us and own Energy Server assets for which we do not have title.

12. Related Party Transactions

Our operations include the following related party transactions (in thousands):

	Three Months Ended March 31,	
	2022	2021
Total revenue from related parties	$ 7,466	$ 770

Bloom Energy Japan Limited

In May 2013, we entered into a joint venture with Softbank Corp. ("Softbank"), which was accounted for as an equity method investment. Under this arrangement, we sold Energy Servers and provided maintenance services to the joint venture. On July 1, 2021 (the "BEJ Closing Date"), we acquired Softbank's 50% interest in the joint venture for a cash payment of $2.0 million. As of the BEJ Closing Date, Bloom Energy Japan Limited ("Bloom Energy Japan") is no longer considered a related party. For additional information, see Note 17 - *Business Combinations*.

For the three months ended March 31, 2022 we had no related party revenue and as of March 31, 2021, we recognized related party total revenue of $0.8 million, respectively.

SK ecoplant Joint Venture and Strategic Partnership

In September 2019, we entered into a joint venture agreement with SK ecoplant to establish a light-assembly facility in the Republic of Korea for sales of certain portions of our Energy Server for the stationary utility and commercial and industrial market in the Republic of Korea. The joint venture is majority controlled and managed by us and is accounted for as a consolidated subsidiary. On October 23, 2021, we expanded our existing relationship with SK ecoplant. In connection with the execution of the strategic partnership, we entered into a Securities Purchase Agreement pursuant to which we agreed to sell and issue to SK ecoplant 10,000,000 shares of Series A Redeemable Convertible Preferred Stock. In addition, SK ecoplant acquired an option to acquire a variable number of shares of our Class A Common Stock and acquired certain rights and provisions relating to the arrangement under this strategic partnership. For additional information, see Note 18 - *SK ecoplant Strategic Investment.*

For the three months ended March 31, 2022 and 2021, we recognized related party revenue of $7.5 million and none, respectively. As of March 31, 2022, we had $3.9 million outstanding accounts receivable.

13. Commitments and Contingencies

Commitments

Purchase Commitments with Suppliers and Contract Manufacturers - As of March 31, 2022 and December 31, 2021, we had no material open purchase orders with our component suppliers and third-party manufacturers that are not cancellable.

Portfolio Financings Performance Guarantees - We guarantee the performance of Energy Servers at certain levels of output and efficiency to customers over the contractual term. We paid $0.2 million and $0.1 million for the three months ended March 31, 2022 and 2021, respectively.

Letters of Credit - In 2019, pursuant to the PPA II upgrade of Energy Servers, we agreed to indemnify our financing partner for losses that may be incurred in the event of certain regulatory, legal or legislative development and established a cash-collateralized letter of credit facility for this purpose. As of March 31, 2022, the balance of this cash-collateralized letter of credit was $91.6 million, of which $41.2 million and $50.4 million is recognized as short-term and long-term restricted cash, respectively.

Pledged Funds - In 2019, pursuant to the PPA IIIb refinancing and energy servers upgrade program, we pledged $20.0 million for a seven-year period to secure our operations and maintenance obligations with respect to the totality of our obligations to the financier. We categorized the $20.0 million as restricted cash on our condensed consolidated balance sheet. It was agreed all or a portion of such funds would be released if we meet certain credit rating and/or market capitalization milestones prior to the end of the pledge period. If we do not meet the required criteria within the first five-year period, the

funds would still be released to us over the following two years as long as the energy servers continue to perform in compliance with our warranty obligations. As of March 31, 2022, the balance of the long-term restricted cash was $6.7 million.

Contingencies

Indemnification Agreements - We enter into standard indemnification agreements with our customers and certain other business partners in the ordinary course of business. Our exposure under these agreements is unknown because it involves future claims that may be made against us but have not yet been made. To date, we have not paid any claims or been required to defend any action related to our indemnification obligations. However, we may record charges in the future as a result of these indemnification obligations.

Contingent Consideration - Our acquisition of Softbank's 50% interest in Bloom Energy Japan included a contingent consideration related to a potential sale of Energy Servers of up to 10.5 megawatts of aggregate baseload. The consideration can be earned on or before the two year anniversary of the BEJ Closing Date. For a further discussion of our acquisition of Softbank's interest in the joint venture, please see Note 17 - *Business Combinations.*

Delaware Economic Development Authority - In March 2012, we entered into an agreement with the Delaware Economic Development Authority to provide a grant of $16.5 million to us as an incentive to establish a new manufacturing facility in Delaware and to provide employment for full time workers at the facility over a certain period of time. As of March 31, 2022, we have recorded $9.5 million in other long-term liabilities for potential future repayments of this grant.

Investment Tax Credits - Our Energy Servers are eligible for federal ITCs that accrued to qualified property under Internal Revenue Code Section 48 when placed into service. However, the ITC program has operational criteria that extend for five years. If the energy property is disposed of or otherwise ceases to be qualified investment credit property before the close of the five-year recapture period is fulfilled, it could result in a partial reduction of the incentives. Energy Servers are purchased by the PPA Entities, other financial sponsors, or customers and, therefore, these parties bear the risk of repayment if the assets placed in service do not meet the ITC operational criteria in the future although in certain limited circumstances we do provide indemnification for such risk.

Legal Matters - We are involved in various legal proceedings that arise in the ordinary course of business. We review all legal matters at least quarterly and assess whether an accrual for loss contingencies needs to be recorded. We record an accrual for loss contingencies when management believes that it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Legal matters are subject to uncertainties and are inherently unpredictable, so the actual liability in any such matters may be materially different from our estimates. If an unfavorable resolution were to occur, there exists the possibility of a material adverse impact on our consolidated financial condition, results of operations or cash flows for the period in which the resolution occurs or on future periods.

In July 2018, two former executives of Advanced Equities, Inc., Keith Daubenspeck and Dwight Badger, filed a statement of claim with the American Arbitration Association in Santa Clara, CA, against us, Kleiner Perkins, Caufield & Byers, LLC (“KPCB”), New Enterprise Associates, LLC (“NEA”) and affiliated entities of both KPCB and NEA seeking to compel arbitration and alleging a breach of a confidential agreement executed between the parties on June 27, 2014 (the “Confidential Agreement”). On May 7, 2019, KPCB and NEA were dismissed with prejudice. On June 15, 2019, a second amended statement of claim was filed against us alleging securities fraud, fraudulent inducement, a breach of the Confidential Agreement, and violation of the California unfair competition law. On July 16, 2019, we filed our answering statement and affirmative defenses. On September 27, 2019, we filed a motion to dismiss the statement of claim. On March 24, 2020, the Tribunal denied our motion to dismiss in part, and ordered that claimant’s relief is limited to rescission of the Confidential Agreement or remedies consistent with rescission, and not expectation damages. On September 14, 2020, the Tribunal issued an interim order dismissing the claimant’s remaining claims and requesting further briefing on the issue of prevailing party. On November 10, 2020, the Tribunal issued an order declaring us the prevailing party and requesting a motion for award of attorney’s fees. On March 17, 2021, we received the final award for attorneys fees and costs. On March 26, 2021, we filed a petition in the Northern District of California to confirm the award. Messrs. Badger and Daubenspeck have taken the position that the award should be vacated, including on the ground that one of the arbitrators made insufficient disclosures or was biased against them. The Northern District of California rejected the arguments made by Messrs. Badger and Daubenspeck and on September 8, 2021, issued an order granting our petition to confirm the award, and entered judgment in our favor for the attorneys fees and costs awarded by the Tribunal. On October 1, 2021, Mr. Badger and Mr. Daubenspeck filed a notice of appeal with the United States Court of Appeal for the Ninth Circuit.

In June 2019, Messrs. Daubenspeck and Badger filed a complaint against our Chief Executive Officer ("CEO") and our former Chief Financial Officer ("CFO") in the United States District Court for the Northern District of Illinois asserting nearly

identical claims as those in the pending arbitration discussed above. The lawsuit was stayed pending the outcome of the arbitration. The stay was lifted on October 20, 2020. On March 19, 2021 we filed a motion to dismiss the case on several grounds. On May 3, 2021, plaintiffs filed a motion to stay the lawsuit pending the outcome of the petition to confirm the arbitration award in the Northern District of California. We believe the complaint to be without merit and that the issues were previously tried and dismissed in the arbitration. We are unable to estimate any range of reasonably possible losses.

In March 2019, the Lincolnshire Police Pension Fund filed a class action complaint in the Superior Court of the State of California, County of Santa Clara, against us, certain members of our senior management, certain of our directors and the underwriters in our July 25, 2018 IPO alleging violations under Sections 11 and 15 of the Securities Act of 1933, as amended (the "Securities Act"), for alleged misleading statements or omissions in our Registration Statement on Form S-1 filed with the SEC in connection with the IPO. Two related class action cases were subsequently filed in the Santa Clara County Superior Court against the same defendants containing the same allegations; Rodriquez vs Bloom Energy et al. was filed on April 22, 2019 and Evans vs Bloom Energy et al. was filed on May 7, 2019. These cases have been consolidated. Plaintiffs' consolidated amended complaint was filed with the court on September 12, 2019. On October 4, 2019, defendants moved to stay the lawsuit pending the federal district court action discussed below. On December 7, 2019, the Superior Court issued an order staying the action through resolution of the parallel federal litigation mentioned below. We believe the complaint to be without merit and we intend to defend this action vigorously. We are unable to estimate any range of reasonably possible losses.

In May 2019, Elissa Roberts filed a class action complaint in the federal district court for the Northern District of California against us, certain members of our senior management team, and certain of our directors alleging violations under Section 11 and 15 of the Securities Act for alleged misleading statements or omissions in our Registration Statement on Form S-1 filed with the SEC in connection with the IPO. On September 3, 2019, the court appointed a lead plaintiff and lead plaintiffs’ counsel. On November 4, 2019, plaintiffs filed an amended complaint adding the underwriters in the IPO and our auditor as defendants for the Section 11 claim, as well as adding claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") against us, and certain members of our senior management team. The amended complaint alleged a class period for all claims from the time of our IPO until September 16, 2019. On April 21, 2020, plaintiffs filed a second amended complaint, which continued to make the same claims and added allegations pertaining to the restatement and, as to claims under the Exchange Act, extended the putative class period through February 12, 2020. On July 1, 2020, we and the other defendants filed a motion to dismiss the second amended complaint. On September 29, 2021, the court entered an order dismissing with leave to amend (1) five of seven statements or groups of statements alleged to violate Sections 11 and 15 of the Securities Act and (2) all allegations under the Exchange Act. All allegations against our auditors were also dismissed. Plaintiffs elected not to amend the complaint and instead on October 22, 2021 filed a motion for entry of final judgment in favor of our auditors so that plaintiffs could appeal the dismissal of those claims. The court denied that motion on December 1, 2021 and in response plaintiffs have filed a motion asking the court to certify an interlocutory appeal as to the accounting claims. The court denied plaintiff’s motion on April 14, 2022. Separately, the claims for violation of Sections 11 and 15 of the Securities Act that were not dismissed by the court are proceeding to discovery. A case schedule has been set, with a trial scheduled for November 2023. We believe the claims to be without merit and we intend to defend this action vigorously. We are unable to predict the outcome of this litigation at this time and accordingly are not able to estimate any range of reasonably possible losses.

In September 2019, we received a books and records demand from purported stockholder Dennis Jacob (“Jacob Demand”). The Jacob Demand cites

allegations from the September 17, 2019 report prepared by admitted short seller Hindenburg Research. In November 2019, we received a substantially similar books and records demand from the same law firm on behalf of purported stockholder Michael Bolouri ("Bolouri Demand" and, together with the Jacob Demand, the "Demands"). On January 13, 2020, Messrs. Jacob and Bolouri filed a complaint in the Delaware Court of Chancery to enforce the Demands in the matter styled *Jacob, et al. v. Bloom Energy Corp.*, C.A. No. 2020-0023-JRS. On March 9, 2020, Messrs. Jacob and Bolouri filed an amended complaint in the Delaware Court of Chancery to add allegations regarding the restatement. The court held a one-day trial on December 7, 2020. On February 25, 2021, the Delaware Court of Chancery issued a decision rejecting the Bolouri Demand but granting in part the Jacob Demand allowing limited access to certain books and records pertaining to the allegations made in the Hindenburg Research Report. On March 29, 2021, the Court of Chancery entered a Final Order and Judgment regarding the required production of documents. On April 28, 2021, we produced documents to Mr. Jacob responsive to the Final Order and Judgment. We are unable to estimate any range of reasonably possible losses.

In March 2020, Francisco Sanchez filed a class action complaint in Santa Clara County Superior Court against us alleging certain wage and hour violations under the California Labor Code and Industrial Welfare Commission Wage Orders and that we engaged in unfair business practices under the California Business and Professions Code, and in July 2020 he amended his complaint to add claims under the California Labor Code Private Attorneys General Act ("PAGA"). On November 30, 2020, we filed a motion to compel arbitration and the motion was to be heard on March 5, 2021. On February 24, 2021, Mr.

Sanchez dismissed the individual and class action claims without prejudice, leaving one cause of action for enforcement of the Private Attorney Generals Act. In April 2021, an amended complaint reflecting these changes was filed with the Santa Clara Superior Court. The parties attended a mediation on January 10, 2022, and agreed in principle to resolve the PAGA and individual claims for an amount under $1.0 million. After negotiation of the relevant terms, the parties executed a written agreement in late March 2022. The agreement will be presented by Plaintiff to the court for approval in compliance with PAGA.

In June 2021, we filed a petition for writ of mandate and a complaint for declaratory and injunctive relief in the Santa Clara Superior Court against the City of Santa Clara for failure to issue building permits for two of our customer installations and asking the court to require the City of Santa Clara to process and issue the building permits. In October 2021, we filed an amended petition and complaint that asserts additional constitutional and tort claims based on the City's failure to timely issue the Energy Server permits. Discovery has commenced and we are aggressively pursuing all claims. On February 4, 2022, the City of Santa Clara filed a Motion for Demurrer, which will be heard on May 19, 2022. If we are unable to secure building permits for these customer installations in a timely fashion, our customers will terminate their contracts with us and select another energy provider. In addition, if we are no longer able to install our Energy Servers in Santa Clara under building permits, we may not be able to secure future customer bookings for installation in the City of Santa Clara.

In February 2022, Plansee SE/Global Tungsten & Powders Corp. ("Plansee/GTP"), a former supplier, filed a request for expedited arbitration with the World Intellectual Property Organization Arbitration and Mediation Center in Geneva Switzerland, for various claims arising under a Supply Agreement between Plansee/GTP and Bloom Energy Corporation including infringement of several claims of U.S. Patent Nos. 8,802,328, 8,753,785 and 9,434,003. On April 3, 2022, we filed a complaint against Plansee/GTP in the Eastern District of Texas to address the dispute between Plansee/GTP and Bloom Energy Corporation in a proper forum before a U.S. Federal District Court. Our complaint seeks the correction of inventorship of U.S. Patent Nos. 8,802,328, 8,753,785 and 9,434,003 (the "Patents-in-Suit"); declaratory judgment of invalidity, unenforceability, and non-infringement of the Patents-in-Suit; and declaratory judgment of no misappropriation. Further, our complaint seeks to recover damages it has suffered in relation to Plansee/GTP's business dealings that, as alleged, constitute acts of unfair competition, tortious interference contract, breach of contract, violations of the Racketeer Influenced and Corrupt Organizations Act (RICO) and violations of the Clayton Antitrust Act. Given that the cases are still in their early stages, we are unable to predict the ultimate outcome of the arbitration and district court action at this time, and accordingly are not able to estimate a range of reasonably possible losses.

14. Segment Information

Our chief operating decision makers ("CODM"), the CEO and the CFO, review financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. The CODM allocate resources and make operational decisions based on direct involvement with our operations and product development efforts. We are managed under a functionally-based organizational structure with the head of each function reporting to the CEO. The CODM assess performance, including incentive compensation, based upon consolidated operations performance and financial results on a consolidated basis. As such, we have a single operating unit structure and are a single reporting segment.

15. Income Taxes

For the three months ended March 31, 2022 and 2021, we recorded provisions for income taxes of $0.6 million and $0.1 million on pre-tax losses of $82.2 million and $29.7 million for effective tax rates of (0.7)% and (0.4)%, respectively.

The effective tax rate for the three months ended March 31, 2022 and 2021 is lower than the statutory federal tax rate primarily due to a full valuation allowance against U.S. deferred tax assets.

16. Net Loss per Share Available to Common Stockholders

The following table sets forth the computation of our net loss per share available to common stockholders, basic and diluted (in thousands, except share and per share amounts):

	Three Months Ended March 31,	
	2022	2021
Numerator:		
Net loss available to Class A and Class B common stockholders	$ (78,359)	$ (24,889)
Denominator:		
Weighted average shares of common stock, basic and diluted	177,189	170,745
Net loss per share available to Class A and Class B common stockholders, basic and diluted	$ (0.44)	$ (0.15)

The following common stock equivalents (in thousands) were excluded from the computation of our net loss per share available to common stockholders, diluted, for the three months presented as their inclusion would have been antidilutive (in thousands):

	Three Months Ended March 31,	
	2022	2021
Convertible notes	14,187	14,187
Redeemable convertible preferred stock	11,000	—
Stock options and awards	4,949	8,625
	30,136	22,812

17. Business Combinations

On July 1, 2021, we acquired Softbank's 50% interest in Bloom Energy Japan, for an aggregate purchase price of $2.0 million, as set forth in the Share Purchase Agreement between the parties (the "Purchase Agreement"). After purchasing the remaining 50% interest in Bloom Energy Japan from Softbank, we own 100% of Bloom Energy Japan. The transaction was accounted for as a step acquisition, which required the re-measurement of our previously held 50% ownership interest in the joint venture to fair value and the acquired net assets became part of our operations upon closing.

18. SK ecoplant Strategic Investment

In October 2021, we expanded our existing relationship with SK ecoplant. Simultaneous with the execution of our expanded relationship, we entered into a SPA pursuant to which we agreed to sell and issue to SK ecoplant 10,000,000 shares of Series A redeemable convertible preferred stock ("RCPS"), par value $0.0001 per share, at a purchase price of $25.50 per share for an aggregate purchase price of $255.0 million ("Initial Investment").

In addition to the Initial Investment, the SPA provided SK ecoplant with the Option, as defined in Note 8. The number of shares SK ecoplant may acquire under the Option (the “Option Shares”) is calculated as the lesser of (i) 11,000,000 shares of Class A Common Stock plus the number of shares of Class A Common Stock that SK ecoplant must hold to become our largest shareholder by no less than 1% of our issued and outstanding capital stock as of the issuance date of the Option Shares; and (ii) 15% of our issued and outstanding capital stock as of the issuance date of the Option Shares. The exercise price of the Option is calculated as the higher of (i) $23.00 per share and (ii) 115% of the volume-weighted average closing price of the 20 consecutive trading day period immediately preceding the exercise of the Option. SK ecoplant may exercise the Option through August 31, 2023, and the transaction must be completed as of November 30, 2023.

For additional information, see our Annual Report on Form 10-K for the year ended December 31, 2021.

We revalued the Option to its fair value as of March 31, 2022, and which is included in other income (expense), net in our condensed consolidated statements of operations. The fair value of the Option is reflected in accrued expenses and other current liabilities in our condensed consolidated balance sheet.

The RCPS has been presented outside of permanent equity in the mezzanine section of the condensed consolidated balance sheets because there are certain redemption provisions upon liquidation, dissolution, or deemed liquidation events (which include a change in control and the sale or other disposition of all or substantially all of our assets), which are considered contingent redemption provisions that are not solely within our control.

19. Subsequent Events

There have been no subsequent events that occurred during the period subsequent to the date of these condensed consolidated financial statements that would require adjustment to our disclosure in the condensed consolidated financial statements as presented.

ITEM 2 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations, estimates, and projections about our industry, management's beliefs, and certain assumptions made by management. For example, forward-looking statements include, but are not limited to, our expectations regarding our products, services, business strategies, impact of COVID-19, our expanded strategic partnership with SK ecoplant, operations, supply chain (including any direct or indirect effects from the Russia-Ukraine conflict), new markets, government incentive programs, growth of the hydrogen market and the sufficiency of our cash and our liquidity. Forward-looking statements can also be identified by words such as "future," "anticipates," "believes," "estimates," "expects," "intends," "plans," "predicts," "targets," "forecasts," "will," "would," "could," "can," "may" and similar terms. These statements are based on the beliefs and assumptions of our management based on information currently available to management at the time they are made. Such forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled "Risk Factors" included in Part II, Item 1A of this Quarterly Report on Form 10-Q and in our other filings with the Securities and Exchange Commission, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 filed on February 25, 2022. Such forward-looking statements speak only as of the date of this report. We disclaim any obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements. You should review these risk factors for a more complete understanding of the risks associated with an investment in our securities. The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and notes thereto included elsewhere in this Quarterly Report on Form 10-Q.

