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 quarterly period ended September 30, 2023

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	**Trading Symbol(s)**	**Name of each exchange on which registered**
Class A Common Stock, $0.0001 par value	BE	New York Stock Exchange

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 ☑

As of November 1, 2023, there were 224,048,769 shares of the registrant's Class A Common Stock, $0.0001 par value, outstanding.

Bloom Energy Corporation

Quarterly Report on Form 10-Q for the Three and Nine Months Ended September 30, 2023

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

PART I - FINANCIAL INFORMATION

ITEM 1 - FINANCIAL STATEMENTS

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

	September 30, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents[1]	$ 557,384	$ 348,498
Restricted cash[1]	42,614	51,515
Accounts receivable less allowance for doubtful accounts of $119 as of September 30, 2023 and December 31, 2022[1, 2]	334,495	250,995
Contract assets[3]	143,875	46,727
Inventories[1]	475,649	268,394
Deferred cost of revenue[4]	62,212	46,191
Prepaid expenses and other current assets[1]	66,243	43,643
Total current assets	1,682,472	1,055,963
Property, plant and equipment, net[1]	490,535	600,414
Operating lease right-of-use assets[1]	127,973	126,955
Restricted cash[1]	37,698	118,353
Deferred cost of revenue	4,286	4,737
Other long-term assets[1]	33,208	40,205
Total assets	$ 2,376,172	$ 1,946,627
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable[1]	$ 153,793	$ 161,770
Accrued warranty	16,537	17,332
Accrued expenses and other current liabilities[1, 5]	116,480	144,183
Deferred revenue and customer deposits[1, 6]	119,157	159,048
Operating lease liabilities[1]	16,666	16,227
Financing obligations	39,093	17,363
Recourse debt	—	12,716
Non-recourse debt[1]	—	13,307
Total current liabilities	461,726	541,946
Deferred revenue and customer deposits[1]	14,499	56,392
Operating lease liabilities[1]	133,602	132,363
Financing obligations	410,365	442,063
Recourse debt	840,492	273,076
Non-recourse debt[1]	1,483	112,480
Other long-term liabilities	8,805	9,491
Total liabilities	$ 1,870,972	$ 1,567,811
Commitments and contingencies (Note 13)		
Stockholders' equity:		
Common stock: $0.0001 par value; Class A shares - 600,000,000 shares authorized and 223,860,870 shares and 189,864,722 shares issued and outstanding and Class B shares - 600,000,000 shares authorized and 0 shares and 15,799,968 shares issued and outstanding at September 30, 2023 and December 31, 2022, respectively	21	20
Additional paid-in capital	4,360,080	3,906,491
Accumulated other comprehensive loss	(2,378)	(1,251)
Accumulated deficit	(3,871,110)	(3,564,483)
Total equity attributable to common stockholders	486,613	340,777
Noncontrolling interest	18,587	38,039
Total stockholders' equity	$ 505,200	$ 378,816
Total liabilities and stockholders' equity	$ 2,376,172	$ 1,946,627

[1] We have a variable interest entity related to PPA V (see Note 10 - *Portfolio Financings*) and a joint venture in the Republic of Korea (see Note 16 - *SK ecoplant Strategic Investment*), which represent a portion of the consolidated balances recorded within these financial statement line items.

In August 2023, we sold the PPA V entity as a result of the PPA V Repowering of Energy Servers (see Note 10 - *Portfolio Financings*), as such the consolidated balances recorded within these financial statement line items as of September 30, 2023 exclude PPA V balances.

[2] Including amounts from related parties of $247.9 million and $4.3 million as of September 30, 2023 and December 31, 2022, respectively.

[3] Including amounts from related parties of $3.4 million as of September 30, 2023. There was no respective related party amounts as of December 31, 2022.

[4] Including amounts from related parties of $23.4 million as of September 30, 2023. There was no respective related party amounts as of December 31, 2022.