Overview

Description of Bloom Energy

Our mission is to make clean, reliable energy affordable for everyone in the world. We created the first large-scale, commercially viable solid oxide fuel-cell based power generation platform that empowers businesses, essential services, critical infrastructure and communities to responsibly take charge of their energy.

Our technology, invented in the United States, is one of the most advanced electricity and hydrogen producing technologies on the market today. Our fuel-flexible Bloom Energy Servers can use biogas, hydrogen, natural gas, or a blend of fuels to create resilient, sustainable and cost-predictable power at significantly higher efficiencies than traditional, combustion-based resources. In addition, our same solid oxide platform that powers our fuel cells can be used to create hydrogen, which is increasingly recognized as a critically important tool necessary for the full decarbonization of the energy economy. Our enterprise customers include some of the largest multinational corporations in the world. We also have strong relationships with some of the largest utility companies in the United States and the Republic of Korea.

At Bloom Energy, we look forward to a net-zero future. Our technology is designed to help enable this future in order to deliver reliable, low-carbon, electricity in a world facing unacceptable levels of power disruptions. Our resilient platform has kept electricity available for our customers through hurricanes, earthquakes, typhoons, forest fires, extreme heat and grid failures. Unlike traditional combustion power generation, our platform is community-friendly and designed to significantly reduce emissions of criteria air pollutants. We have made tremendous progress making renewable fuel production a reality through our biogas, hydrogen and electrolyzer programs, and we believe that we are well-positioned as a core platform and fixture in the new energy paradigm to help organizations and communities achieve their net-zero objectives.

We market and sell our Energy Servers primarily through our direct sales organization in the United States, and also have direct and indirect sales channels internationally. Recognizing that deploying our solutions requires a material financial commitment, we have developed a number of financing options to support sales of our Energy Servers to customers who lack the financial capability to purchase our Energy Servers directly, who prefer to finance the acquisition using third-party financing or who prefer to contract for our services on a pay-as-you-go model.

Our typical target commercial or industrial customer has historically been either an investment-grade entity or a customer with investment-grade attributes such as size, assets and revenue, liquidity, geographically diverse operations and general financial stability. We have also expanded our product and financing options to the below-investment-grade customers

and have also expanded internationally to target customers with deployments on a wholesale grid. Given that our customers are typically large institutions with multi-level decision making processes, we generally experience a lengthy sales process.

Strategic Investment

On October 23, 2021, we entered into the SPA with SK ecoplant in connection with a strategic partnership. Pursuant to the SPA, on December 29, 2021, we sold to SK ecoplant 10 million shares of zero coupon, non-voting redeemable convertible Series A preferred stock in us, par value $0.0001 per share ("RCPS"), at a purchase price of $25.50 per share for an aggregate purchase price of $255 million (the "Initial Investment").

Simultaneous with the execution of the SPA, we and SK ecoplant executed an amendment to the Joint Venture Agreement ("JVA"), an amendment and restatement to our Preferred Distribution Agreement ("PDA Restatement") and a new Commercial Cooperation Agreement regarding initiatives pertaining to the hydrogen market and general market expansion for the Bloom Energy Server and Bloom Energy Electrolyzer. For additional details about the transaction with SK ecoplant, please see Note 18 - *SK ecoplant Strategic Investment*, and for more information about our joint venture with SK ecoplant, please see Note 12 - *Related Party Transactions* in Part I, Item 1, *Financial Statements*.

COVID-19 Pandemic

General

We continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic, including the Omicron and Delta variants. We maintain protocols to minimize the risk of COVID-19 transmission within our facilities, including enhanced cleaning and masking if required by the local authorities, as well as providing testing for all employees. We will continue to follow CDC and local guidelines when notified of possible exposures. For more information regarding the risks posed to our company by the COVID-19 pandemic, refer to Part I, Item 1A, *Risk Factors – Risks Related to Our Products and Manufacturing – Our business has been and continues to be adversely affected by the COVID-19 pandemic.*

Liquidity and Capital Resources

COVID-19 created disruptions throughout various aspects of our business as noted herein. While we improved our liquidity in 2021, we increased our working capital spend in the first quarter of 2022. We have entered into new leases to maintain sufficient manufacturing facilities to meet anticipated demand in 2022, including new product line expansion. In addition, we also increased our working capital spend and resources to enhance our marketing efforts and to expand into new geographies both domestically and internationally.

We believe we have the sufficient capital to run our business over the next 12 months, including the completion of the build out of our manufacturing facilities. Our working capital was strengthened with the Initial Investment by SK ecoplant as described above. In addition, we may still enter the equity or debt market as need to support the expansion of our business. Please refer to Note 7 - *Outstanding Loans and Security Agreements* in Part I, Item 1, *Financial Statements*; and Part II, Item 1A, *Risk Factors – Risks Related to Our Liquidity – Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities' outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs,* and W*e may not be able to generate sufficient cash to meet our debt service obligations*, for more information regarding the terms of and risks associated with our debt.

Sales

We did not experience a significant impact on our selling activity related to COVID-19 during the three months ended March 31, 2022.

Customer Financing

The ongoing COVID-19 pandemic resulted in a significant drop in the ability of many financiers (particularly financing institutions) to monetize tax credits, primarily the result of a potential drop in taxable income stemming from the pandemic. However, during the second half of 2021 and the first three months of 2022, we have seen this constraint improving. Our ability to obtain financing for our Energy Servers partly depends on the creditworthiness of our customers, and a few of our customers' credit ratings have fallen during the pandemic, which can impact the financing for their use of an Energy Server. We continue to work on obtaining the financing required for our 2022 installations but if we are unable to secure such financing our revenue, cash flow and liquidity will be materially impacted.

Installations and Maintenance of Energy Servers

Our installation and maintenance operations were impacted by the COVID-19 pandemic and supply chain shortages in general during the first three months of 2022. Our installation projects have experienced some delays relating to, among other things, shortages in available parts and labor for design, installation and other work; and the inability or delay in our ability to access customer facilities due to shutdowns or other restrictions. Despite the impact on installations during the three months ended March 31, 2022 and given our mitigation strategies, we only had one instance in the first quarter of 2022 of a significant delay in the installation of our Energy Servers as a result of supply chain issues that pushed an installation out a quarter.

As to maintenance, if we are delayed in or unable to perform scheduled or unscheduled maintenance, our previously-installed Energy Servers will likely experience adverse performance impacts including reduced output and/or efficiency, which could result in warranty and/or guaranty claims by our customers. Further, due to the nature of our Energy Servers, if we are unable to replace worn parts in accordance with our standard maintenance schedule, we may be subject to increased costs in the future. During the three months ended March 31, 2022, we experienced no delays in servicing our Energy Servers due to COVID-19.

Supply Chain

During the three months ended March 31, 2022, we continued to experience supply chain disruptions due to direct and indirect COVID-19 impacts although we were able to mitigate the impact so that we did not experience delays in the manufacture of our Energy Servers. We have a global supply chain and obtain components from Asia, Europe and India. In many cases, the components we obtain are jointly developed with our suppliers and unique to us, which makes it difficult to obtain and qualify alternative suppliers should our suppliers be impacted by the COVID-19 pandemic or related effects. The Russia-Ukraine war impact so far has been limited to increased freight cost due to the rise in oil and related fuel prices. If the direct or indirect effects from this conflict spread, this could impact our supply base ability to provide the materials we need to meet our planned build and shipment plans. Although we were able to find alternatives for many component shortages, we experienced cost increases with respect to container shortages, ground transport, ocean shipping and air freight. We have put actions in place to mitigate the disruptions by booking alternate sea routes, limiting our use of air shipments, creating virtual hubs and consolidating shipments coming from the same region. During the three months ended March 31, 2022, we continued to manage disruptions from an increase in lead times for most of our components due to a variety of factors, including supply shortages, shipping delays and labor shortages, and we expect this to continue through 2022. We are experiencing raw material pricing pressures and component shortages especially for semiconductors and specialty metals that we expect to persist through the remainder of the calendar year. In addition, the impact of inflation on the price of components, raw materials and labor have increased. In the event we are unable to mitigate the impact of delays and/or price increases in raw materials, electronic components and freight, it could delay the manufacturing and installation of our Energy Servers and increase the cost of our Energy Server, which would adversely impact our cash flows and results of operations, including revenue and gross margin.

If spikes in COVID-19 occur in regions in which our supply chain operates we could experience a delay in components and incur further freight price increases, which could in turn impact production and installations and our cash flow and results of operations, including revenue and gross margin.

Manufacturing

Although we have experienced labor shortages due to COVID-19 absences and the relative shortage of labor, overall this has not impacted our production given the safety protocols we have put in place augmented by our ability to increase our shifts and obtain a contingent work force for some of the manufacturing activities. We have incurred additional labor expense due to enhanced safety protocols designed to minimize exposure and risk of COVID-19 transmission as well as increased wages in general. If COVID-19 materially impacts our supply chain or if we experience a significant COVID-19 outbreak that affects our manufacturing workforce, our production could be adversely impacted which could adversely impact our cash flow and results of operation, including revenue.

Purchase and Financing Options

Overview

In order to appeal to the largest variety of customers, we make available several options to our customers. Both in the United States and abroad, we sell Energy Servers directly to customers. In the United States, we also enable customers' use of the Energy Servers through a pay as you go offering, made possible through third-party ownership financing arrangements.

Often our offerings take advantage of local incentives. In the United States, our financing arrangements are structured to optimize both federal and local incentives, including the ITC and accelerated depreciation. Internationally, our sales are made primarily to distributors who on-sell to, and install for, customers; these deals are also structured to use local incentives

applicable to our Energy Servers. Increasingly, we use trusted installers and other sourcing collaborations in the United States to generate transactions.

Whichever option is selected by a customer in the Unites States or internationally, the contract structure will include obligations on our part to operate and maintain the Energy Server ("O&M Obligations"). The O&M Obligations may either be (i) for a one-year period, subject to annual renewal at the customer's option, which historically are almost always renewed year over year, or (ii) for a fixed term. In the United States, the contract structure often includes obligations on our part to install the Energy Servers ("Installation Obligations"). Consequently, our transactions may generate revenue from the sale of Energy Servers and electricity, performance of O&M Obligations, and performance of Installation Obligations.

In addition to customary workmanship and materials warranties, as part of the O&M Obligations we provide warranties and guaranties regarding the efficiency and output of our Energy Servers to the customer and, in certain financing structures, to the financing parties too. We refer to a "performance warranty" as an obligation to repair or replace the Energy Servers as necessary to return performance of an Energy Server to the warranted performance level. We refer to a "performance guaranty" as an obligation to make a payment to compensate for the failure of the Energy Server to meet the guaranteed performance level. Our obligation to make payments under the performance guaranty is always contractually capped.

Energy Server Sales

There are customers who purchase our Energy Servers directly from us pursuant to customary equipment sales contracts. In connection with the purchase of Energy Servers, the customers also enter into a contract with us for the O&M Obligations. The customer may elect to engage us to provide the Installation Obligations or engage a third-party provider. Internationally, sales often occur through distribution arrangements pursuant to which local construction services providers perform the Installation Obligations, as is the case in the Republic of Korea where we contract directly with the customer to provide O&M Obligations.

A customer may enter into a contract for the sale of our Energy Servers and finance that acquisition through a sale-leaseback with a financial institution. In most cases, the financial institution completes its purchase from us immediately after commissioning. We both (i) facilitate this financing arrangement between the financial institution and the customer and (ii) provide ongoing operations and maintenance services for the Energy Servers (such arrangement, a "Traditional Lease").

Customer Financing Options

With respect to the third-party financing options in the United States, a customer may choose a contract for the use Energy Servers in exchange for a capacity-based flat payment (a "Managed Services Agreement") or one for the purchase of electricity generated by the Energy Servers in exchange for a scheduled dollars per kilowatt hour rate (a "Power Purchase Agreement" or "PPA").

Certain customer payments in a Managed Services Agreement are required regardless of the level of performance of the Energy Server; in some cases it may also include a variable payment based on the Energy Server's performance or a performance-related set-off. Managed Services Agreements are then financed pursuant to a sale-leaseback with a financial institution (a "Managed Services Financing").

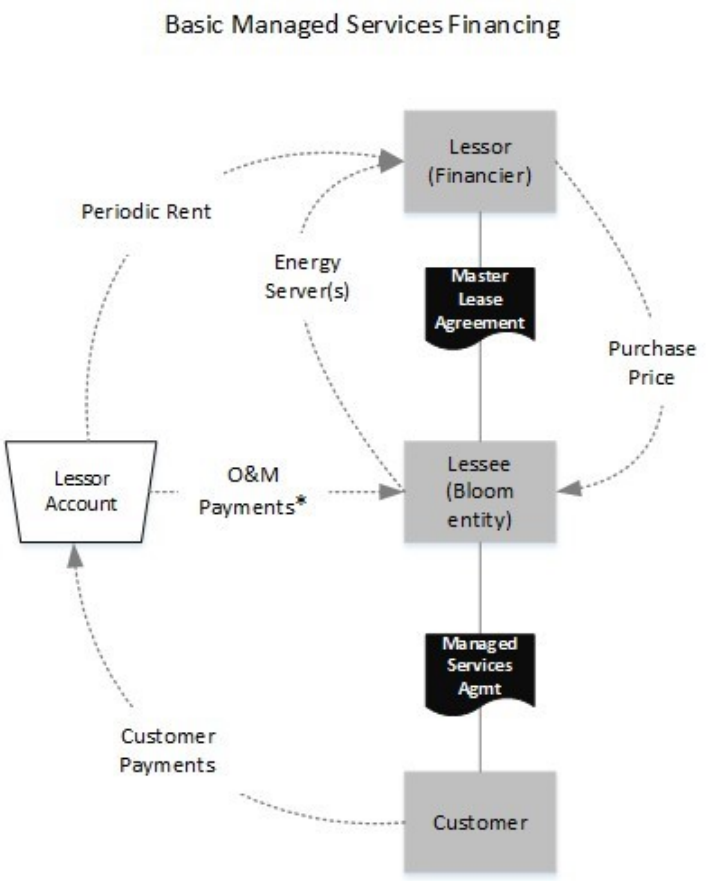
PPAs are typically financed on a portfolio basis. We have financed portfolios through tax equity partnerships, acquisition financings and direct sales to investors (each, a "Portfolio Financing").

In the United States, our capacity to offer our Energy Servers through either of these financed arrangements depends in large part on the ability of financing parties to optimize the tax benefits associated with a fuel cell, such as the ITC or accelerated depreciation. Interest rate fluctuations, and internationally, currency exchanges fluctuations, may also impact the attractiveness of any financing offerings for our customers. Our ability to finance a Managed Services Agreement or a PPA is also related to, and may be limited by, the creditworthiness of the customer. Additionally, the Managed Services Financing option is limited by a customer's willingness to commit to making payments to a financing party regardless of the level of performance of the Energy Server.

In each of our financing options, we typically perform the functions of a project developer, including identifying end customers and financiers, leading the negotiations of the customer agreements and financing agreements, securing all necessary permitting and interconnections approvals, and overseeing the design and construction of the project up to and including commissioning the Energy Servers. Increasingly, however, we are making sales to third-party developers.

Each of our financing transaction structures is described in further detail below.

Managed Services Financing



*Compensation received from customers is recorded as electricity revenue or service revenue, according to ASC 840 and ASC 842, as applicable. For additional information, see Note 2 - Summary of Significant Accounting Policies in Part 1, Item 1, *Financial Statements*.

Under our Managed Services Financing option, we enter into a Managed Services Agreement with a customer for a certain term. The fixed capacity-based payments made by the customer under the Managed Services Agreement are applied toward our obligation to pay down our periodic rent liability under a sale-leaseback transaction with a financier. We assign all our rights to such fixed payments made by the customer to the financier, as lessor.

Once we enter into a Managed Services Agreement with the customer, and a financier is identified, we sell the Energy Server to the financier, as lessor, who then leases it back to us, as lessee, pursuant to a sale-leaseback transaction. Certain of our sale-leaseback transactions failed to achieve all of the criteria for sale accounting. For such failed sale-and-leaseback transactions, the proceeds from the transaction are recognized as a financing obligation within our condensed consolidated balance sheet. For successful sale-and-leaseback transactions, the financier of a Managed Services Agreement typically pays the purchase price for an Energy Server at or around acceptance, and we recognize the fair value of the Energy Servers sold within product and install revenue and recognize a right-of-use ("ROU") asset and a lease liability on our condensed consolidated balance sheet. Any proceeds in excess of the fair value of the Energy Servers are recognized as a financing obligation.

The duration of our current Managed Services Agreement offerings is between five and ten years.

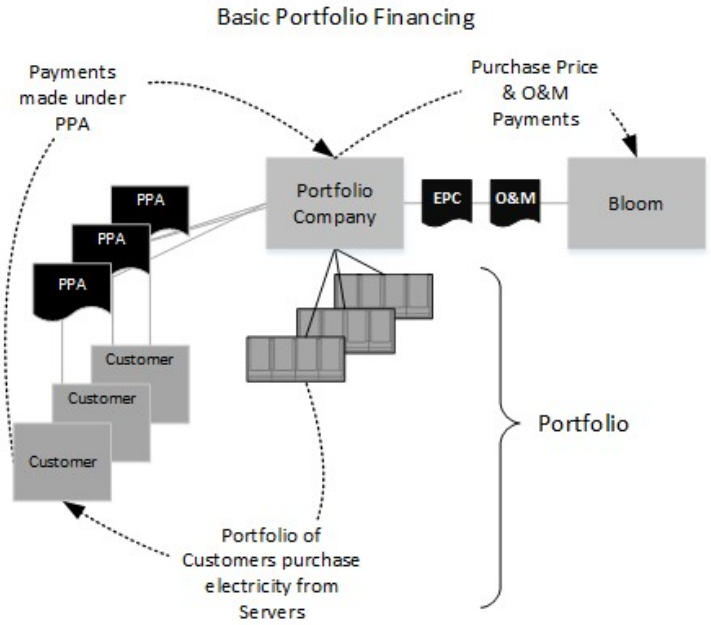
Our Managed Services Agreements typically provide for performance warranties of both the efficiency and output of the Energy Server and may include other warranties depending on the type of deployment. We often structure payments from the customer as a dollars per kilowatt-hour payment and our pricing assumes revenue at the 95% output level. This means that our

revenue may be lower than expected if output is less than 95% and higher if output exceeds 95%. As of March 31, 2022, we had incurred no liabilities due to failure to repair or replace our Energy Servers pursuant to these performance warranties and the fleet of our Energy Servers deployed pursuant to the Managed Services Financings was performing at a lifetime average output of approximately 84%.

Portfolio Financings

In the past, we financed the Energy Servers subject to our PPAs through two types of Portfolio Financings. In one type of transaction, we sold a portfolio of PPAs to a tax equity partnership in which we held a managing member interest (such partnership in which we hold an interest, a "PPA Entity"). In these transactions, we sold the portfolio of Energy Servers to a limited liability project company of which the PPA Entity was the sole member (such portfolio owner, a "Portfolio Company"). Whether an investor, a tax equity partnership, or a single member limited liability company, the Portfolio Company is the entity that directly owns the portfolio. The Portfolio Company sells the electricity generated by the Energy Servers contemplated by the PPAs to the customers. We recognize revenue as the electricity is produced. Our current practices no longer contemplate these types of transactions.

We also finance PPAs through a second type of Portfolio Financing pursuant to which we (i) directly sell a portfolio of PPAs and the Energy Servers or (ii) sell a Portfolio Company, in each case to an investor or tax equity partnership in which we do not have an equity interest (a "Third-Party PPA"). Like the other Portfolio Financing structure, the investor or tax equity partnership owns the Portfolio Company or the Energy Servers directly, and in each case, sells the electricity generated by the Energy Servers contemplated by the PPAs to the customers. For further discussion, see Note 11 - *Portfolio Financings* in Part I, Item 1, *Financial Statements*.



When we finance a portfolio of Energy Servers and PPAs through a Portfolio Financing, we typically enter into a sale, engineering and procurement and construction agreement ("EPC Agreement") and an O&M Agreement, with the Portfolio Company. As owner of the portfolio of PPAs and related Energy Servers, the Portfolio Company receives all customer payments generated under the PPAs, the benefits of the ITC and accelerated tax depreciation, and any other available state or local benefits arising out of the ownership or operation of the Energy Servers, to the extent not already allocated to the customer under the PPA.

The sales of our Energy Servers in connection with a Portfolio Financing have many of the same terms and conditions as a direct sale. Payment of the purchase price is generally broken down into multiple installments, which may include payments prior to shipment, upon shipment or delivery of the Energy Server, and upon acceptance of the Energy Server.

Under an O&M Agreement, a one-year service package is provided with the initial sale that includes performance warranties and performance guaranties. After the expiration of the initial standard one-year package, the Portfolio Company has the option to extend our services under the O&M Agreement on an annual basis at a price determined at the time of purchase of our Energy Server. After the standard one-year service package, the Portfolio Company has almost always exercised the option to renew our services under the O&M Agreement.

As of March 31, 2022, we had incurred no liabilities to investors in Portfolio Financings due to failure to repair or replace Energy Servers pursuant to these performance warranties. Our obligation to make payments for underperformance against the performance guaranties was capped at an aggregate total of approximately $114.6 million (including payments both for low output and for low efficiency) and our aggregate remaining potential liability under this cap was approximately $97.2 million.

Obligations to Portfolio Companies

Our Portfolio Financings involve many obligations on our part to the Portfolio Company. These obligations are set forth in the applicable EPC Agreement and O&M Agreement, and may include some or all of the following obligations:

- designing, manufacturing, and installing the Energy Servers, and selling such Energy Servers to the Portfolio Company;
- obtaining all necessary permits and other governmental approvals necessary for the installation and operation of the Energy Servers, and maintaining such permits and approvals throughout the term of the EPC Agreements and O&M Agreements;
- operating and maintaining the Energy Servers in compliance with all applicable laws, permits and regulations;
- satisfying the performance warranties and guaranties set forth in the applicable O&M Agreements; and
- complying with any other specific requirements contained in the PPAs with customers.

In some cases, the EPC Agreement obligates us to repurchase the Energy Server in the event of certain IP Infringement claims. In others, a repurchase of the Energy Server is only one optional remedy we have to cure an IP Infringement claim. The O&M Agreement grants a Portfolio Company the right to obligate us to repurchase the Energy Servers in the event the Energy Servers fail to comply with the performance warranties and guaranties in the O&M Agreement and we do not cure such failure in the applicable time period, or that a PPA terminates as a result of any failure by us to perform the obligations in the O&M Agreement. In some of our Portfolio Financings, our obligation to repurchase Energy Servers under the O&M extends to the entire fleet of Energy Servers sold in the event a systemic failure that affects more than a specified number of Energy Servers.

In some Portfolio Financings, we have also agreed to pay liquidated damages to the applicable Portfolio Company in the event of delays in the manufacture and installation of our Energy Servers, either in the form of a cash payment or a reduction in the purchase price for the applicable Energy Servers.

Administration of Portfolio Companies

In each of our Portfolio Financings in which we hold an equity interest in the PPA Entity, we perform certain administrative services as managing member, including invoicing the end customers for amounts owed under the PPAs, administering the cash receipts of the Portfolio Company in accordance with the requirements of the financing arrangements, interfacing with applicable regulatory agencies, and other similar obligations. We are compensated for these services on a fixed dollar-per-kilowatt basis.

For those Portfolio Financings with project debt, the Portfolio Company owned by each of our PPA Entities (with the exception of one PPA Entity) incurred debt in order to finance the acquisition of the Energy Servers. The lenders for these transactions are a combination of banks and/or institutional investors. In each case, the debt is secured by all of the assets of the applicable Portfolio Company, such assets being primarily comprised of the Energy Servers and a collateral assignment of each of the contracts to which the Portfolio Company is a party, including the O&M Agreement and the PPAs. As further collateral, the lenders receive a security interest in 100% of the membership interest of the Portfolio Company. The lenders have no

recourse to us or to any of the other equity investors (the "Equity Investors") in the Portfolio Company for liabilities arising out of the portfolio.

We have determined that we are the primary beneficiary in the PPA Entities, subject to reassessments performed as a result of upgrade transactions. Accordingly, we consolidate 100% of the assets, liabilities and operating results of these PPA Entities, including the Energy Servers and lease income, in our condensed consolidated financial statements. We recognize the Equity Investors' share of the net assets of the investment entities as noncontrolling interests in subsidiaries in our condensed consolidated balance sheet. We recognize the amounts that are contractually payable to these investors in each period as distributions to noncontrolling interests in our condensed consolidated statements of redeemable convertible preferred stock, redeemable noncontrolling interest, stockholders' (deficit) equity and noncontrolling interest.

Our condensed consolidated statements of cash flows reflect cash received from the Equity Investors as proceeds from investments by noncontrolling interests in subsidiaries. Our condensed consolidated statements of cash flows also reflect cash paid to these investors as distributions paid to noncontrolling interests in subsidiaries. We reflect any unpaid distributions to these Equity Investors as distributions payable to noncontrolling interests in subsidiaries on our condensed consolidated balance sheets. However, the PPA Entities are separate and distinct legal entities, and Bloom Energy Corporation may not receive cash or other distributions from the PPA Entities except in certain limited circumstances and upon the satisfaction of certain conditions, such as compliance with applicable debt service coverage ratios and the achievement of a targeted internal rates of return to the Equity Investors, or otherwise.

For further information about our Portfolio Financings, see Note 11 - *Portfolio Financings* in Part I, Item 1, *Financial Statements.*

Delivery and Installation

The transfer of control of our product to our customer based on the delivery and installations of our products has a significant impact on the timing of the recognition of product and installation revenue. Many factors can cause a lag between the time that a customer signs a contract and our recognition of product revenue. These factors include the number of Energy Servers installed per site, local permitting and utility requirements, environmental, health and safety requirements, weather, customer facility construction schedules, customers' operational considerations and the timing of financing. Many of these factors are unpredictable and their resolution is often outside of our or our customers' control. Customers may also ask us to delay an installation for reasons unrelated to the foregoing, such as, for sales contracts, delays in their obtaining financing. Further, due to unexpected delays, deployments may require unanticipated expenses to expedite delivery of materials or labor to ensure the installation meets the timing objectives. These unexpected delays and expenses can be exacerbated in periods in which we deliver and install a larger number of smaller projects. In addition, if even relatively short delays occur, there may be a significant shortfall between the revenue we expect to generate in a particular period and the revenue that we are able to recognize.

International Channel Partners

India. In India, sales activities are currently conducted by Bloom Energy (India) Pvt. Ltd., our wholly-owned subsidiary; however, we continue to evaluate the Indian market to determine whether the use of channel partners would be a beneficial go-to-market strategy to grow our India market sales.

Japan. In Japan, sales were previously conducted pursuant to a Japanese joint venture established between us and subsidiaries of SoftBank Corp., called Bloom Energy Japan Limited ("Bloom Energy Japan"). Under this arrangement, we sold Energy Servers to Bloom Energy Japan and we recognized revenue once the Energy Servers left the port in the United States. Bloom Energy Japan then entered into the contract with the end customer and performed all installation work as well as some of the operations and maintenance work. As of July 1, 2021, we acquired Softbank Corp.'s interest in Bloom Energy Japan for a cash payment and are now the sole owner of Bloom Energy Japan.

The Republic of Korea. In 2018, Bloom Energy Japan consummated a sale of Energy Servers in the Republic of Korea to Korea South-East Power Company. Following this sale, we entered into a Preferred Distributor Agreement in November 2018 with SK ecoplant for the marketing and sale of Bloom Energy Servers for the stationary utility and commercial and industrial South Korean power market.

As part of our expanded strategic partnership with SK ecoplant, the parties executed the PDA Restatement in October 2021, which incorporates previously amended terms and establishes: (i) SK ecoplant's purchase commitments for the next three years (on a take or pay basis) for Bloom Energy Servers; (ii) rollover procedures; (iii) premium pricing for product and

services; (iv) termination procedures for material breaches; and (v) procedures if there are material changes to the Republic of Korea Hydrogen Portfolio Standard. For additional details about the transaction with SK ecoplant, please see Note 18 - *SK ecoplant Strategic Investment* in Part I, Item 1, *Financial Statements*.

Under the terms of the PDA Restatement, we (or our subsidiary) contract directly with the customer to provide operations and maintenance services for the Energy Servers. We have established a subsidiary in the Republic of Korea, Bloom Energy Korea, LLC, to which we subcontract such operations and maintenance services. The terms of the operations and maintenance are negotiated on a case-by-case basis with each customer, but are generally expected to provide the customer with the option to receive services for at least 10 years, and for up to the life of the Energy Servers.

SK ecoplant Joint Venture Agreement. In September 2019, we entered into a joint venture agreement with SK ecoplant to establish a light-assembly facility in the Republic of Korea for sales of certain portions of our Energy Server for the stationary utility and commercial and industrial market in the Republic of Korea. The joint venture is majority controlled and managed by us, with the facility, which became operational in July 2020. Other than a nominal initial capital contribution by Bloom Energy, the joint venture will be funded by SK ecoplant. SK ecoplant, who currently acts as a distributor for our Energy Servers for the stationary utility and commercial and industrial market in the Republic of Korea, is our primary customer for the products assembled by the joint venture. In October 2021, as part of our expanded strategic partnership with SK ecoplant, the parties agreed to amend the JVA, which increases the scope of the assembly work done in the joint venture facility.

Community Distributed Generation Programs

In July 2015, the state of New York introduced its Community Distributed Generation ("CDG") program, which extends New York's net metering program in order to allow utility customers to receive net metering credits for electricity generated by distributed generation assets located on the utility's grid but not physically connected to the customer's facility. This program allows for the use of multiple generation technologies, including fuel cells. Since then other states have instituted similar programs and we expect that other states may do so as well in the future. In June 2020, the New York Public Service Commission issued an Order that limited the CDG compensation structure for "high capacity factor resources," including fuel cells, in a way that will make the economics for these types of projects more challenging in the future. However, projects already under contract were grandfathered into the program under the previous compensation structure.

We have entered into sales, installation, operations and maintenance agreements with three developers for the deployment of our Energy Servers pursuant to the New York CDG program for a total of 441 systems. As of March 31, 2022, we have recognized revenue associated with 271 systems. We continue to believe that these types of subscriber-based programs could be a source of future revenue and will continue to look to generate sales through these programs in the future.

Key Operating Metrics - Comparison of the Three Months Ended March 31, 2022 and 2021

For a description of the key operating metrics we use to evaluate business activity, to measure performance, to develop financial forecasts and to make strategic decisions, see Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2021 under the subheading "Key Operation Metrics".

Purchase Options

100% of acceptances in three months ended March 31, 2022 were attributable to the direct pay option. The portion of revenue in the three months ended March 31, 2022 attributable to each payment option was as follows: direct purchase 87%, traditional lease 1%, managed services 7% and Bloom Electrons 5%. The portion of acceptances in the three months ended March 31, 2021 attributable to each payment option was as follows: direct purchase 98% and managed services 2%. The portion of revenue in the three months ended March 31, 2021 attributable to each payment option was as follows: direct purchase 87%, traditional lease 1%, managed services 6% and Bloom Electrons 6%.

Product Acceptances

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
Product accepted during the period (in 100 kilowatt systems)	375	359	16	4.5 %

Product accepted increased approximately 16 systems, or 4.5%, for the three months ended March 31, 2022 compared to the three months ended March 31, 2021. Acceptance volume increased as demand increased for the Bloom Energy servers.

Megawatts accepted, net, increased approximately 179 megawatts, or 29.6%, for the three months ended March 31, 2022 compared to the three months ended March 31, 2021. Acceptances achieved from March 31, 2021 to March 31, 2022 were added to our installed base and therefore, increased our megawatts accepted, net, from 604 megawatts to 783 megawatts.

Costs Related to Our Products

Total product related costs for the three Months Ended March 31, 2022 and 2021 was as follows:

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
Product costs of product accepted in the period	$2,561/kW	$2,284/kW	$277/kW	12.1 %
Period costs of manufacturing related expenses not included in product costs (in thousands)	$ 9,687	$ 5,428	$4,259	78.5 %
Installation costs on product accepted in the period	$341/kW	$129/kW	$212/kW	164.3 %

Product costs of product accepted increased approximately $277 per kilowatt, or 12.1%, for the three months ended March 31, 2022 compared to the three months ended March 31, 2021. This increase in cost is primarily driven by some of the cost pressures seen in the external environment with commodity pricing and logistics increasing significantly from one year ago. Our ongoing cost reduction efforts to reduce material costs, labor and overhead through improved automation of our manufacturing facilities, our better facility utilization and our ongoing material cost reduction programs with our vendors continued but were more than offset by the temporary increases that we experienced.

Period costs of manufacturing related expenses increased approximately $4.3 million, or 78.5%, for the three months ended March 31, 2022 compared to the three months ended March 31, 2021. Our period costs of manufacturing related expenses increased primarily as a result of costs incurred to support capacity expansion efforts which will be brought online in future periods.

Installation costs on product accepted increased approximately $212 per kilowatt, or 164.3%, for the three months ended March 31, 2022 as compared to the three months ended March 31, 2021. This increase in cost is primarily driven by an increase in the mix of sites requiring Bloom installation. Each customer site is different and installation costs can vary due to a number of factors, including site complexity, size, location of gas, etc. As such, installation on a per kilowatt basis can vary significantly from period-to-period. In addition, some customers do their own installation for which we have little to no installation cost.

Results of Operations

A discussion regarding the comparison of our financial condition and results of operations for the three months ended March 31, 2022 and 2021 is presented below.

Revenue

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
	(dollars in thousands)			
Product	$ 133,547	$ 137,930	$ (4,383)	(3.2)%
Installation	13,553	2,659	10,894	409.7 %
Service	35,239	36,417	(1,178)	(3.2)%
Electricity	18,700	17,001	1,699	10.0 %
Total revenue	$ 201,039	$ 194,007	$ 7,032	3.6 %

Total Revenue

Total revenue increased by $7.0 million, or 3.6%, for the three months ended March 31, 2022 as compared to the prior year period. This increase was primarily driven by a $10.9 million increase in installation revenue and a $1.7 million increase in electricity revenue partially offset by a $4.4 million decrease in product revenue and a $1.2 million decrease in service revenue.

Product Revenue

Product revenue decreased by $4.4 million, or 3.2%, for the three months ended March 31, 2022 as compared to the prior year period. The product revenue decrease was driven primarily by price reductions to expand our addressable market, partially offset by a 4.5% increase in product acceptances resulting from expansion in existing markets.

Installation Revenue

Installation revenue increased by $10.9 million, or 409.7%, for the three months ended March 31, 2022 as compared to the prior year period. This increase in installation revenue was driven by an increase in the mix of product acceptances requiring installations by Bloom.

Service Revenue

Service revenue decreased by $1.2 million, or 3.2%, for the three months ended March 31, 2022 as compared to the prior year period. This decrease was primarily due to delays in execution of long-term service agreements and the impact of product performance guarantees, partially offset by an increase in new acceptances and renewal of existing service contracts. We expect our service revenue growth as we continue to expand our install base.

Electricity Revenue

Electricity revenue increased by $1.7 million, or 10.0%, for the three months ended March 31, 2022 as compared to the prior year period due to the increase in installed units as a result of the increase in Managed Services transactions recorded in the second half of fiscal year 2021.

Cost of Revenue

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
	(dollars in thousands)			
Product	$ 105,742	$ 87,294	$ 18,448	21.1 %
Installation	12,773	4,625	8,148	176.2 %
Service	41,826	36,118	5,708	15.8 %
Electricity	12,761	11,319	1,442	12.7 %
Total cost of revenue	$ 173,102	$ 139,356	$ 33,746	24.2 %

Total Cost of Revenue

Total cost of revenue increased by $33.7 million, or 24.2%, for the three months ended March 31, 2022 as compared to the prior year period primarily driven by a $18.4 million increase in cost of product revenue, $8.1 million increase in costs of installation revenue, $5.7 million increase in cost of service revenue, increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which will be brought online in future periods. This increase was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Cost of Product Revenue

Cost of product revenue increased by $18.4 million, or 21.1%, for the three months ended March 31, 2022 as compared to the prior year period. The cost of product revenue increase was driven primarily by a 4.5% increase in product acceptances, increased freight charges and other supply chain-related pricing pressures and costs incurred in support of upcoming capacity expansion efforts which will be brought online in future periods. This increase was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Cost of Installation Revenue

Cost of installation revenue increased by $8.1 million, or 176.2%, for the three months ended March 31, 2022 as compared to the prior year period. This increase was driven by an increase in the mix of product acceptances requiring Bloom installations.

Cost of Service Revenue

Cost of service revenue increased by $5.7 million, or 15.8%, for the three months ended March 31, 2022 as compared to the prior year period. This increase was primarily due to the 4.5% increase in acceptances plus the maintenance contract renewals associated with the increase in our fleet of Energy Servers, partially offset by the significant improvements in power module life, cost reductions and our actions to proactively manage fleet optimizations.

Cost of Electricity Revenue

Cost of electricity revenue increased by $1.4 million, or 12.7%, for the three months ended March 31, 2022 as compared to the prior year period, primarily due to the increase in installed units as a result of the increase in Managed Services recorded in the second half of fiscal year 2021.

Gross Profit and Gross Margin

	Three Months Ended March 31,		
	2022	2021	Change
	(dollars in thousands)		
Gross profit:			
Product	$ 27,805	$ 50,636	$ (22,831)
Installation	780	(1,966)	2,746
Service	(6,587)	299	(6,886)
Electricity	5,939	5,682	257
Total gross profit	$ 27,937	$ 54,651	$ (26,714)
Gross margin:			
Product	21 %	37 %	
Installation	6 %	(74)%	
Service	(19)%	1 %	
Electricity	32 %	33 %	
Total gross margin	14 %	28 %	

Total Gross Profit

Gross profit decreased by $26.7 million in the three months ended March 31, 2022 as compared to the prior year period primarily driven by the $22.8 million decrease in product gross profit resulting from price reductions to expand our addressable market, increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which will be brought online in future periods. This decrease was partially offset by the 4.5% increase in acceptances and our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Product Gross Profit

Product gross profit decreased by $22.8 million in the three months ended March 31, 2022 as compared to the prior year period. The decrease is primarily driven by price reductions to expand our addressable market, increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which will be brought online in future periods. This decrease was partially offset by a 4.5% increase in product acceptances and our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Installation Gross Profit (Loss)

Installation gross profit improved by $2.7 million in the three months ended March 31, 2022 as compared to the prior year period driven by the site mix, as more of the acceptances required installation in the current time period, and other site related factors such as site complexity, size, local ordinance requirements and location of the utility interconnect.

Service Gross Profit (Loss)

Service gross loss worsened by $6.9 million in the three months ended March 31, 2022 as compared to the prior year period. This was primarily due to unfavorable timing of long-term service agreement and impact of product performance guarantees offset by improvements in power module life, cost reductions and our actions to proactively manage fleet optimizations.

Electricity Gross Profit

Electricity gross profit increased by $0.3 million in the three months ended March 31, 2022 as compared to the prior year period mainly due to the increase in Managed Services transactions recorded in the second half of fiscal year 2021.

Operating Expenses

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
	(dollars in thousands)			
Research and development	$ 34,526	$ 23,295	$ 11,231	48.2 %
Sales and marketing	21,334	19,952	1,382	6.9 %
General and administrative	37,736	25,801	11,935	46.3 %
Total operating expenses	$ 93,596	$ 69,048	$ 24,548	35.6 %

Total Operating Expenses

Total operating expenses increased by $24.5 million in the three months ended March 31, 2022 as compared to the prior year period. This increase was primarily attributable to our investment in business development and front-end sales both in the United States and internationally, investment in brand and product management, and our continued investment in our R&D capabilities to support our technology roadmap.

Research and Development

Research and development expenses increased by $11.2 million in the three months ended March 31, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits to expand our employee base in order to support our technology roadmap, including our hydrogen, electrolyzer, carbon capture, marine and biogas solutions.

Sales and Marketing

Sales and marketing expenses increased by $1.4 million in the three months ended March 31, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits to expand our U.S. and international sales force, as well as increased investment in brand and product management, partially offset by a decrease in outside services.

General and Administrative

General and administrative expenses increased by $11.9 million in the three months ended March 31, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits and outside services.