[5] Including amounts from related parties of $5.7 million as of September 30, 2023. There was no respective related party amounts as of December 31, 2022.

[6] Including amounts from related parties of $11.1 million as of September 30, 2023. There was no respective related party amounts as of December 31, 2022.

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Revenue:				
Product	$ 304,976	$ 213,243	$ 713,427	$ 520,415
Installation	21,916	22,682	66,762	48,964
Service	47,535	37,347	130,496	111,012
Electricity	25,841	19,002	65,869	56,158
Total revenue[1]	400,268	292,274	976,554	736,549
Cost of revenue:				
Product	182,832	158,176	457,591	393,337
Installation	25,902	28,333	77,881	57,836
Service	57,370	41,792	165,877	124,646
Electricity	139,378	13,029	169,802	83,819
Total cost of revenue	405,482	241,330	871,151	659,638
Gross (loss) profit	(5,214)	50,944	105,403	76,911
Operating expenses:				
Research and development	35,126	36,146	122,309	112,286
Sales and marketing	20,002	23,275	73,935	65,084
General and administrative	43,366	44,115	131,004	119,965
Total operating expenses	98,494	103,536	327,248	297,335
Loss from operations	(103,708)	(52,592)	(221,845)	(220,424)
Interest income	7,419	1,109	13,771	1,364
Interest expense	(68,037)	(13,099)	(93,736)	(41,000)
Other (expense) income, net	(1,577)	4,472	(3,660)	254
Loss on extinguishment of debt	(1,415)	—	(4,288)	(4,233)
(Loss) gain on revaluation of embedded derivatives	(114)	54	(1,213)	623
Loss before income taxes	(167,432)	(60,056)	(310,971)	(263,416)
Income tax provision	646	336	1,083	888
Net loss	(168,078)	(60,392)	(312,054)	(264,304)
Less: Net gain (loss) attributable to noncontrolling interest	921	(3,315)	(5,427)	(9,768)
Net loss attributable to common stockholders	(168,999)	(57,077)	(306,627)	(254,536)
Less: Net loss attributable to redeemable noncontrolling interest	—	—	—	(300)
Net loss before portion attributable to redeemable noncontrolling interest and noncontrolling interest	$ (168,999)	$ (57,077)	$ (306,627)	$ (254,236)
Net loss per share available to common stockholders, basic and diluted	$ (0.80)	$ (0.31)	$ (1.47)	$ (1.41)
Weighted average shares used to compute net loss per share available to common stockholders, basic and diluted	210,930	186,487	208,798	180,762

[1] Including related party revenue of $125.7 million and $361.0 million for the three and nine months ended September 30, 2023, respectively, and $12.5 million and $30.2 million for the three and nine months ended September 30, 2022, respectively.

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 September 30,		Nine Months Ended September 30,	
	2023	**2022**	**2023**	**2022**
Net loss	$ (168,078)	$ (60,392)	$ (312,054)	$ (264,304)
Other comprehensive loss, net of taxes:				
Foreign currency translation adjustment	(527)	(1,027)	(1,520)	(1,774)
Other comprehensive loss, net of taxes	(527)	(1,027)	(1,520)	(1,774)
Comprehensive loss	(168,605)	(61,419)	(313,574)	(266,078)
Less: Comprehensive gain (loss) attributable to noncontrolling interest	719	(3,811)	(5,820)	(10,361)
Comprehensive loss attributable to common stockholders	$ (169,324)	$ (57,608)	$ (307,754)	$ (255,717)
Less: Comprehensive loss attributable to redeemable noncontrolling interest	—	—	—	(300)
Comprehensive loss before portion attributable to redeemable noncontrolling interest and noncontrolling interest	$ (169,324)	$ (57,608)	$ (307,754)	$ (255,417)

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

Bloom Energy Corporation
Condensed Consolidated Statements of Changes in Stockholders' Equity (Deficit)
(in thousands, except share data)
(unaudited)