Stock-Based Compensation

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
	(dollars in thousands)			
Cost of revenue	$ 3,860	$ 2,999	$ 861	28.7 %
Research and development	7,082	4,908	2,174	44.3 %
Sales and marketing	4,775	4,085	690	16.9 %
General and administrative	10,591	5,218	5,373	103.0 %
Total stock-based compensation	$ 26,308	$ 17,210	$ 9,098	52.9 %

Total stock-based compensation for the three months ended March 31, 2022 compared to the prior year period increased by $9.1 million primarily driven by the efforts to expand our employee base across all of the Company's functions.

Other Income and Expense

	Three Months Ended March 31,		
	2022	2021	Change
	(in thousands)		
Interest income	$ 59	$ 74	$ (15)
Interest expense	(14,087)	(14,731)	644
Other income (expense), net	(3,027)	(85)	(2,942)
Gain (loss) on revaluation of embedded derivatives	531	(518)	1,049
Total	$ (16,524)	$ (15,260)	$ (1,264)

Interest Income

Interest income is derived from investment earnings on our cash balances primarily from money market funds.

Interest income for the three months ended March 31, 2022 as compared to the prior year period was essentially unchanged.

Interest Expense

Interest expense is from our debt held by third parties. Interest expense for the three months ended March 31, 2022 as compared to the prior year period decreased by $0.6 million. This decrease was primarily due to lower interest expense as a result of refinancing our notes at a lower interest rate, and the elimination of the amortization of the debt discount associated with notes that have been converted to equity.

Other Income (Expense), net

Other income (expense), net, is primarily derived from investments in joint ventures, the impact of foreign currency translation, and adjustments to fair value for derivatives. Other income (expense), net for the three months ended March 31, 2022 as compared to the prior year period was less by $2.9 million due primarily as a result of the revaluation of the Option to purchase Class A common stock.

Gain (Loss) on Revaluation of Embedded Derivatives

Gain (loss) on revaluation of embedded derivatives is derived from the change in fair value of our sales contracts of embedded EPP derivatives valued using historical grid prices and available forecasts of future electricity prices to estimate future electricity prices.

Gain (loss) on revaluation of embedded derivatives for the three months ended March 31, 2022 as compared to the prior year period improved by $1.0 million due to the change in fair value of our embedded EPP derivatives in our sales contracts.

Provision for Income Taxes

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
	(dollars in thousands)			
Income tax provision	$ 564	$ 124	$ 440	354.8 %

Income tax provision consists primarily of income taxes in foreign jurisdictions in which we conduct business. We maintain a full valuation allowance for domestic deferred tax assets, including net operating loss and certain tax credit carryforwards.

Income tax provision increased for the three months ended March 31, 2022 as compared to the prior year period was primarily due to fluctuations in the effective tax rates on income earned by international entities.

Net Loss Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

	Three Months Ended March 31,		Change	
	2022	2021	Amount	%
	(dollars in thousands)			
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	$ (4,388)	$ (4,892)	$ 504	10.3 %

Net loss attributable to noncontrolling interests is the result of allocating profits and losses to noncontrolling interests under the hypothetical liquidation at book value ("HLBV") method. HLBV is a balance sheet-oriented approach for applying the equity method of accounting when there is a complex structure, such as the flip structure of the PPA Entities.

Net loss attributable to noncontrolling interests and redeemable noncontrolling interests for the three months ended March 31, 2022 as compared to the prior year period changed by $0.5 million due to decreased losses in our PPA Entities, which are allocated to our noncontrolling interests.

Liquidity and Capital Resources

As of March 31, 2022, we had cash and cash equivalents of $286.0 million. Our cash and cash equivalents consist of highly liquid investments with maturities of three months or less, including money market funds. We maintain these balances with high credit quality counterparties, continually monitor the amount of credit exposure to any one issuer and diversify our investments in order to minimize our credit risk.

As of March 31, 2022, we had $292.4 million of total outstanding recourse debt, $230.4 million of non-recourse debt and $18.4 million of other long-term liabilities. For a complete description of our outstanding debt, please see Note 7 - *Outstanding Loans and Security Agreements* in Part I, Item 1, *Financial Statements*.

The combination of our existing cash and cash equivalents is expected to be sufficient to meet our anticipated cash flow needs for the next 12 months and thereafter for the foreseeable future. If these sources of cash are insufficient to satisfy our near-term or future cash needs, we may require additional capital from equity or debt financings to fund our operations, in particular, our manufacturing capacity, product development and market expansion requirements, to timely respond to competitive market pressures or strategic opportunities, or otherwise. We may, from time to time, engage in a variety of financing transactions for such purposes, including factoring our accounts receivable. We may not be able to secure timely additional financing on favorable terms, or at all. The terms of any additional financings may place limits on our financial and operating flexibility. If we raise additional funds through further issuances of equity or equity-linked securities, our existing stockholders could suffer dilution in their percentage ownership of us, and any new securities we issue could have rights, preferences and privileges senior to those of holders of our common stock.

Our future capital requirements will depend on many factors, including our rate of revenue growth, the timing and extent of spending on research and development efforts and other business initiatives, the rate of growth in the volume of system builds and the need for additional manufacturing space, the expansion of sales and marketing activities both in domestic and international markets, market acceptance of our products, our ability to secure financing for customer use of our Energy Servers, the timing of installations, and overall economic conditions including the impact of COVID-19 on our ongoing and future operations. In order to support and achieve our future growth plans, we may need or seek advantageously to obtain additional funding through an equity or debt financing. Failure to obtain this financing or financing in future quarters will affect our results of operations, including revenue and cash flows.

As of March 31, 2022, the current portion of our total debt is $30.3 million, of which $17.9 million is outstanding non-recourse debt. We expect a certain portion of the non-recourse debt will be refinanced by the applicable PPA Entity prior to maturity.

A summary of our consolidated sources and uses of cash, cash equivalents and restricted cash was as follows (in thousands):

	Three Months Ended March 31,	
	2022	2021
Net cash provided by (used in):		
Operating activities	$ (92,443)	$ (89,035)
Investing activities	(18,510)	(12,932)
Financing activities	(10,112)	51,150

Net cash provided by (used in) our PPA Entities, which are incorporated into the condensed consolidated statements of cash flows, was as follows (in thousands):

	Three Months Ended March 31,	
	2022	2021
PPA Entities [1]		
Net cash provided by PPA operating activities	$ 7,658	$ 5,976
Net cash provided by (used in) PPA financing activities	(8,114)	(9,506)

[1] The PPA Entities' operating and financing cash flows are a subset of our consolidated cash flows and represent the stand-alone cash flows prepared in accordance with U.S. GAAP. Operating activities consist principally of cash used to run the operations of the PPA Entities, the purchase of Energy Servers from us and principal reductions in loan balances. Financing activities consist primarily of changes in debt carried by our PPAs, and payments from and distributions to noncontrolling partnership interests. We believe this presentation of net cash provided by (used in) PPA activities is useful to provide the reader with the impact to consolidated cash flows of the PPA Entities in which we have only a minority interest.

Operating Activities

Our operating activities have consisted of net loss adjusted for certain non-cash items plus changes in our operating assets and liabilities or working capital. The increase in cash used in operating activities during the three months ended March 31, 2022 as compared to the prior year period was primarily the result of an increase in our net loss and an increase in our net working capital of $56.0 million in the three months ended March 31, 2022 due to the timing of revenue transactions and corresponding collections and the increase in inventory levels to support future demand.

Investing Activities

Our investing activities have consisted of capital expenditures that include investment to increase our production capacity. We expect to continue such activities as our business grows. Cash used in investing activities of $18.5 million during the three months ended March 31, 2022 was primarily the result of expenditures on tenant improvements for a newly leased engineering building in Fremont, California. We expect to continue to make capital expenditures over the next few quarters to prepare our new manufacturing facility in Fremont, California for production, which includes the purchase of new equipment and other tenant improvements. We intend to fund these capital expenditures from cash on hand as well as cash flow to be generated from operations. We may also evaluate and arrange equipment lease financing to fund these capital expenditures.

Financing Activities

Historically, our financing activities have consisted of borrowings and repayments of debt including to related parties, proceeds and repayments of financing obligations, distributions paid to noncontrolling interests and redeemable noncontrolling interests, and the proceeds from the issuance of our common stock. Net cash used in financing activities during the three months ended March 31, 2022 was $(10.1) million, an increase of $61.3 million compared to the prior year period, primarily due to the proceeds in 2022 from stock option exercises and the sale of shares under our 2018 Employee Stock Purchase Plan.

Off-Balance Sheet Arrangements

We include in our condensed consolidated financial statements all assets and liabilities and results of operations of our PPA Entities that we have entered into and over which we have substantial control. For additional information, see Note 13 - *Portfolio Financings* in Part II, Item 8, *Financial Statements and Supplementary Data.*

We have not entered into any other transactions that have generated relationships with unconsolidated entities or financial partnerships or special purpose entities. Accordingly, as of March 31, 2022 and 2021 we had no off-balance sheet arrangements.

Critical Accounting Policies and Estimates

The condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles as applied in the United States ("U.S. GAAP") The preparation of the condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. Our discussion and analysis of our financial results under *Results of Operation*s above are based on our audited results of operations, which we have prepared in accordance with U.S. GAAP. In preparing these condensed consolidated financial statements, we make assumptions, judgments and estimates that can affect the reported amounts of assets, liabilities, revenues and expenses, and net income. On an ongoing basis, we base our estimates on historical experience, as appropriate, and on various other assumptions that we believe to be reasonable under the circumstances. Changes in the accounting estimates are representative of estimation uncertainty, and are reasonably likely to occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected. We believe that the following critical accounting policies involve a greater degree of judgment and complexity than our other accounting policies. Accordingly, these are the policies we believe are the most critical to understanding and evaluating the consolidated financial condition and results of operations.

The accounting policies that most frequently require us to make assumptions, judgments and estimates, and therefore are critical to understanding our results of operations, include:

- Discussion of Earliest Year of Changes in Financial Condition and Results of Operations;
- Revenue Recognition;
- Leases: Incremental Borrowing Rate;
- Valuation of Escalator Protection Plan Agreements ("EPP");
- Valuation of Certain Financial Instruments and Customer Financing Receivables;
- Valuation of Assets and Liabilities of the SK ecoplant Strategic Investment;
- Incremental Borrowing Rate ("IBR") by Lease Class;
- Stock-Based Compensation;
- Income Taxes;
- Principles of Consolidation; and
- Allocation of Profits and Losses of Consolidated Entities to Noncontrolling Interests and Redeemable Noncontrolling Interests.

Management's Discussion and Analysis of Financial Condition and Results of Operations contained in Part II, Item 7 of our Annual Report on Form 10-K for our fiscal year ended December 31, 2021 provides a more complete discussion of our critical accounting policies and estimates. During the three months ended March 31, 2022, there were no significant changes to our critical accounting policies and estimates.

ITEM 3 - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There were no significant changes to our quantitative and qualitative disclosures about market risk during three months ended March 31, 2022. Please refer to Part II, Item 7A, *Quantitative and Qualitative Disclosures about Market Risk* included in our Annual Report on Form 10-K for our fiscal year ended December 31, 2021 for a more complete discussion of the market risks we consider.

ITEM 4 - CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer (our principal executive officer) and Chief Financial Officer (our principal financial officer) as appropriate, to allow for timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of March 31, 2022. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of March 31, 2022, our disclosure controls and procedures were effective.

Inherent Limitations on Effectiveness of Internal Controls

Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls or our internal controls over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of the effectiveness of controls to future periods are subject to risks. Over time, controls may become inadequate because of changes in business conditions or deterioration in the degree of compliance with policies or procedures.

Changes in Internal Control over Financial Reporting

During the three months ended March 31, 2022, there were no changes in our internal controls over financial reporting, which were identified in connection with management's evaluation required by paragraph (d) of Rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part II

ITEM 1 - LEGAL PROCEEDINGS

We are, and from time to time we may become, involved in legal proceedings or be subject to claims arising in the ordinary course of our business. For a discussion of legal proceedings, see Note 13 - *Commitments and Contingencies* in Part I, Item 1, *Financial Statements*. We are not presently a party to any other legal proceedings that in the opinion of our management and if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, financial condition or cash flows.

ITEM 1A - RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the material risks and uncertainties described below that make an investment in us speculative or risky, as well as the other information in this Quarterly Report on Form 10-Q, including our condensed consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" before you decide to purchase our securities. A manifestation of any of the following risks could, in circumstances we may or may not be able to accurately predict, render us unable to conduct our business as currently planned and materially and adversely affect our reputation, business, prospects, growth, financial condition, cash flows, liquidity and operating results. In addition, the occurrence of one or more of these risks may cause the market price of our Class A common stock to decline, and you could lose all or part of your investment. It is not possible to predict or identify all such risks and uncertainties, as our operations could also be affected by factors, events or uncertainties that are not presently known to us or that we currently do not consider to present significant risks to our operations. Therefore, you should not consider the following risks to be a complete statement of all the potential risks or uncertainties that we face.

Risk Factor Summary

The following summarizes the more complete risk factors that follow. It should be read in conjunction with the complete Risk Factors section and should not be relied upon as an exhaustive summary of all the material risks facing our business.

Risks Related to Our Business, Industry and Sales

- The distributed generation industry is an emerging market and distributed generation may not receive widespread market acceptance, which may make evaluating our business and future prospects difficult.
- Our products involve a lengthy sales and installation cycle, and if we fail to close sales on a regular and timely basis, our business could be harmed.
- Our Energy Servers have significant upfront costs, and we will need to attract investors to help customers finance purchases.
- The economic benefits of our Energy Servers to our customers depend on the cost of electricity available from alternative sources, including local electric utility companies, and such cost structure is subject to change.
- If we are not able to continue to reduce our cost structure in the future, our ability to become profitable may be impaired.
- We rely on interconnection requirements and net metering arrangements that are subject to change.
- We currently face and will continue to face significant competition.
- We derive a substantial portion of our revenue and backlog from a limited number of customers, and the loss of or a significant reduction in orders from a large customer could have a material adverse effect on our operating results and other key metrics.
- Our ability to develop new products and enter into new markets could be negatively impacted if we are unable to identify partners to assist in such development or expansion, and our products may not be successful if we are unable to maintain alignment with evolving industry standards and requirements.

Risks Related to Our Products and Manufacturing

- Our business has been and continues to be adversely affected by the COVID-19 pandemic.
- Our future success depends in part on our ability to increase our production capacity, and we may not be able to do so in a cost-effective manner.
- If our Energy Servers contain manufacturing defects, our business and financial results could be harmed.
- The performance of our Energy Servers may be affected by factors outside of our control, which could result in harm to our business and financial results.

- If our estimates of the useful life for our Energy Servers are inaccurate or we do not meet our performance warranties and performance guaranties, or if we fail to accrue adequate warranty and guaranty reserves, our business and financial results could be harmed.
- Our business is subject to risks associated with construction, utility interconnection, cost overruns and delays, including those related to obtaining government permits and other contingencies that may arise in the course of completing installations.
- The failure of our suppliers to continue to deliver necessary raw materials or other components of our Energy Servers in a timely manner and to specification could prevent us from delivering our products within required time frames and could cause installation delays, cancellations, penalty payments and damage to our reputation.
- We have, in some instances, entered into long-term supply agreements that could result in insufficient inventory and negatively affect our results of operations.
- We face supply chain competition, including competition from businesses in other industries, which could result in insufficient inventory and negatively affect our results of operations.
- We, and some of our suppliers, obtain capital equipment used in our manufacturing process from sole suppliers and, if this equipment is damaged or otherwise unavailable, our ability to deliver our Energy Servers on time will suffer.
- Possible new trade tariffs could have a material adverse effect on our business.
- Any significant disruption in the operations at our headquarters or manufacturing facilities could delay the production of our Energy Servers, which would harm our business and results of operations.

Risks Related to Government Incentive Programs

- Our business currently benefits from the availability of rebates, tax credits and other financial programs and incentives, and the reduction, modification, or elimination of such benefits could cause our revenue to decline and harm our financial results.
- We rely on tax equity financing arrangements to realize the benefits provided by ITCs and accelerated tax depreciation and in the event these programs are terminated, our financial results could be harmed.

Risks Related to Legal Matters and Regulations

- We are subject to various national, state and local laws and regulations that could impose substantial costs upon us and cause delays in the delivery and installation of our Energy Servers.
- The installation and operation of our Energy Servers are subject to environmental laws and regulations in various jurisdictions, and there is uncertainty with respect to the interpretation of certain environmental laws and regulations to our Energy Servers, especially as these regulations evolve over time.
- With respect to our products that run, in part, on fossil fuel, we may be subject to a heightened risk of regulation, to a potential for the loss of certain incentives, and to changes in our customers' energy procurement policies.

Risks Related to Our Intellectual Property

- Our failure to effectively protect and enforce our intellectual property rights may undermine our competitive position, and litigation to protect our intellectual property rights may be costly.
- Our patent applications may not result in issued patents, and our issued patents may not provide adequate protection, either of which may have a material adverse effect on our ability to prevent others from commercially exploiting products similar to ours.
- We may need to defend ourselves against claims that we infringed, misappropriated, or otherwise violated the intellectual property rights of others, which may be time-consuming and would cause us to incur substantial costs.

Risks Related to Our Financial Condition and Operating Results

- We have incurred significant losses in the past and we may not be profitable for the foreseeable future.
- Our financial condition and results of operations and other key metrics are likely to fluctuate on a quarterly basis in future periods, which could cause our results for a particular period to fall below expectations, resulting in a severe decline in the price of our Class A common stock.
- If we fail to manage our growth effectively, our business and operating results may suffer.
- If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.
- Our ability to use our deferred tax assets to offset future taxable income may be subject to limitations that could subject our business to higher tax liability.

Risks Related to Our Liquidity

- We must maintain the confidence of our customers in our liquidity, including in our ability to timely service our debt obligations and in our ability to grow our business over the long-term.

- Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities' outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs.
- We may not be able to generate sufficient cash to meet our debt service obligations.

Risks Related to Our Operations

- We may have conflicts of interest with our PPA Entities.
- Expanding operations internationally could expose us to additional risks.
- Data security breaches and cyberattacks could compromise our intellectual property or other confidential information and cause significant damage to our business and reputation.
- If we are unable to attract and retain key employees and hire qualified management, technical, engineering, finance and sales personnel, our ability to compete and successfully grow our business could be harmed.

Risks Related to Ownership of Our Common Stock

- The stock price of our Class A common stock has been and may continue to be volatile.
- We may issue additional shares of our Class A common stock in connection with any future conversion of the Green Notes (as defined herein) or in connection with our transaction with SK ecoplant, which may dilute our existing stockholders and potentially adversely affect the market price of our Class A common stock.
- The dual class structure of our common stock and the voting agreements among certain stockholders have the effect of concentrating voting control of our Company with KR Sridhar, our Chairman and Chief Executive Officer, and also with those stockholders who held our capital stock prior to the completion of our initial public offering, which limits or precludes your ability to influence corporate matters and may adversely affect the trading price of our Class A common stock.

Risks Related to Our Business, Industry and Sales

The distributed generation industry is an emerging market and distributed generation may not receive widespread market acceptance, which may make evaluating our business and future prospects difficult.

The distributed generation industry is still an emerging market in an otherwise mature and heavily regulated industry, and we cannot be sure that potential customers will accept distributed generation broadly, or our Energy Server products specifically. Enterprises may be unwilling to adopt our solution over traditional or competing power sources for any number of reasons, including the perception that our technology or our company is unproven, lack of confidence in our business model, the perceived unavailability of back-up service providers to operate and maintain the Energy Servers, and lack of awareness of our product or their perception of regulatory or political headwinds. Because distributed generation is an emerging industry, broad acceptance of our products and services is subject to a high level of uncertainty and risk. If the market for our products and services does not continue to develop as we anticipate, our business will be harmed. As a result, predicting our future revenue and appropriately budgeting for our expenses is difficult, and we have limited insight into trends that may emerge and affect our business. If actual results differ from our estimates or if we adjust our estimates in future periods, our operating results and financial position could be materially and adversely affected.

Our products involve a lengthy sales and installation cycle, and if we fail to close sales on a regular and timely basis, our business could be harmed.