	Three Months Ended September 30, 2023							
	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Equity Attributable to Common Stockholders	Noncontrolling Interest	Total Stockholders' Equity
	Shares	Amount						
Balances at June 30, 2023	209,181,382	$ 20	$ 4,011,900	$ (2,053)	$ (3,702,111)	$ 307,756	$ 38,479	346,235
Issuance of restricted stock awards	637,728	—	—	—	—	—	—	—
ESPP purchase	426,170	—	5,607	—	—	5,607	—	5,607
Exercise of stock options	123,889	—	1,138	—	—	1,138	—	1,138
Stock-based compensation expense	—	—	19,469	—	—	19,469	—	19,469
Buyout of noncontrolling interest (Note 10)	—	—	11,482	—	—	11,482	(18,346)	(6,864)
Conversion of Series B redeemable convertible preferred stock (Note 16)	13,491,701	1	310,484	—	—	310,485	—	310,485
Distributions and payments to noncontrolling interest	—	—	—	—	—	—	(2,265)	(2,265)
Foreign currency translation adjustment	—	—	—	(325)	—	(325)	(202)	(527)
Net (loss) gain	—	—	—	—	(168,999)	(168,999)	921	(168,078)
Balances at September 30, 2023	223,860,870	$ 21	$ 4,360,080	$ (2,378)	$ (3,871,110)	$ 486,613	$ 18,587	$ 505,200

	Three Months Ended September 30, 2022							
	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Equity (Deficit) Attributable to Common Stockholders	Noncontrolling Interest	Total Stockholders' Equity (Deficit)
	Shares	Amount						
Balances at June 30, 2022	178,913,797	$ 18	$ 3,284,261	$ (1,000)	$ (3,460,234)	$ (176,955)	$ 32,034	$ (144,921)
Issuance of restricted stock awards	539,074	—	—	—	—	—	—	—
ESPP purchase	339,055	—	5,619	—	—	5,619	—	5,619
Exercise of stock options	225,759	—	2,233	—	—	2,233	—	2,233
Stock-based compensation	—	—	23,893	—	—	23,893	—	23,893
Distributions and payments to noncontrolling interests	—	—	—	—	—	—	(1,557)	(1,557)
Contributions from noncontrolling interest	—	—	—	—	—	—	2,815	2,815
Public share offering	14,950,000	1	371,526	—	—	371,527	—	371,527
Forward to purchase Class A Common Stock	—	—	4,183	—	—	4,183	—	4,183
Foreign currency translation adjustment	—	—	—	(531)	—	(531)	(496)	(1,027)
Net loss	—	—	—	—	(57,077)	(57,077)	(3,315)	(60,392)
Balances at September 30, 2022	194,967,685	$ 19	$ 3,691,715	$ (1,531)	$ (3,517,311)	$ 172,892	$ 29,481	$ 202,373

	Nine Months Ended September 30, 2023							
	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Equity Attributable to Common Stockholders	Noncontrolling Interest	Total Stockholders' Equity
	Shares	Amount						
Balances at December 31, 2022	205,664,690	$ 20	$ 3,906,491	$ (1,251)	$ (3,564,483)	$ 340,777	$ 38,039	$ 378,816
Issuance of restricted stock awards	3,496,491	—	—	—	—	—	—	—
ESPP purchase	875,695	—	13,363	—	—	13,363	—	13,363
Exercise of stock options	332,293	—	2,640	—	—	2,640	—	2,640
Stock-based compensation	—	—	77,755	—	—	77,755	—	77,755
Derecognition of the pre-modification forward contract fair value (Note 16)	—	—	76,242	—	—	76,242	—	76,242
Equity component of Series B redeemable convertible preferred stock (Note 16)	—	—	16,145	—	—	16,145	—	16,145
Contributions from noncontrolling interest	—	—	—	—	—	—	6,979	6,979
Purchase of capped call related to convertible notes (Note 7)	—	—	(54,522)	—	—	(54,522)	—	(54,522)
Buyout of noncontrolling interest (Note 10)	—	—	11,482	—	—	11,482	(18,346)	(6,864)
Conversion of Series B redeemable convertible preferred stock (Note 16)	13,491,701	1	310,484	—	—	310,485	—	310,485
Distributions and payments to noncontrolling interest	—	—	—	—	—	—	(2,265)	(2,265)
Foreign currency translation adjustment	—	—	—	(1,127)	—	(1,127)	(393)	(1,520)
Net loss	—	—	—	—	(306,627)	(306,627)	(5,427)	(312,054)
Balances at September 30, 2023	223,860,870	21	$ 4,360,080	$ (2,378)	$ (3,871,110)	$ 486,613	$ 18,587	$ 505,200