Our sales cycle is typically 12 to 18 months but can vary considerably. In order to make a sale, we must typically provide a significant level of education to prospective customers regarding the use and benefits of our product and our technology. The period between initial discussions with a potential customer and the eventual sale of even a single product typically depends on a number of factors, including the potential customer's budget and decision as to the type of financing it chooses to use, as well as the arrangement of such financing. Prospective customers often undertake a significant evaluation process that may further extend the sales cycle. Once a customer makes a formal decision to purchase our product, the fulfillment of the sales order by us requires a substantial amount of time. Generally, the time between the entry into a sales contract with a customer and the installation of our Energy Servers can range from nine to twelve months or more. This lengthy sales and installation cycle is subject to a number of significant risks over which we have little or no control. Because of both the long sales and long installation cycles, we may expend significant resources without having certainty of generating a sale.

These lengthy sales and installation cycles increase the risk that an installation may be delayed and/or may not be completed. In some instances, a customer can cancel an order for a particular site prior to installation, and we may be unable to recover some or all of our costs in connection with design, permitting, installation and site preparations incurred prior to cancellation. Cancellation rates can be between 10% and 20% in any given period due to factors outside of our control,

including an inability to install an Energy Server at the customer's chosen location because of permitting or other regulatory issues, delays or unanticipated costs in securing interconnection approvals or necessary utility infrastructure, unanticipated changes in the cost, or other reasons unique to each customer. Our operating expenses are based on anticipated sales levels, and many of our expenses are fixed. If we are unsuccessful in closing sales after expending significant resources or if we experience delays or cancellations, our business could be materially and adversely affected. Since, in general, we do not recognize revenue on the sales of our products until installation and acceptance, a small fluctuation in the timing of the completion of our sales transactions could cause our operating results to vary materially from period to period.

Our Energy Servers have significant upfront costs, and we will need to attract investors to help customers finance purchases.

Our Energy Servers have significant upfront costs. In order to expand our offerings to customers who lack the financial capability to purchase our Energy Servers directly and/or who prefer to lease the product or contract for our services on a pay-as-you-go model, we subsequently developed various financing options that enabled customers use of the Energy Servers without a direct purchase through third-party ownership financing arrangements. For an overview of these different financing arrangements, please see Part I, Item 2, *Management's Discussion and Analysis of Financial Condition and Results of Operations – Purchase and Financing Options*. If in any given quarter we are not able to secure funding in a timely fashion, our results of operations and financial condition will be negatively impacted. We continue to innovate our customer contracts to attempt to attract new customers and these may have different terms and financing conditions from prior transactions.

We rely on and need to grow committed financing capacity with existing partners or attract additional partners to support our growth, finance new projects and new types of product offerings, including fuel cells for the hydrogen market. In addition, at any point in time, our ability to deploy our backlog is contingent on securing available financing. Our ability to attract third-party financing depends on many factors that are outside of our control, including an investors' ability to utilize tax credits and other government incentives, interest rate and/or currency exchange fluctuations, our perceived creditworthiness and the condition of credit markets generally. Our financing of customer purchases of our Energy Servers is subject to conditions such as the customer's credit quality and the expected minimum internal rate of return on the customer engagement, and if these conditions are not satisfied, we may be unable to finance purchases of our Energy Servers, which would have an adverse effect on our revenue in a particular period. If we are unable to help our customers arrange financing for our Energy Servers generally, our business will be harmed. Additionally, the Managed Services Financing option, as with all leases, is also limited by the customer's willingness to commit to making fixed payments regardless of the performance of the Energy Servers or our performance of our obligations under the customer agreement. To the extent we are unable to arrange future financings for any of our current projects, our business would be negatively impacted.

Further, our sales process for transactions, which require financing, require that we make certain assumptions regarding the cost of financing capital. Actual financing costs may vary from our estimates due to factors outside of our control, including changes in customer creditworthiness, macroeconomic factors, the returns offered by other investment opportunities available to our financing partners, and other factors. If the cost of financing ultimately exceeds our estimates, we may be unable to proceed with some or all of the impacted projects or our revenue from such projects may be less than our estimates.

The economic benefits of our Energy Servers to our customers depend on the cost of electricity available from alternative sources, including local electric utility companies, and such cost structure is subject to change.

We believe that a customer's decision to purchase our Energy Servers is significantly influenced by its price, the price predictability of electricity generated by our Energy Servers in comparison to the retail price, and the future price outlook of electricity from the local utility grid and other energy sources. These prices are subject to change and may affect the relative benefits of our Energy Servers. Factors that could influence these prices and are beyond our control include the impact of energy conservation initiatives that reduce electricity consumption; construction of additional power generation plants (including nuclear, coal or natural gas); technological developments by others in the electric power industry; the imposition of "departing load," "standby," power factor charges, greenhouse gas emissions charges, or other charges by local electric utility or regulatory authorities; and changes in the rates offered by local electric utilities and/or in the applicability or amounts of charges and other fees imposed or incentives granted by such utilities on customers. In addition, even with available subsidies for our products, the current low cost of grid electricity in some states in the United States and some foreign countries does not render our product economically attractive.

Furthermore, an increase in the price of natural gas or curtailment of availability (e.g., as a consequence of physical limitations or adverse regulatory conditions for the delivery of production of natural gas) or the inability to obtain natural gas service could make our Energy Servers less economically attractive to potential customers and reduce demand.

If we are not able to continue to reduce our cost structure in the future, our ability to become profitable may be impaired.

We must continue to reduce the manufacturing costs for our Energy Servers to expand our market. Additionally, certain of our existing service contracts were entered into based on projections regarding service costs reductions that assume continued advances in our manufacturing and services processes that we may be unable to realize. Future increases to the cost of components and raw materials would offset our efforts to reduce our manufacturing and services costs. For example, during the second half of 2021, we experienced price increases in raw materials, which are used in our components and subassemblies for our Energy Servers. Any increases in the costs of components, raw materials and/or labor, whether as a result of supply chain pressures, inflation or rising interest rates, could slow our growth and cause our financial results and operational metrics to suffer.

In addition, we may face increases in our other expenses including increases in wages or other labor costs as well as installation, marketing, sales or related costs. In order to expand into new electricity markets (in which the price of electricity from the grid is lower) while still maintaining our current margins, we will need to continue to reduce our costs. Increases in any of these costs or our failure to achieve projected cost reductions could adversely affect our results of operations and financial condition and harm our business and prospects. If we are unable to reduce our cost structure in the future, we may not be able to achieve profitability, which could have a material adverse effect on our business and our prospects.

We rely on interconnection requirements and export tariff arrangements that are subject to change.

Because our Energy Servers are designed to operate at a constant output 24x7, while our customers' demand for electricity typically fluctuates over the course of the day or week, there are often periods when our Energy Servers are producing more electricity than a customer may require, and such excess electricity must generally be exported to the local electric utility. Export of customer-generated power is generally provided for in the United States under federal, state or local laws and regulations. Many, but not all, local electric utilities provide compensation to our customers for such electricity under "fuel cell net metering" (which often differs from solar net metering) or other customer generation programs. Utility tariffs and fees, interconnection agreements and fuel cell net metering requirements are subject to changes in availability and terms, and some jurisdictions do not allow interconnections or export at all. At times in the past, such changes have had the effect of significantly reducing or eliminating the benefits of such programs. Changes in the availability of, or benefits offered by, utility tariffs, the applicable net metering requirements or interconnection agreements in the jurisdictions in which we operate or in which we anticipate expanding into in the future could adversely affect the demand for our Energy Servers. For example, in California, the fuel cell net metering tariff currently expires in 2023. We cannot predict the outcome of regulatory proceedings addressing tariffs that would include customers utilizing fuel cells. If there is not an economical tariff for customers utilizing fuel cells in a given jurisdiction, it may limit or end our ability to sell and install our Energy Servers in that jurisdiction. Further, permitting and other requirements applicable to electric and gas interconnections are subject to change. For example, some jurisdictions are limiting new gas interconnections, although others are allowing new gas interconnections for non-combustion resources like our Energy Servers. In addition, the rules and regulations regarding the production, transportation and storage of hydrogen, including with respect to safety, environmental and market regulations and policies, are in flux and may limit the market for our products that operate with hydrogen.

We currently face and will continue to face significant competition.

We compete for customers, financing partners and incentive dollars with other electric power providers. Many providers of electricity, such as traditional utilities and other companies offering distributed generation products, have longer operating histories, customer incumbency advantages. access to and influence with local and state governments, and access to more capital resources than us. Significant developments in alternative technologies, such as energy storage, wind, solar or hydro power generation, or improvements in the efficiency or cost of traditional energy sources, including coal, oil, natural gas used in combustion, or nuclear power, may materially and adversely affect our business and prospects in ways we cannot anticipate. We may also face new competitors who are not currently in the market. If we fail to adapt to changing market conditions and to compete successfully with grid electricity or new competitors, our growth will be limited, which would adversely affect our business results.

We derive a substantial portion of our revenue and backlog from a limited number of customers, and the loss of or a significant reduction in orders from a large customer could have a material adverse effect on our operating results and other key metrics.

In any particular period, a substantial amount of our total revenue has and could continue to come from a relatively small number of customers. As an example, in the year ended December 31, 2021, two customers accounted for approximately 43%

and 11% of our total revenue. The loss of any large customer order or any delays in installations of new Energy Servers with any large customer would materially and adversely affect our business results.

Our ability to develop new products and enter into new markets could be negatively impacted if we are unable to identify partners to assist in such development or expansion, and our products may not be successful if we are unable to maintain alignment with evolving industry standards and requirements.

We continue to develop new products for new markets and, as we move into those markets, we may need to identify new business partners and suppliers in order to facilitate such development and expansion, such as our entry into the hydrogen market or the development of the Bloom Electrolyzer. Identifying such partners and suppliers is a lengthy process and is subject to significant risks and uncertainties, such as an inability to negotiate mutually-acceptable terms for the partnership. In addition, there could be delays in the design, manufacture and installation of new products and we may not be timely in the development of new products, limiting our ability to expand our business and harming our financial condition and results of operations.

In addition, as we continue to invest in research and development to sustain or enhance our existing products, the introduction of new technologies and the emergence of new industry standards or requirements could render our products obsolete. Further, in developing our products, we have made, and will continue to make, assumptions with respect to which standards or requirements will be adopted by our customers and standards-setting organizations. If market acceptance of our products is reduced or delayed or the standards-setting organizations fail to develop timely commercially viable standards our business would be harmed.

Risks Related to Our Products and Manufacturing

Our business has been and continues to be adversely affected by the COVID-19 pandemic.

We continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic. The precautions that we have implemented in our operations may not be sufficient to prevent exposure to COVID-19. While we do maintain protocols to minimize the risk of COVID-19 transmission within our facilities, including enhanced cleaning, masking if required by the local authorities as well as providing testing for all employees, there is no guarantee that these measures will prevent an outbreak.

If a significant number of employees are exposed and sent home, particularly in our manufacturing facilities, our production could be significantly impacted. Furthermore, since our manufacturing process involves tasks performed at both our California and Delaware facilities, an outbreak at either facility would have a substantial impact on our overall production, and in such case, our cash flow and results of operations including revenue will be adversely affected.

During the COVID-19 pandemic, we have experienced delays from certain vendors and suppliers, which, in turn, could cause delays in the manufacturing and installation of our Energy Servers and adversely impact our cash flows and results of operations including revenue. Alternative or replacement suppliers may not be available and ongoing delays could affect our business and growth. In addition, new and potentially more contagious variants of the COVID-19 virus may develop, which can lead to future disruptions in the availability or price of these or other parts, and we cannot guarantee that we will succeed in finding alternate suppliers that are able to meet our needs. In addition, international air and sea logistics systems have been heavily impacted by the COVID-19 pandemic. Actions by government agencies may further restrict the operations of freight carriers and the operation of ports, which would negatively impact our ability to receive the parts and supplies we need to manufacture our Energy Servers or to deliver them to our customers.

Our installation operations have also been impacted by the COVID-19 pandemic. For example, our installation projects have experienced delays relating to, among other things, shortages in available labor for design, installation and other work; the inability or delay in our ability to access customer facilities due to shutdowns or other restrictions; the decreased productivity of our general contractors, their sub-contractors, medium-voltage electrical gear suppliers, and the wide range of engineering and construction related specialist suppliers on whom we rely for successful and timely installations; the stoppage of work by gas and electric utilities on which we are critically dependent for hook-ups; and the unavailability of necessary civil and utility inspections as well as the review of our permit submissions and issuance of permits by multiple authorities that have jurisdiction over our activities.

We are not the only business impacted by these shortages and delays, which means that we are subject to risk of increased competition for scarce resources, which may result in delays or increases in the cost of obtaining such services, including increased labor costs and/or fees. An inability to install our Energy Servers would negatively impact our acceptances, and thereby impact our cash flows and results of operations, including revenue.

As to maintenance operations, if we are delayed in or unable to perform scheduled or unscheduled maintenance, our previously-installed Energy Servers will likely experience adverse performance impacts including reduced output and/or efficiency, which could result in warranty and/or guaranty claims by our customers. Further, due to the nature of our Energy Servers, if we are unable to replace worn parts in accordance with our standard maintenance schedule, we may be subject to increased costs in the future.

We continue to remain in close communication with our manufacturing facilities, employees, customers, suppliers and partners, but there is no guarantee we will be able to mitigate the impact of this ongoing situation.

Our future success depends in part on our ability to increase our production capacity, and we may not be able to do so in a cost-effective manner.

To the extent we are successful in growing our business, we may need to increase our production capacity. Our ability to plan, construct and equip additional manufacturing facilities is subject to significant risks and uncertainties, including the following:

- The risks inherent in the development and construction of new facilities, including risks of delays and cost overruns as a result of factors outside our control, which may include delays in government approvals, burdensome permitting conditions, and delays in the delivery of manufacturing equipment and subsystems that we manufacture or obtain from suppliers.
- Adding manufacturing capacity in any international location will subject us to new laws and regulations including those pertaining to labor and employment, environmental and export / import. In addition, it brings with it the risk of managing larger scale foreign operations.
- We may be unable to achieve the production throughput necessary to achieve our target annualized production run rate at our current and future manufacturing facilities.
- Manufacturing equipment may take longer and cost more to engineer and build than expected, and may not operate as required to meet our production plans.
- We may depend on third-party relationships in the development and operation of additional production capacity, which may subject us to the risk that such third parties do not fulfill their obligations to us under our arrangements with them.
- We may be unable to attract or retain qualified personnel. For example, currently the market for manufacturing labor has been constrained, which could pose a risk to our ability to increase production.

If we are unable to expand our manufacturing facilities or develop our existing facilities in a timely manner to meet increased demand, we may be unable to further scale our business, which would negatively affect our results of operations and financial condition. Conversely, if the demand for our Energy Servers or our production output decreases or does not rise as expected, we may not be able to spread a significant amount of our fixed costs over the production volume, resulting in a greater than expected per unit fixed cost, which would have a negative impact on our financial condition and our results of operations.

If our Energy Servers contain manufacturing defects, our business and financial results could be harmed.

Our Energy Servers are complex products and they may contain undetected or latent errors or defects. In the past, we have experienced latent defects only discovered once the Energy Server is deployed in the field. Changes in our supply chain or the failure of our suppliers to otherwise provide us with components or materials that meet our specifications could introduce defects into our products. As we grow our manufacturing volume, the chance of manufacturing defects could increase. In addition, new product introductions or design changes made for the purpose of cost reduction, performance improvement, fulfilling new customer requirements or improved reliability could introduce new design defects that may impact Energy Server performance and life. Any design or manufacturing defects or other failures of our Energy Servers to perform as expected could cause us to incur significant service and re-engineering costs, divert the attention of our engineering personnel from product development efforts, and significantly and adversely affect customer satisfaction, market acceptance, and our business reputation.

Furthermore, we may be unable to correct manufacturing defects or other failures of our Energy Servers in a manner satisfactory to our customers, which could adversely affect customer satisfaction, market acceptance, and our business reputation.

The performance of our Energy Servers may be affected by factors outside of our control, which could result in harm to our business and financial results.

Field conditions, such as the quality of the natural gas supply and utility processes, which vary by region and may be subject to seasonal fluctuations or environmental factors such as smoke from wild fires, have affected the performance of our Energy Servers and are not always possible to predict until the Energy Server is in operation. As we move into new geographies and deploy new service configurations, we may encounter new and unanticipated field conditions (including as a result of climate change). Adverse impacts on performance may require us to incur significant service and re-engineering costs or divert the attention of our engineering personnel from product development efforts. Furthermore, we may be unable to adequately address the impacts of factors outside of our control in a manner satisfactory to our customers. Any of these circumstances could significantly and adversely affect customer satisfaction, market acceptance, and our business reputation.

If our estimates of the useful life for our Energy Servers are inaccurate or we do not meet our performance warranties and performance guaranties, or if we fail to accrue adequate warranty and guaranty reserves, our business and financial results could be harmed.

We offer certain customers the opportunity to renew their O&M Agreements (defined herein) on an annual basis, for up to 30 years, at prices predetermined at the time of purchase of the Energy Server. We also provide performance warranties and performance guaranties covering the efficiency and output performance of our Energy Servers. Our pricing of these contracts and our reserves for warranty and replacement are based upon our estimates of the useful life of our Energy Servers and their components, including assumptions regarding improvements in power module life that may fail to materialize. We do not have a long history with a large number of field deployments, especially for new product introductions, and our estimates may prove to be incorrect. Failure to meet these warranty and performance guaranty levels may require us to replace the Energy Servers at our expense or refund their cost to the customer, or require us to make cash payments to the customer based on actual performance, as compared to expected performance, capped at a percentage of the relevant equipment purchase prices. We accrue for product warranty costs and recognize losses on service or performance warranties when required by U.S. GAAP based on our estimates of costs that may be incurred and based on historical experience. However, as we expect our customers to renew their O&M Agreements each year, the total liability over time may be more than the accrual. Actual warranty expenses have in the past been and may in the future be greater than we have assumed in our estimates, the accuracy of which may be hindered due to our limited history operating at our current scale. Therefore, if our estimates of the useful life for our Energy Servers are inaccurate or we do not meet our performance warranties and performance guaranties, or if we fail to accrue adequate warranty and guaranty reserves, our business and financial results could be harmed.

Our business is subject to risks associated with construction, utility interconnection, cost overruns and delays, including those related to obtaining government permits and other contingencies that may arise in the course of completing installations.

Because we generally do not recognize revenue on the sales of our Energy Servers until installation and acceptance except where a third party is responsible for installation (such as in our sales in the Republic of Korea and certain cases in the United States), our financial results depend to a large extent on the timeliness of the installation of our Energy Servers. Furthermore, in some cases, the installation of our Energy Servers may be on a fixed price basis, which subjects us to the risk of cost overruns or other unforeseen expenses in the installation process.

The construction, installation, and operation of our Energy Servers at a particular site is also generally subject to oversight and regulation in accordance with national, state, and local laws and ordinances relating to building codes, safety, environmental protection, and related matters, and typically require various local and other governmental approvals and permits, including environmental approvals and permits, that vary by jurisdiction. In some cases, these approvals and permits require periodic renewal. For more information regarding these restrictions, please see the risk factors in the section entitled "*Risks Related to Legal Matters and Regulations*." As a result, unforeseen delays in the review and permitting process could delay the timing of the construction and installation of our Energy Servers and could therefore adversely affect the timing of the recognition of revenue related to the installation, which could harm our operating results in a particular period.

In addition, the completion of many of our installations depends on the availability of and timely connection to the natural gas grid and the local electric grid. In some jurisdictions, local utility companies or the municipality have denied our request for connection or have required us to reduce the size of certain projects. In addition, some municipalities have recently adopted restrictions that prohibit any new construction that allows for the use of natural gas. For more information regarding these restrictions, please see the risk factor entitled "*As a technology that runs, in part, on fossil fuel, we may be subject to a heightened risk of regulation, to a potential for the loss of certain incentives, and to changes in our customers' energy*

procurement policies." Any delays in our ability to connect with utilities, delays in the performance of installation-related services, or poor performance of installation-related services by our general contractors or sub-contractors will have a material adverse effect on our results and could cause operating results to vary materially from period to period.

Furthermore, we rely on the ability of our third-party general contractors to install Energy Servers at our customers' sites and to meet our installation requirements. We currently work with a limited number of general contractors, which has impacted and may continue to impact our ability to make installations as planned. Our work with contractors or their sub-contractors may have the effect of our being required to comply with additional rules (including rules unique to our customers), working conditions, site remediation, and other union requirements, which can add costs and complexity to an installation project. The timeliness, thoroughness, and quality of the installation-related services performed by some of our general contractors and their sub-contractors in the past have not always met our expectations or standards and may not meet our expectations and standards in the future.

The failure of our suppliers to continue to deliver necessary raw materials or other components of our Energy Servers in a timely manner and to specification could prevent us from delivering our products within required time frames and could cause installation delays, cancellations, penalty payments and damage to our reputation.

We rely on a limited number of third-party suppliers, and in some cases sole suppliers, for some of the raw materials and components for our Energy Servers, including certain rare earth materials and other materials that may be of limited supply. If our suppliers provide insufficient inventory at the level of quality required to meet our standards and customer demand or if our suppliers are unable or unwilling to provide us with the contracted quantities (as we have limited or in some case no alternatives for supply), our results of operations could be materially and negatively impacted. If we fail to develop or maintain our relationships with our suppliers, or if there is otherwise a shortage or lack of availability of any required raw materials or components, we may be unable to manufacture our Energy Servers or our Energy Servers may be available only at a higher cost or after a long delay.

Recently, due to increased demand across a range of industries, the global supply chain for certain raw materials and components, including semiconductor components and specialty metals, has experienced significant strain. The COVID-19 pandemic has also contributed to and exacerbated this strain. There can be no assurance that the impacts of the pandemic on the supply chain will not continue, or worsen, in the future. Significant delays and shortages could prevent us from delivering our Energy Servers to our customers within required time frames and cause order cancellations, which would adversely impact our cash flows and results of operations.

In some cases, we have had to create our own supply chain for some of the components and materials utilized in our fuel cells. We have made significant expenditures in the past to develop our supply chain. In many cases, we entered into contractual relationships with suppliers to jointly develop the components we needed. These activities are time and capital intensive. In addition, some of our suppliers use proprietary processes to manufacture components. We may be unable to obtain comparable components from alternative suppliers without considerable delay, expense, or at all, as replacing these suppliers could require us either to make significant investments to bring the capability in-house or to invest in a new supply chain partner. Some of our suppliers are smaller, private companies, heavily dependent on us as a customer. If our suppliers face difficulties obtaining the credit or capital necessary to expand their operations when needed, they could be unable to supply necessary raw materials and components needed to support our planned sales and services operations, which would negatively impact our sales volumes and cash flows.

The failure by us to obtain raw materials or components in a timely manner or to obtain raw materials or components that meet our quantity and cost requirements could impair our ability to manufacture our Energy Servers or increase their costs or service costs of our existing portfolio of Energy Servers under O&M Agreements. If we cannot obtain substitute materials or components on a timely basis or on acceptable terms, we could be prevented from delivering our Energy Servers to our customers within required time frames, which could result in sales and installation delays, cancellations, penalty payments, or damage to our reputation, any of which could have a material adverse effect on our business and results of operations. In addition, we rely on our suppliers to meet quality standards, and the failure of our suppliers to meet those quality standards could cause delays in the delivery of our products, unanticipated servicing costs, and damage to our reputation.

We have, in some instances, entered into long-term supply agreements that could result in insufficient inventory and negatively affect our results of operations.

We have entered into long-term supply agreements with certain suppliers. Some of these supply agreements provide for fixed or inflation-adjusted pricing, substantial prepayment obligations and in a few cases, supplier purchase commitments. These arrangements could mean that we end up paying for inventory that we did not need or that was at a higher price than the

market. Further, we face significant specific counterparty risk under long-term supply agreements when dealing with suppliers without a long, stable production and financial history. Given the uniqueness of our product, many of our suppliers do not have a long operating history and are private companies that may not have substantial capital resources. In the event any such supplier experiences financial difficulties, it may be difficult or impossible, or may require substantial time and expense, for us to recover any or all of our prepayments. We do not know whether we will be able to maintain long-term supply relationships with our critical suppliers or whether we may secure new long-term supply agreements. Additionally, many of our parts and materials are procured from foreign suppliers, which exposes us to risks including unforeseen increases in costs or interruptions in supply arising from changes in applicable international trade regulations such as taxes, tariffs, or quotas. Any of the foregoing could materially harm our financial condition and our results of operations.

We face supply chain competition, including competition from businesses in other industries, which could result in insufficient inventory and negatively affect our results of operations.

Certain of our suppliers also supply parts and materials to other businesses including businesses engaged in the production of consumer electronics and other industries unrelated to fuel cells. As a relatively low-volume purchaser of certain of these parts and materials, we may be unable to procure a sufficient supply of the items in the event that our suppliers fail to produce sufficient quantities to satisfy the demands of all of their customers, which could materially harm our financial condition and our results of operations.

We, and some of our suppliers, obtain capital equipment used in our manufacturing process from sole suppliers and, if this equipment is damaged or otherwise unavailable, our ability to deliver our Energy Servers on time will suffer.

Some of the capital equipment used to manufacture our products and some of the capital equipment used by our suppliers have been developed and made specifically for us, are not readily available from multiple vendors, and would be difficult to repair or replace if they did not function properly. If any of these suppliers were to experience financial difficulties or go out of business or if there were any damage to or a breakdown of our manufacturing equipment and we could not obtain replacement equipment in a timely manner, our business would suffer. In addition, a supplier's failure to supply this equipment in a timely manner with adequate quality and on terms acceptable to us could disrupt our production schedule or increase our costs of production and service.

Possible new trade tariffs could have a material adverse effect on our business.

Our business is dependent on the availability of raw materials and components for our Energy Servers, particularly electrical components common in the semiconductor industry, specialty steel products / processing and raw materials. For example, prior tariffs imposed on steel and aluminum imports increased the cost of raw materials for our Energy Servers and decreased the available supply. Additional new trade tariffs or other trade protection measures that are proposed or threatened and the potential escalation of a trade war and retaliation measures could have a material adverse effect on our business, results of operations and financial condition. Consequently, the imposition of tariffs on items imported by us from China or other countries could increase our costs and could have a material adverse effect on our business and our results of operations.

A failure to properly comply with foreign trade zone laws and regulations could increase the cost of our duties and tariffs.

We have established two foreign trade zones, one in California and one in Delaware, through qualification with U.S. Customs and Border Protection, and are approved for "zone to zone" transfers between our California and Delaware facilities. Materials received in a foreign trade zone are not subject to certain U.S. duties or tariffs until the material enters U.S. commerce. We benefit from the adoption of foreign trade zones by reduced duties, deferral of certain duties and tariffs, and reduced processing fees, which help us realize a reduction in duty and tariff costs. However, the operation of our foreign trade zones requires compliance with applicable regulations and continued support of U.S. Customs and Border Protection with respect to the foreign trade zone program. If we are unable to maintain the qualification of our foreign trade zones, or if foreign trade zones are limited or unavailable to us in the future, our duty and tariff costs would increase, which could have an adverse effect on our business and results of operations.

Any significant disruption in the operations at our headquarters or manufacturing facilities could delay the production of our Energy Servers, which would harm our business and results of operations.

We manufacture our Energy Servers in a limited number of manufacturing facilities, any of which could become unavailable either temporarily or permanently for any number of reasons, including equipment failure, material supply, public health emergencies or catastrophic weather, including extreme weather events or flooding resulting from the effects of climate

change, or geologic events. For example, our headquarters and several of our manufacturing facilities are located in the San Francisco Bay Area, an area that is susceptible to earthquakes, floods and other natural disasters. The occurrence of a natural disaster such as an earthquake, drought, extreme heat, flood, fire, localized extended outages of critical utilities (such as California's public safety power shut-offs) or transportation systems, or any critical resource shortages could cause a significant interruption in our business, damage or destroy our facilities, our manufacturing equipment, or our inventory, and cause us to incur significant costs, any of which could harm our business, our financial condition and our results of operations. The insurance we maintain against fires, earthquakes and other natural disasters may not be adequate to cover our losses in any particular case.

Risks Related to Government Incentive Programs

Our business currently benefits from the availability of rebates, tax credits and other financial programs and incentives, and the reduction, modification, or elimination of such benefits could cause our revenue to decline and harm our financial results.

The U.S. federal government and some state and local governments provide incentives to current and future end users and purchasers of our Energy Servers in the form of rebates, tax credits and other financial incentives, such as system performance payments and payments for renewable energy credits associated with renewable energy generation. In addition, some countries outside the United States also provide incentives to current and future end users and purchasers of our Energy Servers. We currently have operations and sell our products in Japan, India and the Republic of Korea (collectively, our "Asia Pacific region"), where in some locations such as the Republic of Korea, Renewables Portfolio Standard ("RP Standards") or Clean Energy Standards ("CE Standards") are in place to promote the adoption of renewable, low- or zero-carbon power generation, including, in some circumstances, fuel cells. Our Energy Servers have qualified for tax exemptions, incentives, or other customer incentives in many states including the states of California, Connecticut, Massachusetts, New Jersey and New York. Some states have utility procurement programs and/or RP Standards or CE Standards for which our technologies are eligible. Our Energy Servers are currently installed in eleven U.S. states, each of which may have its own enabling policy framework. We utilize governmental rebates, tax credits, and other financial incentives to lower the effective price of our products to our customers in the United States and the Asia Pacific region. Financiers and Equity Investors may also take advantage of these financial incentives, lowering the cost of capital and energy to our customers. However, these incentives and procurement programs or obligations may expire on a particular date, end when the allocated funding is exhausted, or be reduced or terminated as a matter of regulatory or legislative policy.

For example, the Korean RP Standards are scheduled to be replaced in 2022 with the Hydrogen Portfolio Standard (“HPS”). This may impact the demand for our Energy Servers in the Republic of Korea. Initially, we do not expect the HPS to require 100% hydrogen as a feedstock for fuel cell projects. The Ministry of Trade, Industry, and Economy is running a stakeholder process, which will determine the specifics of the HPS incentive mechanism. For the three months ended March 31, 2022 and 2021, our revenue in the Republic of Korea accounted for 65% and 43% of our total revenue, respectively. Therefore, if sales of our Energy Servers to this market decline in the future, this may have a material adverse effect on our financial condition and results of operations.

As another example, in the United States, commercial purchasers of fuel cells are eligible to claim the federal bonus depreciation benefit. Unless legislation extends the bonus depreciation deadlines, under current rules it will be phased down beginning in 2023, and will expire at the end of 2026. Similarly, commercial fuel cell purchasers can claim the ITC. While legislation under active consideration would extend the ITC for up to five years, under current law the ITC will end on December 31, 2023.

The ITC program has operational criteria that extend for five years. If the energy property is disposed or otherwise ceases to be qualified investment credit property before the close of the five-year recapture period is fulfilled, it could result in a partial reduction in incentives. In the case of a Portfolio Financing, the owner of the portfolio bears the risk of repayment if the assets placed in service do not meet the ITC operational criteria in the future.

As another example, many of our installations in California interconnect with investor-owned utilities on Fuel Cell Net Energy Metering (“FC NEM”) tariffs. FC NEM tariffs will be available for new California installations until December 31, 2023. However, to remain eligible for those FC NEM tariffs, at least some installations currently on those tariffs are likely to be required to meet greenhouse gas emissions standards. We are working through the appropriate regulatory channels to establish alternative tariffs for California customers utilizing fuel cells. If our customers are unable to interconnect under FC NEM tariffs or suitable alternatives, interconnection and tariff costs may increase and such an increase may negatively impact demand for our products. Additionally, the uncertainty regarding requirements for service under any of these tariffs could negatively impact the perceived value of or risks associated with our products, which could also negatively impact demand.

Changes in the availability of rebates, tax credits and other financial programs and incentives could reduce demand for our Energy Servers or future products, impair sales financing, and adversely impact our business results. The continuation of these programs and incentives depends upon political support which to date has been bipartisan and durable.

We rely on tax equity financing arrangements to realize the benefits provided by ITCs and accelerated tax depreciation and in the event these programs are terminated, our financial results could be harmed.

We expect that Energy Server deployments through certain of our financed transactions will receive capital from Equity Investors who derive a significant portion of their economic returns through tax benefits. Equity Investors are generally entitled to substantially all of the project's tax benefits, such as those provided by the ITC and Modified Accelerated Cost Recovery System ("MACRS") or bonus depreciation, until the Equity Investors achieve their respective agreed rates of return. The number of and available capital from potential Equity Investors is limited, we compete with other energy companies eligible for these tax benefits to access such investors, and the availability of capital from Equity Investors is subject to fluctuations based on factors outside of our control such as macroeconomic trends and changes in applicable taxation regimes. Concerns regarding our limited operating history, lack of profitability and that we are the only party who can perform operations and maintenance on our Energy Servers have made it difficult to attract investors in the past. Our ability to obtain additional financing in the future depends on the continued confidence of banks and other financing sources in our business model, the market for our Energy Servers, and the continued availability of tax benefits applicable to our Energy Servers. In addition, conditions in the general economy and financial and credit markets may result in the contraction of available tax equity financing. If we are unable to enter into tax equity financing agreements with attractive pricing terms, or at all, we may not be able to obtain the capital needed to fund our financing programs or use the tax benefits provided by the ITC and MACRS depreciation, which could make it more difficult for customers to finance the purchase of our Energy Servers. Such circumstances could also require us to reduce the price at which we are able to sell our Energy Servers and therefore harm our business, our financial condition, and our results of operations.

Risks Related to Legal Matters and Regulations

We are subject to various national, state and local laws and regulations that could impose substantial costs upon us and cause delays in the delivery and installation of our Energy Servers or future products.

The construction, installation, and operation of our Energy Servers or future products at a particular site is also generally subject to oversight and regulation in accordance with national, state, and local laws and ordinances relating to building codes, safety, environmental and climate protection, and related matters, as well as national, regional and/or local energy market rules, regulations and tariffs, and typically require various local and other governmental approvals and permits, including environmental approvals and permits, that vary by jurisdiction. In some cases, these approvals and permits require periodic renewal. These laws and regulations can affect the markets for our products and the costs and time required for their installation, and may give rise to liability for administrative oversight costs, compliance costs, clean-up costs, property damage, bodily injury, fines, and penalties. Capital and operating expenses needed to comply with the various laws and regulations can be significant, and violations may result in substantial fines and penalties or third-party damages.

It is difficult and costly to track the requirements of every individual authority having jurisdiction over our installations, to design our Energy Servers to comply with these varying standards, and to obtain all applicable approvals and permits. We cannot predict whether or when all approvals or permits required for a given project will be granted or whether the conditions associated with the approvals or permits will be achievable. The denial of a permit or utility connection essential to a project or the imposition of impractical conditions would impair our ability to develop the project. In addition, we cannot predict whether the approval or permitting process will be lengthened due to complexities and appeals. Delay in the review and approval or permitting process for a project can impair or delay our and our customers' abilities to develop that project or may increase the cost so substantially that the project is no longer attractive to us or our customers. Furthermore, unforeseen delays in the review and permitting process could delay the timing of the installation of our Energy Servers and could therefore adversely affect the timing of the recognition of revenue related to the installation, which could harm our operating results in a particular period. Additionally, in many cases we contractually commit to performing all necessary installation work on a fixed-price basis, and unanticipated costs associated with approval, permitting and/or compliance expenses may cause the cost of performing such work to exceed our revenue. The costs of complying with all the various laws, regulations and customer requirements, and any claims concerning non-compliance, could have a material adverse effect on our financial condition or our operating results.

The installation and operation of our Energy Servers are subject to environmental laws and regulations in various jurisdictions, and there is uncertainty with respect to the interpretation of certain environmental laws and regulations to our Energy Servers, especially as these regulations evolve over time.

We are committed to compliance with applicable environmental laws and regulations including health and safety standards, and we continuously review the operation of our Energy Servers for health, safety, and environmental compliance. Our Energy Servers, like other fuel cell technology-based products of which we are aware, produce small amounts of hazardous wastes and air pollutants, and we seek to address these in accordance with applicable regulatory standards. In addition, environmental laws and regulations such as the Comprehensive Environmental Response, Compensation and Liability Act in the United States impose liability on several grounds including for the investigation and clean-up of contaminated soil and ground water, impacts to human health and damages to natural resources. If contamination is discovered in the future at properties formerly owned or operated by us or currently owned or operated by us, or properties to which hazardous substances were sent by us, it could result in our liability under environmental laws and regulations. Many of our customers who purchase our Energy Servers have high sustainability standards, and any environmental non-compliance by us could harm our reputation and impact a current or potential customer's buying decision.

Maintaining environmental compliance can be challenging given the changing patchwork of environmental laws and regulations that prevail at the federal, state, regional, and local level. Most existing environmental laws and regulations preceded the introduction of our innovative fuel cell technology and were adopted to apply to technologies existing at the time (i.e., large coal, oil, or gas-fired power plants). Guidance from these agencies on how certain environmental laws and regulations may or may not be applied to our technology can be inconsistent.

For example, natural gas, which is the primary fuel used in our Energy Servers, contains benzene, which is classified as a hazardous waste if it exceeds 0.5 milligrams per liter. A small amount of benzene found in the public natural gas supply (equivalent to what is present in one gallon of gasoline in an automobile fuel tank, which are exempt from federal regulation) is collected by the gas cleaning units contained in our Energy Servers; these gas cleaning units are typically replaced at customers' sites once every 15 to 36 months. From 2010 to late 2016 and in the regular course of maintenance of the Energy Servers, we periodically replaced the units in our servers relying upon a federal environmental exemption that permitted the handling of such units without manifesting the contents as containing a hazardous waste. Although over the years and with the approval of two states, we believed that we operated appropriately under the exemption, the U.S. Environmental Protection Agency ("EPA") issued guidance for the first time in late 2016 that differed from our belief and conflicted with the state approvals we had obtained. We have complied with the new guidance and, given the comparatively small quantities of benzene produced, we do not anticipate significant additional costs or risks from our compliance with the revised 2016 guidance. In order to put this matter behind us and with no admission of law or fact, we agreed to a consent agreement that was ratified and incorporated by reference into a final order that was entered by an Environmental Appeals Judge for EPA's Environmental Appeals Board in May of 2020. Consistent with the consent agreement and final order, a final payment of approximately $1.2 million was made in the fourth quarter of 2020 and EPA has confirmed the matter is formally resolved. Additionally, a nominal penalty was paid to a state agency under that state's environmental laws relating to the same issue.

Some states in which we operate, including New York, New Jersey and North Carolina, have specific permitting or environmental exemptions for fuel cells. Other states in which we currently operate, including California, have emissions-based requirements, most of which require permits or other notifications for quantities of emissions that are higher than those observed from our Energy Servers. For example, the Bay Area Air Quality Management District in California has an air permit and risk assessment exemption for emissions of chromium in the hexavalent form ("CR+6") that are less than 0.00051 lbs/year. Emissions above this level may trigger the need for a permit. Also, California's Proposition 65 requires notification of the presence of CR+6 unless public exposure is below 0.001 µg/day, the level determined to represent no significant health risk. Since the California standards are more stringent than those in any other state or foreign location in which we have installed Energy Servers to date, we are focused on California's standards. If stricter standards are adopted in other states or jurisdictions or our servers can't meet applicable standards, it could impact our ability to obtain regulatory approval and/or could result in us not being able to operate in a particular local jurisdiction.

These examples illustrate that our technology is moving faster than the regulatory process in many instances and that there are inconsistencies between how we are regulated in different jurisdictions. It is possible that regulators could delay or prevent us from conducting our business in some way pending agreement on, and compliance with, shifting regulatory requirements. Such actions could delay the installation of Energy Servers or future products, could result in penalties, could require modification or replacement or could trigger claims of performance warranties and defaults under customer contracts that could require us to repurchase equipment, any of which could adversely affect our business, our financial performance, and our reputation. In addition, new energy or environmental laws or regulations or new interpretations of existing laws or

regulations could present marketing, political or regulatory challenges and could require us to upgrade or retrofit existing equipment, which could result in materially increased capital and operating expenses.

With respect to our products that run, in part, on fossil fuel, we may be subject to a heightened risk of regulation, to a potential for the loss of certain incentives, and to changes in our customers' energy procurement policies.

The current generation of our Energy Servers that run on natural gas produces nearly 23% fewer carbon emissions than the average U.S. marginal power generation sources that our projects displace. However, the operation of our current Energy Servers does produce carbon dioxide ("CO2"), which contributes to global climate change. As such, we may be negatively impacted by CO2-related changes in applicable laws, regulations, ordinances, rules, or the requirements of the incentive programs on which we and our customers currently rely. Changes (or a lack of change to sufficiently recognize both the risks of climate change and the benefit of our technology as one means to maintain reliable and resilient electric service with a lower greenhouse gas emission profile) in any of the laws, regulations, ordinances, or rules that apply to our installations and new technology could make it more difficult or more costly for us or our customers to install and operate our Energy Servers on particular sites, thereby negatively affecting our ability to deliver cost savings to customers. Certain municipalities have banned or are considering banning new interconnections with gas utilities, while others have adopted bans that allow new interconnections for non-combustion resources, such as our Energy Servers. Some local municipalities have also banned or are considering banning the use of distributed generation products that utilize fossil fuel. Additionally, our customers' and potential customers' energy procurement policies may prohibit or limit their willingness to procure our natural gas-fueled Energy Servers. Our business prospects may be negatively impacted if we are prevented from completing new installations or our installations become more costly as a result of laws, regulations, ordinances, or rules applicable to our Energy Servers, or by our customers' and potential customers' energy procurement policies.