	Nine Months Ended September 30, 2022							
	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Equity (Deficit) Attributable to Common Stockholders	Noncontrolling Interest	Total Stockholders' Equity (Deficit)
	Shares	Amount						
Balances at December 31, 2021	176,460,407	$ 18	$ 3,219,081	$ (350)	$ (3,263,075)	$ (44,326)	$ 42,499	$ (1,827)
Issuance of restricted stock awards	2,328,713	—	—	—	—	—	—	—
ESPP purchase	759,744	—	11,600	—	—	11,600	—	11,600
Exercise of stock options	468,821	—	3,550	—	—	3,550	—	3,550
Stock-based compensation	—	—	82,275	—	—	82,275	—	82,275
Distributions and payments to noncontrolling interests	—	—	(500)	—	—	(500)	(5,472)	(5,972)
Contributions from noncontrolling interest	—	—	—	—	—	—	2,815	2,815
Public share offering	14,950,000	1	371,526	—	—	371,527	—	371,527
Forward to purchase Class A Common Stock	—	—	4,183	—	—	4,183	—	4,183
Foreign currency translation adjustment	—	—	—	(1,181)	—	(1,181)	(593)	(1,774)
Net loss[1]	—	—	—	—	(254,236)	(254,236)	(9,768)	(264,004)
Balances at September 30, 2022	194,967,685	$ 19	$ 3,691,715	$ (1,531)	$ (3,517,311)	$ 172,892	$ 29,481	$ 202,373

[1]Excludes $300 attributable to redeemable noncontrolling interest.

Note: Beginning redeemable noncontrolling interest of $300 - Net loss attributable to redeemable noncontrolling interest of $300 = ending redeemable noncontrolling interest of nil.

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)