Existing regulations and changes to such regulations impacting the electric power industry may create technical, regulatory, and economic barriers, which could significantly reduce demand for our Energy Servers or affect the financial performance of current sites.

The market for electricity generation products is heavily influenced by U.S. federal, state, local, and foreign government laws, regulations and policies as well as by tariffs, internal policies and practices of electric utility providers. These regulations, tariffs and policies often relate to electricity pricing and technical interconnection of customer-owned electricity generation. These regulations, tariffs and policies are often modified and could continue to change, which could result in a significant reduction in demand for our Energy Servers. For example, utility companies commonly charge fees to industrial customers for disconnecting from the electric grid. These fees could change, thereby increasing the cost to our customers of using our Energy Servers and making them less economically attractive.

In addition, our project with Delmarva Power & Light Company (the "Delaware Project") is subject to laws and regulations relating to electricity generation, transmission, and sale in Delaware and at the regional and federal level.

A law governing the sale of electricity from the Delaware Project was necessary to implement part of several incentives that Delaware offered to us to build our major manufacturing facility ("Manufacturing Center") in Delaware. Those incentives have proven controversial in Delaware, in part because our Manufacturing Center, while a significant source of continuing manufacturing employment, has not expanded as quickly as projected. The opposition to the Delaware Project is an example of potentially material risks associated with electric power regulation.

At the federal level, FERC has authority to regulate under various federal energy regulatory laws, wholesale sales of electric energy, capacity, and ancillary services, and the delivery of natural gas in interstate commerce. Also, several of the tax equity partnerships in which we have an interest are subject to regulation under FERC with respect to market-based sales of electricity, which requires us to file notices and make other periodic filings with FERC, which increases our costs and subjects us to additional regulatory oversight.

Although we generally are not regulated as a utility, federal, state and local government statutes and regulations concerning electricity and natural gas, as well as organized market rules such as the PJM tariffs affecting the Delaware Project, heavily influence the market for our product and services. These statutes, regulations, tariffs and market rules often relate to electricity and natural gas pricing, fuel cell net metering, incentives, taxation, and the rules surrounding the interconnection of customer-owned electricity generation for specific technologies. In the United States, governments and market operators frequently modify these statutes, regulations, tariffs and market rules. Governments, often acting through state utility or public service commissions, as well as market operators, change, adopt or approve different utility requirements and rates for commercial and industrial customers on a regular basis. Changes, or in some cases a lack of change, in any of the laws, regulations, tariffs ordinances, or other rules that apply to our installations and new technology could make it more costly for us

or our customers to install and operate our Energy Servers or future products on particular sites and, in turn, could negatively affect our ability to deliver cost savings to customers.

We may become subject to product liability claims, which could harm our financial condition and liquidity if we are not able to successfully defend or insure against such claims.

We may in the future become subject to product liability claims. Our Energy Servers are considered high energy systems because they use flammable fuels and may operate at 480 volts. High-voltage electricity poses potential shock hazards, and natural gas and hydrogen are flammable gases and therefore a potentially dangerous fuel. Although our Energy Servers are certified to meet ANSI, IEEE, ASME, and NFPA design and safety standards, if our equipment is not properly handled in accordance with our servicing and handling standards and protocols, there could be a system failure and resulting liability. These claims could require us to incur significant costs to defend. Furthermore, any successful product liability claim could require us to pay a substantial monetary award. Moreover, a product liability claim could generate substantial negative publicity about us and could materially impede widespread market acceptance and demand for our Energy Servers or future products, which could harm our brand, our business prospects, and our operating results. Our product liability insurance may not be sufficient to cover all potential product liability claims. Any lawsuit seeking significant monetary damages either in excess of our coverage or outside of our coverage may have a material adverse effect on our business and our financial condition.

Current or future litigation or administrative proceedings could have a material adverse effect on our business, our financial condition and our results of operations.

We have been and continue to be involved in legal proceedings, administrative proceedings, claims, and other litigation that arise in the ordinary course of business. Purchases of our products have also been the subject of litigation. For information regarding pending legal proceedings, please see Part II, Item 1, *Legal Proceedings* and Note 13 - *Commitments and Contingencies* in Part I, Item 1, *Financial Statements*. In addition, since our Energy Server and Electrolyzer are new types of product in a nascent market, we have in the past needed and may in the future need to seek the amendment of existing regulations, or in some cases the development of new regulations, in order to operate our business in some jurisdictions. Such regulatory processes may require public hearings concerning our business, which could expose us to subsequent litigation.

Unfavorable outcomes or developments relating to proceedings to which we are a party or transactions involving our products such as judgments for monetary damages, injunctions, or denial or revocation of permits, could have a material adverse effect on our business, our financial condition, and our results of operations. In addition, settlement of claims could adversely affect our financial condition and our results of operations.

Risks Related to Our Intellectual Property

Our failure to effectively protect and enforce our intellectual property rights may undermine our competitive position, and litigation to protect our intellectual property rights may be costly.

Policing unauthorized use of proprietary technology can be difficult and expensive, and the protective measures we have taken to protect our trade secrets may not be sufficient to prevent such use. For example, many of our engineers reside in California where it is not legally permissible to prevent them from working for a competitor. Also, litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, or to determine the validity and scope of the proprietary rights of others. Such litigation may result in our intellectual property rights being challenged, limited in scope, or declared invalid or unenforceable. We cannot be certain that the outcome of any litigation will be in our favor, and an adverse determination in any such litigation could impair our intellectual property rights, our business, our prospects, and our reputation.

We rely primarily on patent, trade secret, and trademark laws and non-disclosure, confidentiality, and other types of contractual restrictions to establish, maintain, and enforce our intellectual property and proprietary rights. However, our rights under these laws and agreements afford us only limited protection and the actions we take to establish, maintain, and enforce our intellectual property rights may not be adequate. For example, our trade secrets and other confidential information could be disclosed in an unauthorized manner to third parties, our owned or licensed intellectual property rights could be challenged, invalidated, circumvented, infringed, or misappropriated or our intellectual property rights may not be sufficient to provide us with a competitive advantage, any of which could have a material adverse effect on our business, financial condition, or operating results. In addition, the laws of some countries do not protect proprietary rights as fully as do the laws of the United States. As a result, we may not be able to protect our proprietary rights adequately abroad.

In connection with our expansion into new markets, we may need to develop relationships with new partners, including project developers and/or financiers who may require access to certain of our intellectual property in order to mitigate perceived risks regarding our ability to service their projects over the contracted project duration. If we are unable to come to agreement regarding the terms of such access or find alternative means to address this perceived risk, such failure may negatively impact our ability to expand into new markets. Alternatively, we may be required to develop new strategies for the protection of our intellectual property, which may be less protective than our current strategies and could therefore erode our competitive position.

Our patent applications may not result in issued patents, and our issued patents may not provide adequate protection, either of which may have a material adverse effect on our ability to prevent others from commercially exploiting products similar to ours.

We cannot be certain that our pending patent applications will result in issued patents or that any of our issued patents will afford protection against a competitor. The status of patents involves complex legal and factual questions, and the breadth of claims allowed is uncertain. As a result, we cannot be certain that the patent applications that we file will result in patents being issued or that our patents and any patents that may be issued to us in the future will afford protection against competitors with similar technology. In addition, patent applications filed in foreign countries are subject to laws, rules, and procedures that differ from those of the United States, and thus we cannot be certain that foreign patent applications related to issued U.S. patents will be issued in other regions. Furthermore, even if these patent applications are accepted and the associated patents issued, some foreign countries provide significantly less effective patent enforcement than the United States.

In addition, patents issued to us may be infringed upon or designed around by others and others may obtain patents that we need to license or design around, either of which would increase costs and may adversely affect our business, our prospects, and our operating results.

We may need to defend ourselves against claims that we infringed, misappropriated, or otherwise violated the intellectual property rights of others, which may be time-consuming and would cause us to incur substantial costs.

Companies, organizations, or individuals, including our competitors, may hold or obtain patents, trademarks, or other proprietary rights that they may in the future believe are infringed by our products or services. These companies holding patents or other intellectual property rights allegedly relating to our technologies could, in the future, make claims or bring suits alleging infringement, misappropriation, or other violations of such rights, or otherwise assert their rights and by seeking licenses or injunctions. Several of the proprietary components used in our Energy Servers have been subjected to infringement challenges in the past. We also generally indemnify our customers against claims that the products we supply don't infringe, misappropriate, or otherwise violate third party intellectual property rights, and we therefore may be required to defend our customers against such claims. If a claim is successfully brought in the future and we or our products are determined to have infringed, misappropriated, or otherwise violated a third party's intellectual property rights, we may be required to do one or more of the following:

- cease selling or using our products that incorporate the challenged intellectual property;
- pay substantial damages (including treble damages and attorneys' fees if our infringement is determined to be willful);
- obtain a license from the holder of the intellectual property right, which may not be available on reasonable terms or at all; or
- redesign our products or means of production, which may not be possible or cost-effective.

Any of the foregoing could adversely affect our business, prospects, operating results, and financial condition. In addition, any litigation or claims, whether or not valid, could harm our reputation, result in substantial costs and divert resources and management attention.

We also license technology from third parties and incorporate components supplied by third parties into our products. We may face claims that our use of such technology or components infringes or otherwise violates the rights of others, which would subject us to the risks described above. We may seek indemnification from our licensors or suppliers under our contracts with them, but our rights to indemnification or our suppliers' resources may be unavailable or insufficient to cover our costs and losses.

Risks Related to Our Financial Condition and Operating Results

We have incurred significant losses in the past and we may not be profitable for the foreseeable future.

Since our inception in 2001, we have incurred significant net losses and have used significant cash in our business. As of March 31, 2022, we had an accumulated deficit of $3.3 billion. We expect to continue to expand our operations, including by investing in manufacturing, sales and marketing, research and development, staffing systems, and infrastructure to support our growth, as well as internationally. We may continue to incur net losses for the foreseeable future. Our ability to achieve profitability in the future will depend on a number of factors, including:

- growing our sales volume;
- increasing sales to existing customers and attracting new customers;
- expanding into new geographical markets and industry market sectors;
- attracting and retaining financing partners who are willing to provide financing for sales on a timely basis and with attractive terms;
- continuing to improve the useful life of our fuel cell technology and reducing our warranty servicing costs;
- reducing the cost of producing our Energy Servers;
- improving the efficiency and predictability of our installation process;
- introducing new products, including products for the hydrogen market;
- improving the effectiveness of our sales and marketing activities; and
- attracting and retaining key talent in a competitive marketplace.

Even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future.

Our financial condition and results of operations and other key metrics are likely to fluctuate on a quarterly basis in future periods, which could cause our results for a particular period to fall below expectations, resulting in a severe decline in the price of our Class A common stock.

Our financial condition and results of operations and other key metrics have fluctuated significantly in the past and may continue to fluctuate in the future due to a variety of factors, many of which are beyond our control. For example, the amount of product revenue we recognize in a given period is materially dependent on the volume of installations of our Energy Servers in that period and the type of financing used by the customer.

In addition to the other risks described herein, the following factors could also cause our financial condition and results of operations to fluctuate on a quarterly basis:

- the timing of installations, which may depend on many factors such as availability of inventory, product quality or performance issues, or local permitting requirements, utility requirements, environmental, health, and safety requirements, weather, the COVID-19 pandemic or such other health emergency, and customer facility construction schedules;
- size of particular installations and number of sites involved in any particular quarter;
- the mix in the type of purchase or financing options used by customers in a period, the geographical mix of customer sales, and the rates of return required by financing parties in such period;
- disruptions in our supply chain;
- whether we are able to structure our sales agreements in a manner that would allow for the product and installation revenue to be recognized upfront;
- delays or cancellations of Energy Server installations;
- fluctuations in our service costs, particularly due to unexpected costs of servicing and maintaining Energy Servers;
- fluctuations in our research and development expense, including periodic increases associated with the pre-production qualification of additional tools as we expand our production capacity;
- the length of the sales and installation cycle for a particular customer;

- the timing and level of additional purchases by new and existing customers;
- the timing of the development of the market for hydrogen fuel cell products, including our Bloom Electrolyzer;
- unanticipated expenses or installation delays associated with changes in governmental regulations, permitting requirements by local authorities at particular sites, utility requirements and environmental, health and safety requirements;
- disruptions in our sales, production, service or other business activities resulting from disagreements with our labor force or our inability to attract and retain qualified personnel; and
- unanticipated changes in federal, state, local, or foreign government incentive programs available for us, our customers, and tax equity financing parties.

Fluctuations in our operating results and cash flow could, among other things, give rise to short-term liquidity issues. In addition, our revenue, key operating metrics, and other operating results in future quarters may fall short of our projections or the expectations of investors and financial analysts, which could have an adverse effect on the price of our Class A common stock.

If we fail to manage our growth effectively, our business and operating results may suffer.

Our current growth and future growth plans may make it difficult for us to efficiently operate our business, challenging us to effectively manage our capital expenditures and control our costs while we expand our operations to increase our revenue. If we experience a significant growth in orders without improvements in automation and efficiency, we may need additional manufacturing capacity and we and some of our suppliers may need additional and capital-intensive equipment. Any growth in manufacturing must include a scaling of quality control as the increase in production increases the possible impact of manufacturing defects. In addition, any growth in the volume of sales of our Energy Servers may outpace our ability to engage sufficient and experienced personnel to manage the higher number of installations and to engage contractors to complete installations on a timely basis and in accordance with our expectations and standards. Any failure to manage our growth effectively could materially and adversely affect our business, our prospects, our operating results, and our financial condition. Our future operating results depend to a large extent on our ability to manage this expansion and growth successfully.

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.

We are required to comply with Section 404 of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley Act"). The provisions of the act require, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. Preparing our financial statements involves a number of complex processes, many of which are done manually and are dependent upon individual data input or review. These processes include, but are not limited to, calculating revenue, deferred revenue and inventory costs. While we continue to automate our processes and enhance our review and put in place controls to reduce the likelihood for errors, we expect that for the foreseeable future many of our processes will remain manually intensive and thus subject to human error if we are unable to implement key operation controls around pricing, spending and other financial processes. For example, prior to our adoption of Section 404B of the Sarbanes-Oxley Act, we identified a material weakness in our internal control over financial reporting at December 31, 2019 related to the accounting for and disclosure of complex or non-routine transactions, which has been remediated. If we are unable to successfully maintain effective internal control over financial reporting, we may fail to prevent or detect material misstatements in our financial statements, in which case investors may lose confidence in the accuracy and completeness of our financial reports. Any failure to maintain effective disclosure controls and procedures or internal control over financial reporting could have a material adverse effect on our business and operating results and cause a decline in the price of our Class A common stock.

Our ability to use our deferred tax assets to offset future taxable income may be subject to limitations that could subject our business to higher tax liability.

We may be limited in the portion of net operating loss carryforwards ("NOLs") that we can use in the future to offset taxable income for U.S. federal and state income tax purposes. Our NOLs will expire, if unused, beginning in 2022 through 2028. A lack of future taxable income would adversely affect our ability to utilize these NOLs. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its NOLs to offset future taxable income. Changes in our stock ownership as well as other changes that may be outside of our control could result in ownership changes under Section 382 of the Code, which could cause our NOLs to be subject to certain limitations. Our NOLs may also be impaired under similar provisions of state law. Our

deferred tax assets, which are currently fully reserved with a valuation allowance, may expire unutilized or underutilized, which could prevent us from offsetting future taxable income.

Risks Related to Our Liquidity

We must maintain the confidence of our customers in our liquidity, including in our ability to timely service our debt obligations and in our ability to grow our business over the long-term.

Currently, we are the only provider able to fully support and maintain our Energy Servers. If potential customers believe we do not have sufficient capital or liquidity to operate our business over the long-term or that we will be unable to maintain their Energy Servers and provide satisfactory support, customers may be less likely to purchase or lease our products, particularly in light of the significant financial commitment required. In addition, financing sources may be unwilling to provide financing on reasonable terms. Similarly, suppliers, financing partners, and other third parties may be less likely to invest time and resources in developing business relationships with us if they have concerns about the success of our business.

Accordingly, in order to grow our business, we must maintain confidence in our liquidity and long-term business prospects among customers, suppliers, financing partners and other parties. This may be particularly complicated by factors such as:

- our limited operating history at a large scale;
- the size of our debt obligations;
- our lack of profitability;
- unfamiliarity with or uncertainty about our Energy Servers and the overall perception of the distributed generation market;
- prices for electricity or natural gas in particular markets;
- competition from alternate sources of energy;
- warranty or unanticipated service issues we may experience;
- the environmental consciousness and perceived value of environmental programs to our customers;
- the size of our expansion plans in comparison to our existing capital base and the scope and history of operations;
- the availability and amount of tax incentives, credits, subsidies or other incentive programs; and
- the other factors set forth in this "*Risk Factors*" section.

Several of these factors are largely outside our control, and any negative perceptions about our liquidity or long-term business prospects, even if unfounded, would likely harm our business.

Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities' outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs.

As of March 31, 2022, we and our subsidiaries had approximately $522.8 million of total consolidated indebtedness, of which an aggregate of $292.4 million represented indebtedness that is recourse to us. Of this $292.4 million in debt, $69.1 million represented debt under our 10.25% Senior Secured Notes due March 2027, and $223.4 million represented debt under the $230.0 million aggregate principal amount of our 2.50% Green Convertible Senior Notes due August 2025 (the "Green Notes"). In addition, our PPA Entities' (defined herein) outstanding indebtedness of $230.4 million represented indebtedness that is non-recourse to us. For a description and definition of PPA Entities, please see Part I, Item 2, *Management's Discussion and Analysis – Purchase and Financing Options – Portfolio Financings*. As of March 31, 2022, we had $30.3 million in short-term debt and $492.5 million in long-term debt. Given our substantial level of indebtedness, it may be difficult for us to secure additional debt financing at an attractive cost, which may in turn impact our ability to expand our operations and our product development activities and to remain competitive in the market. Our liquidity needs could vary significantly and may be affected by general economic conditions, industry trends, performance, and many other factors not within our control.

The agreements governing our and our PPA Entities' outstanding indebtedness contain, and other future debt agreements may contain, covenants imposing operating and financial restrictions on our business that limit our flexibility including, among other things:

- borrow money;
- pay dividends or make other distributions;
- incur liens;
- make asset dispositions;
- make loans or investments;
- issue or sell share capital of our subsidiaries;
- issue guaranties;
- enter into transactions with affiliates;
- merge, consolidate or sell, lease or transfer all or substantially all of our assets;
- require us to dedicate a substantial portion of cash flow from operations to the payment of principal and interest on indebtedness, thereby reducing the funds available for other purposes such as working capital and capital expenditures;
- make it more difficult for us to satisfy and comply with our obligations with respect to our indebtedness;
- subject us to increased sensitivity to interest rate increases;
- make us more vulnerable to economic downturns, adverse industry conditions, or catastrophic external events;
- limit our ability to withstand competitive pressures;
- limit our ability to invest in new business subsidiaries that are not PPA Entity-related;
- reduce our flexibility in planning for or responding to changing business, industry and economic conditions; and/or
- place us at a competitive disadvantage to competitors that have relatively less debt than we have.

Our PPA Entities' debt agreements require the maintenance of financial ratios or the satisfaction of financial tests such as debt service coverage ratios and consolidated leverage ratios. Our PPA Entities' ability to meet these financial ratios and tests may be affected by events beyond our control and, as a result, we cannot assure you that we will be able to meet these ratios and tests.