	Nine Months Ended September 30,	
	2023	**2022**
Cash flows from operating activities:		
Net loss	$ (312,054)	$ (264,304)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	50,283	46,182
Non-cash lease expense	24,540	18,153
Loss (gain) on disposal of property, plant and equipment	177	(523)
Revaluation of derivative contracts	1,213	(9,640)
Impairment of assets related to PPA V and PPA IIIa	130,111	44,800
Derecognition of loan commitment asset related to SK ecoplant Second Tranche Closing (Note 16)	52,792	—
Stock-based compensation	77,160	81,460
Amortization of warrants and debt issuance costs	3,300	2,355
Loss on extinguishment of debt	4,288	4,233
Unrealized foreign currency exchange loss	3,029	3,086
Other	—	3,487
Changes in operating assets and liabilities:		
Accounts receivable[1]	(83,851)	15,758
Contract assets[2]	(97,148)	(567)
Inventories	(206,315)	(110,797)
Deferred cost of revenue[3]	(15,914)	(8,856)
Customer financing receivable	—	2,510
Prepaid expenses and other current assets	(20,849)	(15,766)
Other long-term assets	13,634	(730)
Operating lease right-of-use assets and operating lease liabilities	(23,879)	2,162
Finance lease liabilities	907	499
Accounts payable	(5,695)	38,642
Accrued warranty	(795)	1,597
Accrued expenses and other current liabilities[4]	(30,937)	502
Deferred revenue and customer deposits[5]	(57,041)	(12,716)
Other long-term liabilities	(1,320)	(9,980)
Net cash used in operating activities	(494,364)	(168,453)
Cash flows from investing activities:		
Purchase of property, plant and equipment	(67,485)	(80,907)
Proceeds from sale of property, plant and equipment	3	—
Net cash used in investing activities	(67,482)	(80,907)
Cash flows from financing activities:		
Proceeds from issuance of debt	633,983	—
Payment of debt issuance costs	(19,539)	—
Repayment of debt of PPA V and PPA IIIa	(118,538)	(30,212)
Debt make-whole payment related to PPA IIIa debt	—	(2,413)
Repayment of recourse debt	(72,852)	(17,262)
Proceeds from financing obligations	2,702	—
Repayment of financing obligations	(13,475)	(28,821)
Distributions and payments to noncontrolling interests	(2,265)	(5,972)
Proceeds from issuance of common stock	16,003	15,150
Proceeds from public share offering	—	385,396
Public share offering costs	—	(13,407)
Buyout of noncontrolling interest (Note 10)	(6,864)	—
Proceeds from issuance of Series B redeemable convertible preferred stock	310,957	—
Contributions from noncontrolling interest	6,979	2,815
Purchase of capped call related to convertible notes (Note 7)	(54,522)	—
Other	(408)	(63)
Net cash provided by financing activities	682,161	305,211
Effect of exchange rate changes on cash, cash equivalent and restricted cash	(985)	(1,643)
Net increase in cash, cash equivalents and restricted cash	119,330	54,208
Cash, cash equivalents and restricted cash:		
Beginning of period	518,366	615,114

End of period	$ 637,696	$ 669,322
Supplemental disclosure of cash flow information:		
Cash paid during the period for interest	$ 32,741	$ 39,664
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	23,684	11,759
Operating cash flows from finance leases	804	788
Cash paid during the period for income taxes	1,332	1,296
Non-cash investing and financing activities:		
Transfer of customer financing receivable to property, plant and equipment, net	$ —	$ 42,758
Forward to purchase Class A Common Stock	—	4,183
Liabilities recorded for property, plant and equipment, net	5,702	13,373
Recognition of operating lease right-of-use asset during the year-to-date period	14,157	17,623
Recognition of finance lease right-of-use asset during the year-to-date period	907	—
Derecognition of the pre-modification forward contract fair value (Note 16)	76,242	—
Equity component of Series B redeemable convertible preferred stock (Note 16)	16,145	—
Conversion of Series B redeemable convertible preferred stock (Note 16)	310,484	—

[1] Including changes in related party balances of $243.6 million and $8.2 million for the nine months ended September 30, 2023 and 2022, respectively.

[2] Including change in related party balances of $3.4 million for the nine months ended September 30, 2023. There were no associated related party balances for the nine months ended September 30, 2022.

[3] Including change in related party balances of $23.4 million for the nine months ended September 30, 2023. There were no associated related party balances for the nine months ended September 30, 2022.

[4] Including change in related party balances of $5.7 million for the nine months ended September 30, 2023. There were no associated related party balances for the nine months ended September 30, 2022.

[5] Including change in related party balances of $11.1 million for the nine months ended September 30, 2023. There were no associated related party balances for the nine months ended September 30, 2022.

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

Bloom Energy Corporation
Notes to Unaudited Condensed Consolidated Financial Statements

The unaudited interim financial statements reflect all normal and recurring adjustments that are, in the opinion of management, necessary for a fair presentation of the results for the interim periods presented.

The unaudited interim financial statements should be read in conjunction with the audited consolidated financial statements, including the notes thereto, included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Website references throughout this document are provided for convenience only, and the content on the referenced websites is not incorporated by reference into this report.

1. Nature of Business, Liquidity and Basis of Presentation

Nature of Business

For information on the nature of our business, see Part II, Item 8, Note 1 - *Nature of Business, Liquidity and Basis of Presentation, Nature of Business* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Liquidity

We have generally incurred operating losses and negative cash flows from operations since our inception. With the series of new debt offerings, debt extinguishments, and conversions to equity that we completed during 2022 and the first three quarters of 2023, we had $840.5 million of total outstanding recourse debt as of September 30, 2023, which was classified as long-term debt.

On March 20, 2023, we entered into an Amendment (the "Amended SPA") to the Securities Purchase Agreement with SK ecoplant, dated October 23, 2021 (the "SPA"), and the Investor Agreement, dated December 29, 2021, pursuant to which we issued and sold to SK ecoplant 13,491,701 shares of Series B redeemable convertible preferred stock (the "Series B RCPS") for cash proceeds of $311.0 million. For additional information, please see Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment*.

On March 20, 2023, in connection with the Amended SPA we also entered into a Shareholders' Loan Agreement with SK ecoplant (the "Loan Agreement"), pursuant to which we were entitled to draw down on a loan from SK ecoplant with a maximum principal amount of $311.0 million, if SK ecoplant sent a redemption notice to us under the Amended SPA or otherwise reduced any portion of its holdings of our Class A common stock. On September 23, 2023, all 13,491,701 shares of the Series B RCPS were automatically converted into shares of our Class A common stock. For additional information, please see Part I, Item 1, Note 11 - *Related Party Transactions* and Note 16 - *SK ecoplant Strategic Investment*.

On May 16, 2023, we issued 3% Green Convertible Senior Notes (the "3% Green Notes") in an aggregate principal amount of $632.5 million due June 2028, unless earlier repurchased, redeemed or converted, less the initial purchasers' discount of $15.8 million and other issuance costs of $4.0 million, resulting in net proceeds of $612.7 million. On June 1, 2023, we used approximately $60.9 million of the net proceeds from this offering to redeem all of the outstanding principal amount of our 10.25% Senior Secured Notes due March 2027. The redemption price equaled 104% of the principal amount redeemed plus accrued and unpaid interest. For additional information, please see Part I, Item 1, Note 7 - *Outstanding Loans and Security Agreements*.

On August 24, 2023, as part of the repowering of PPA V Investment Company and Operating Company ("PPA V"), our Power Purchase Agreement ("PPA") entity, we paid off the outstanding balance and related accrued interest of $118.5 million and $0.5 million, respectively, of our 3.04% Senior Secured Notes due June 30, 2031. For additional information, please see Part I, Item 1, Note 7 - *Outstanding Loans and Security Agreements*.

Our future capital requirements 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 inflationary pressure in the U.S. on our ongoing and

future operations. The rising interest rate environment in the U.S. has and may continue to adversely impact the cost of new capital deployment.

In the opinion of management, the combination of our existing cash and cash equivalents and the expected timing of 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.

Inflation Reduction Act of 2022 – New and Expanded Production and Tax Credits for Manufacturers and Projects to Support Clean Energy

For information on the Inflation Reduction Act of 2022 (the "IRA") signed into law on August 16, 2022, and its impact on our business, see Part II, Item 8, Note 1 - *Nature of Business, Liquidity and Basis of Presentation, Inflation Reduction Act of 2022* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

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"), including all disclosures required by generally accepted accounting principles as applied in the United States ("U.S. GAAP").