Upon the occurrence of certain events to us, including a change in control, a significant asset sale or merger or similar transaction, our liquidation or dissolution or the cessation of our stock exchange listing, each of which may constitute a fundamental change under the outstanding notes, holders of certain of the notes have the right to cause us to repurchase for cash any or all of such outstanding notes. We cannot provide assurance that we would have sufficient liquidity to repurchase such notes. Furthermore, our financing and debt agreements contain events of default. If an event of default were to occur, the trustee or the lenders could, among other things, terminate their commitments and declare outstanding amounts due and payable and our cash may become restricted. We cannot provide assurance that we would have sufficient liquidity to repay or refinance our indebtedness if such amounts were accelerated upon an event of default. Borrowings under other debt instruments that contain cross-acceleration or cross-default provisions may, as a result, be accelerated and become due and payable as a consequence. We may be unable to pay these debts in such circumstances. We cannot provide assurance that the operating and financial restrictions and covenants in these agreements will not adversely affect our ability to finance our future operations or capital needs, or our ability to engage in other business activities that may be in our interest or our ability to react to adverse market developments.

We may not be able to generate sufficient cash to meet our debt service obligations.

Our ability to generate sufficient cash to make scheduled payments on our debt obligations will depend on our future financial performance and on our future cash flow performance, which will be affected by a range of economic, competitive, and business factors, many of which are outside of our control.

If we do not generate sufficient cash to satisfy our debt obligations, including interest payments, or if we are unable to satisfy the requirement for the payment of principal at maturity or other payments that may be required from time to time under

the terms of our debt instruments, we may have to undertake alternative financing plans such as refinancing or restructuring our debt, selling assets, reducing or delaying capital investments, or seeking to raise additional capital. We cannot provide assurance that any refinancing or restructuring would be possible, that any assets could be sold, or, if sold, of the timing of the sales and the amount of proceeds realized from those sales, that additional financing could be obtained on acceptable terms, if at all, or that additional financing would be available or permitted under the terms of our various debt instruments then in effect. Furthermore, the ability to refinance indebtedness would depend upon the condition of the finance and credit markets at the time which have in the past been, and may in the future be, volatile. Our inability to generate sufficient cash to satisfy our debt obligations or to refinance our obligations on commercially reasonable terms or on a timely basis would have an adverse effect on our business, our results of operations and our financial condition.

Under some circumstances, we may be required to or elect to make additional payments to our PPA Entities or the Equity Investors.

Three of our PPA Entities are structured in a manner such that, other than the amount of any equity investment we have made, we do not have any further primary liability for the debts or other obligations of the PPA Entities. All of our PPA Entities that operate Energy Servers for end customers have significant restrictions on their ability to incur increased operating costs, or could face events of default under debt or other investment agreements if end customers are not able to meet their payment obligations under PPAs or if Energy Servers are not deployed in accordance with the project's schedule. In three cases, if our PPA Entities experience unexpected, increased costs such as insurance costs, interest expense or taxes or as a result of the acceleration of repayment of outstanding indebtedness, or if end customers are unable or unwilling to continue to purchase power under their PPAs, there could be insufficient cash generated from the project to meet the debt service obligations of the PPA Entity or to meet any targeted rates of return of Equity Investors. If a PPA Entity fails to make required debt service payments, this could constitute an event of default and entitle the lender to foreclose on the collateral securing the debt or could trigger other payment obligations of the PPA Entity. To avoid this, we could choose to contribute additional capital to the applicable PPA Entity to enable such PPA Entity to make payments to avoid an event of default, which could adversely affect our business or our financial condition.

Risks Related to Our Operations

Expanding operations internationally could expose us to additional risks.

Although we currently primarily operate in the United States, we continue to expand our business internationally. We currently have operations in the Asia Pacific region and more recently Dubai, United Arab Emirates to oversee operations in Europe and the Middle East. Managing any international expansion will require additional resources and controls including additional manufacturing and assembly facilities. Any expansion internationally could subject our business to risks associated with international operations, including:

- conformity with applicable business customs, including translation into foreign languages and associated expenses;
- lack of availability of government incentives and subsidies;
- challenges in arranging, and availability of, financing for our customers;
- potential changes to our established business model, including installation challenges that we may have not encountered before;
- cost of alternative power sources, which could be meaningfully lower outside the United States;
- availability and cost of natural gas;
- effects of adverse changes in currency exchange rates and rising interest rates;
- difficulties in staffing and managing foreign operations in an environment of diverse culture, laws, and customers, and the increased travel, infrastructure, and legal and compliance costs associated with international operations;
- greater difficulties in securing or enforcing our intellectual property rights in certain jurisdictions;
- difficulties in collecting payments in foreign currencies and associated foreign currency exposure;
- restrictions on repatriation of earnings;
- natural disasters (including as a result of climate change), acts of war or terrorism, and public health emergencies, including the COVID-19 pandemic; and

- adverse social, political and economic conditions.

We utilize a sourcing strategy that emphasizes global procurement of materials that has direct or indirect dependencies upon a number of vendors with operations in the Asia Pacific region. Physical, regulatory, technological, market, reputational, and legal risks related to climate change in these regions and globally are increasing in impact and diversity and the magnitude of any short-term or long-term adverse impact on our business or results of operations remains unknown. The physical impacts of climate change, including as a result of certain types of natural disasters occurring more frequently or with more intensity or changing weather patterns, could disrupt our supply chain, result in damage to or closures of our facilities, and could otherwise have an adverse impact on our business, operating results and financial condition. In addition, the outbreak of hostilities in Ukraine could result in increased sanctions that may affect the price of raw materials used in our products, which could have an adverse impact on our operating results.

Our international operations are subject to complex foreign and U.S. laws and regulations, including anti-bribery and corruption laws, antitrust or competition laws, data privacy laws, such as the GDPR, and environmental regulations, among others. In particular, recent years have seen a substantial increase in anti-bribery law enforcement activity by U.S. regulators, and we currently operate and seek to operate in many parts of the world that are recognized as having greater potential for corruption. Violations of any of these laws and regulations could result in fines and penalties, criminal sanctions against us or our employees, prohibitions on the conduct of our business and on our ability to offer our products and services in certain geographies, and significant harm to our business reputation. Our policies and procedures to promote compliance with these laws and regulations and to mitigate these risks may not protect us from all acts committed by our employees or third-party vendors, including contractors, agents and services partners. Additionally, the costs of complying with these laws (including the costs of investigations, auditing and monitoring) could adversely affect our current or future business.

The success of our international sales and operations will depend, in large part, on our ability to anticipate and manage these risks effectively. Our failure to manage any of these risks could harm our international operations, reduce our international sales, and could give rise to liabilities, costs or other business difficulties that could adversely affect our operations and financial results.

We may have conflicts of interest with our PPA Entities.

In most of our PPA Entities, we act as the managing member and are responsible for the day-to-day administration of the project. However, we are also a major service provider for each PPA Entity in our capacity as the operator of the Energy Servers under an O&M agreement. Because we are both the administrator and the manager of our PPA Entities, as well as a major service provider, we face a potential conflict of interest in that we may be obligated to enforce contractual rights that a PPA Entity has against us in our capacity as a service provider. By way of example, a PPA Entity may have a right to payment from us under a warranty provided under the applicable operations and maintenance agreement, and we may be financially motivated to avoid or delay this liability by failing to promptly enforce this right on behalf of the PPA Entity. While we do not believe that we had any conflicts of interest with our PPA Entities as of March 31, 2022, conflicts of interest may arise in the future that cannot be foreseen at this time. In the event that prospective future Equity Investors and debt financing partners perceive there to exist any such conflicts, it could harm our ability to procure financing for our PPA Entities in the future, which could have a material adverse effect on our business.

Data security breaches and cyberattacks could compromise our intellectual property or other confidential information and cause significant damage to our business and reputation.

We maintain information that is confidential, proprietary or otherwise sensitive in nature on our information technology systems, and on the systems of our third-party providers. This information includes intellectual property, financial information and other confidential information related to us and our employees, prospects, customers, suppliers and other business partners. For example, our Energy Servers are connected to and controlled and monitored by our centralized remote monitoring service, and we rely on our internal software applications for many of the functions we use to operate our business generally. Cyberattacks are increasing in frequency and evolving in nature. We and our third-party providers are at risk of attack through use of increasingly sophisticated methods, including malware, phishing and the deployment of artificial intelligence to find and exploit vulnerabilities.

Our information technology systems, and those maintained by our third-party providers, have been in the past, and may be in the future, subjected to attempts to gain unauthorized access, disable, destroy, maliciously control or cause other system disruptions. In some cases, it is difficult to anticipate or to detect immediately such incidents and the damage they caused. While these types of incidents have not had a material effect on our business to date, future incidents involving access to our

network or improper use of our systems, or those of our third-parties, could compromise confidential, proprietary or otherwise sensitive information.

While we maintain reasonable and appropriate administrative, technical, and physical safeguards and take preventive and proactive measures to combat known and unknown cybersecurity risks, there is no assurance that such actions will be sufficient to prevent future security breaches and cyberattacks. The security of our infrastructure, including the network that connects our Energy Servers to our remote monitoring service, may be vulnerable to breaches, unauthorized access, misuse, computer viruses, or other malicious code and cyberattacks that could have a material adverse impact on our business and our Energy Servers in the field, and the protective measures we have taken may be insufficient to prevent such events. A breach or failure of our networks or computer or data management systems due to intentional actions such as cyberattacks, including but not limited to ransomware attacks, phishing or denial-of-service attacks, negligence, or other reasons, whether as a result of actions by third-parties or our employees, could seriously disrupt our operations or could affect our ability to control or to assess the performance in the field of our Energy Servers and could result in disruption to our business and potentially legal liability.

In addition, security breaches and cyberattacks could negatively impact our reputation and our competitive position and could result in litigation with third parties, regulatory action and increased remediation costs, any of which could adversely impact our business, our financial condition, and our operating results. Although we maintain insurance coverage that may cover certain liabilities in connection with some security breaches and cyberattacks, we cannot be certain it will be adequate for liabilities actually incurred or that any insurer will not deny coverage of future claims.

If we are unable to attract and retain key employees and hire qualified management, technical, engineering, finance and sales personnel, our ability to compete and successfully grow our business could be harmed.

We believe that our success and our ability to reach our strategic objectives are highly dependent on the contributions of our key management, technical, engineering, finance and sales personnel. The loss of the services of any of our key employees could disrupt our operations, delay the development and introduction of our products and services and negatively impact our business, prospects and operating results. In particular, we are highly dependent on the services of Dr. Sridhar, our Founder, President, Chief Executive Officer and Director, and other certain key employees. None of our key employees is bound by an employment agreement for any specific term and we cannot assure you that we will be able to successfully attract and retain senior leadership necessary to grow our business. In addition, many of the accounting rules related to our financing transactions are complex and require experienced and highly skilled personnel to review and interpret the proper accounting treatment with respect these transactions, and if we are unable to recruit and retain personnel with the required level of expertise to evaluate and accurately classify our revenue-producing transactions, our ability to accurately report our financial results may be harmed. There is increasing competition for talented individuals in our industry, and competition for qualified personnel is especially intense in the San Francisco Bay Area where our principal offices are located. Our failure to attract and retain our executive officers and other key management, technical, engineering and sales personnel, could adversely impact our business, our financial condition and our operating results.

Risks Related to Ownership of Our Common Stock

The stock price of our Class A common stock has been and may continue to be volatile.

The market price of our Class A common stock has been and may continue to be volatile. In addition to factors discussed in this Risk Factors section, the market price of our Class A common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- overall performance of the equity markets;
- actual or anticipated fluctuations in our revenue and other operating results;
- changes in the financial projections we may provide to the public or our failure to meet these projections;
- changing market and economic conditions, including rising interest rates and inflationary pressures, such as those pressures the market is currently experiencing, which could make our products more expensive or could increase our costs for materials, supplies, and labor;
- failure of securities analysts to initiate or maintain coverage of us, changes in financial estimates by any securities analysts who follow us or our failure to meet these estimates or the expectations of investors;
- the issuance of negative reports from short sellers;
- recruitment or departure of key personnel;

- new laws, regulations, subsidies or credits, or new interpretations of them, applicable to our business;
- negative publicity related to problems in our manufacturing or the real or perceived quality of our products;
- rumors and market speculation involving us or other companies in our industry;
- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships or capital commitments;
- lawsuits threatened or filed against us; and
- other events or factors including those resulting from war, natural disasters (including as result of climate change), incidents of terrorism or responses to these events.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. Stock prices of many companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have instituted securities class action litigation following periods of market volatility. We are currently involved in securities litigation, which may subject us to substantial costs, divert resources and the attention of management from our business, and adversely affect our business.

We may issue additional shares of our Class A common stock in connection with any future conversion of the Green Notes or in connection with our transaction with SK ecoplant, which may dilute our existing stockholders and potentially adversely affect the market price of our Class A common stock.

In the event that some or all of the Green Notes are converted and we elect to deliver shares of common stock, the ownership interests of existing stockholders will be diluted, and any sales in the public market of any shares of our Class A common stock issuable upon such conversion could adversely affect the prevailing market price of our Class A common stock. If we were not able to pay cash upon conversion of the Green Notes, the issuance of shares of Class A common stock upon conversion of the Green Notes could depress the market price of our Class A common stock.

In addition, we entered into a Securities Purchase Agreement (the "SPA") with SK ecoplant in October 2021 that allows SK ecoplant to purchase additional shares of Class A common stock. For additional details on this transaction, see Note 18 - *SK ecoplant Strategic Investment*. The exercise of this option to purchase additional shares may dilute our existing stockholders and potentially adversely affect the market price of our Class A common stock.

The dual class structure of our common stock and the voting agreements among certain stockholders have the effect of concentrating voting control of our Company with KR Sridhar, our Chairman and Chief Executive Officer, and also with those stockholders who held our capital stock prior to the completion of our initial public offering, which limits or precludes your ability to influence corporate matters and may adversely affect the trading price of our Class A common stock.

Our Class B common stock has ten votes per share, and our Class A common stock has one vote per share. As of December 31, 2021, and after giving effect to the voting agreements between KR Sridhar, our Chairman and Chief Executive Officer, and certain holders of Class B common stock, our directors, executive officers, significant stockholders of our common stock, and their respective affiliates collectively held approximately 45% of the voting power of our capital stock. Because of the ten-to-one voting ratio between our Class B and Class A common stock, the holders of our Class B common stock collectively will continue to have the ability to significantly influence the vote on all matters submitted to our stockholders for approval until the earliest to occur of (i) immediately prior to the close of business on July 27, 2023, (ii) immediately prior to the close of business on the date on which the outstanding shares of Class B common stock represent less than five percent (5%) of the aggregate number of shares of Class A common stock and Class B common stock then outstanding, (iii) the date and time or the occurrence of an event specified in a written conversion election delivered by KR Sridhar to our Secretary or Chairman of the Board to so convert all shares of Class B common stock, or (iv) immediately following the date of the death of KR Sridhar. This concentrated control limits or precludes Class A stockholders' ability to influence corporate matters while the dual class structure remains in effect, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, this may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that Class A stockholders may feel are in their best interest as one of our stockholders.

Future transfers by holders of Class B common stock will generally result in those shares converting to Class A common stock, subject to limited exceptions such as certain transfers effected for estate planning purposes. The conversion of Class B

common stock to Class A common stock will have the effect, over time, of increasing the relative voting power of those remaining holders of Class B common stock who retain their shares in the long-term.

In addition, the S&P Dow Jones and FTSE Russell have implemented changes to their eligibility criteria for inclusion of shares of public companies on certain indices, including the S&P 500, namely, to exclude companies with multiple classes of shares of common stock from being added to such indices. In addition, several shareholder advisory firms have announced their opposition to the use of multiple class structures. As a result, the dual class structure of our common stock may prevent the inclusion of our Class A common stock in such indices and has caused shareholder advisory firms to publish negative commentary about our corporate governance practices or otherwise seek to cause us to change our capital structure. Any such exclusion from indices could result in a less active trading market for our Class A common stock. Any actions or publications by shareholder advisory firms critical of our corporate governance practices or capital structure could also adversely affect the value of our Class A common stock.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid any cash dividends on our capital stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Provisions in our charter documents and under Delaware law could make an acquisition of us more difficult, may limit attempts by our stockholders to replace or remove our current management, may limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees, and may limit the market price of our Class A common stock.

Provisions in our restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our restated certificate of incorporation and amended and restated bylaws include provisions that:

- require that our board of directors is classified into three classes of directors with staggered three year terms;
- permit the board of directors to establish the number of directors and fill any vacancies and newly created directorships;
- require super-majority voting to amend some provisions in our restated certificate of incorporation and amended and restated bylaws;
- authorize the issuance of "blank check" preferred stock that our board of directors could use to implement a stockholder rights plan;
- only the chairman of our board of directors, our chief executive officer, or a majority of our board of directors are authorized to call a special meeting of stockholders;
- prohibit stockholder action by written consent, which thereby requires all stockholder actions be taken at a meeting of our stockholders;
- establish a dual class common stock structure in which holders of our Class B common stock may have the ability to control the outcome of matters requiring stockholder approval even if they own significantly less than a majority of the outstanding shares of our common stock, including the election of directors and significant corporate transactions such as a merger or other sale of our Company or substantially all of our assets;
- expressly authorize the board of directors to make, alter, or repeal our bylaws; and
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

In addition, our restated certificate of incorporation and our amended and restated bylaws provide that the Court of Chancery of the State of Delaware will be the exclusive forum for: any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our restated certificate of incorporation or our amended and restated bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. Our restated certificate of incorporation and our amended and restated bylaws provide that unless we consent in writing to the selection of an alternative forum, the federal district courts of

the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, or other employees, which thereby may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision contained in our restated certificate of incorporation and our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, our operating results, and our financial condition.

Moreover, Section 203 of the Delaware General Corporation Law may discourage, delay, or prevent a change in control of our Company. Section 203 imposes certain restrictions on mergers, business combinations, and other transactions between us and holders of 15% or more of our common stock.

ITEM 2 - UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3 - DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4 - MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5 - Other

Passing of Venkat Venkataraman

On April 28, 2022, Venkat Venkataraman, the Executive Vice President and Chief Technology Officer of the Company unexpectedly passed away. Mr. Venkataraman led our engineering organization for 18 years and his commitment to technical innovation and drive for excellence created an enduring product foundation for the Company. Mr. Venkataraman left an indelible imprint on our mission, our people, and our culture.

ITEM 6 - EXHIBITS

			Incorporated by Reference			
Exhibit Number		**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**
31.1		Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities and Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith
31.2		Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities and Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith
32.1	**	Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				Filed herewith
101.INS		XBRL Instance Document- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				Filed herewith
101.SCH		Inline XBRL Taxonomy Extension Schema Document				Filed herewith
101.CAL		Inline XBRL Taxonomy Extension Calculation Linkbase Document				Filed herewith
101.DEF		Inline XBRL Taxonomy Extension Definition Linkbase Document				Filed herewith
101.LAB		Inline XBRL Taxonomy Extension Label Linkbase Document				Filed herewith
101.PRE		Inline XBRL Taxonomy Extension Presentation Linkbase Document				Filed herewith
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				

† Portions of this exhibit are redacted as permitted under Regulation S-K, Rule 601.

** The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

SIGNATURES

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

BLOOM ENERGY CORPORATION

Date: May 6, 2022

By: /s/ KR Sridhar
KR Sridhar
Founder, President, Chief Executive Officer and Director
(Principal Executive Officer)

Date: May 6, 2022

By: /s/ Gregory Cameron
Gregory Cameron
Executive Vice President and
Chief Financial Officer
(Principal Financial and Accounting Officer)

EXHIBIT 31.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER

PURSUANT TO RULE 13a-14(a) AND RULE 15d-14(a)

OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED,

AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, KR Sridhar, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter period ended March 31, 2022 of Bloom Energy Corporation;

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 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; and

5. The registrant's other certifying officer 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 6, 2022

By: /s/ KR Sridhar

KR Sridhar

President and Chief Executive Officer

(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATIONS OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) AND RULE 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gregory Cameron, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter period ended March 31, 2022 of Bloom Energy Corporation;

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 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; and

5. The registrant's other certifying officer 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 6, 2022

By: /s/ Gregory Cameron
Gregory Cameron
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF
THE SARBANES-OXLEY ACT OF 2002

The following certifications are hereby made in connection with the Quarterly Report on Form 10-Q for the quarter period ended March 31, 2022 of Bloom Energy Corporation (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"):

I, KR Sridhar, President and Chief Executive Officer, hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

ate: May 6, 2022

By: /s/ KR Sridhar
KR Sridhar
President and Chief Executive Officer
(Principal Executive Officer)

I, Gregory Cameron, Executive Vice President and Chief Financial Officer, hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; 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 6, 2022

By: /s/ Gregory Cameron
Gregory Cameron
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)