Principles of Consolidation

For information on the principles of consolidation, see Part II, Item 8, Note 1 - *Nature of Business, Liquidity and Basis of Presentation, Principles of Consolidation* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Business Combinations

For information on the business combinations, see Part II, Item 8, Note 1 - *Nature of Business, Liquidity and Basis of Presentation, Business Combinations* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Use of Estimates

For information on the use of accounting estimates, see Part II, Item 8, Note 1 - *Nature of Business, Liquidity and Basis of Presentation, Use of Estimates* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Concentration of Risk

Geographic Risk - The majority of our revenue for the three and nine months ended September 30, 2023 was attributable to operations in the United States and, for the three and nine months ended September 30, 2022, to operations in the Republic of Korea. A major portion of our long-lived assets is attributable to operations in the United States for all periods presented. In addition to shipments in the U.S. and the Republic of Korea, we also ship our Energy Servers to other countries, primarily Japan and India (the markets of the Republic of Korea, Japan and India, collectively referred to as the "Asia Pacific region"). In the three and nine months ended September 30, 2023, total revenue related to shipments to the Asia Pacific region was 35% and 24%, respectively. In the three and nine months ended September 30, 2022, total revenue related to shipments to the Asia Pacific region was 58% and 61%, respectively.

Credit Risk - At September 30, 2023, two customers accounted for approximately 72% and 18% of accounts receivable. At December 31, 2022, one customer represented approximately 75% of accounts receivable. To date, we have not experienced any credit losses.

Customer Risk - During the three months ended September 30, 2023, revenue from two customers accounted for approximately 40% and 31% of our total revenue. During the nine months ended September 30, 2023, two customers represented approximately 36% and 24% of our total revenue.

During the three months ended September 30, 2022, two customers represented approximately 54% and 26% of our total revenue. During the nine months ended September 30, 2022, two customers represented approximately 48% and 16% of our total revenue.

2. Summary of Significant Accounting Policies

Please refer to the accounting policies described in Part II, Item 8, Note 2 - *Summary of Significant Accounting Policies* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

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.

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):

	September 30, 2023	December 31, 2022
Accounts receivable	$ 334,495	$ 250,995
Contract assets	143,875	46,727
Customer deposits	66,043	121,085
Deferred revenue	67,613	94,355

Contract assets relate to contracts for which revenue is recognized upon transfer of control of performance obligations, but where billing milestones have not been reached. Customer deposits and deferred revenue include payments received from customers or invoiced amounts prior to transfer of controls of performance obligations. At December 31, 2022, customer deposits included $24.6 million related to transactions with SK ecoplant, and refundable fees received from customers. At September 30, 2023 there were no customer deposits related to transactions with SK ecoplant (see Note 16 - *SK ecoplant Strategic Investment*).

Contract assets and contract liabilities are reported in a net position on an individual contract basis at the end of each reporting period. Contract assets are classified as current in the condensed consolidated balance sheets when both the milestones other than the passage of time, are expected to be complete and the customer is invoiced within one year of the balance sheet date, and as long-term when both the above-mentioned milestones are expected to be complete, and the customer is invoiced more than one year out from the balance sheet date. Contract liabilities are classified as current in the condensed consolidated balance sheets when the revenue recognition associated with the related customer payments and invoicing is expected to occur within one year of the balance sheet date and as long-term when the revenue recognition associated with the related customer payments and invoicing is expected to occur in more than one year from the balance sheet date.

Contract Assets

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Beginning balance	$ 35,182	$ 33,374	$ 46,727	$ 25,201
Transferred to accounts receivable from contract assets recognized at the beginning of the period	(8,284)	(21,677)	(31,968)	(21,304)
Revenue recognized and not billed as of the end of the period	116,977	14,071	129,116	21,871
Ending balance	$ 143,875	$ 25,768	$ 143,875	$ 25,768

Contract assets as of September 30, 2023 were primarily related to the PPA V Upgrade. For additional information, please see Part I, Item 1, Note 10 - *Portfolio Financings*.

Deferred Revenue

Deferred revenue activity, including deferred incentive revenue activity, during the three and nine months ended September 30, 2023 and 2022 consisted of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Beginning balance	$ 85,110	$ 96,377	$ 94,355	$ 115,476
Additions	243,545	248,574	733,891	597,318
Revenue recognized	(261,042)	(241,795)	(760,633)	(609,638)
Ending balance	$ 67,613	$ 103,156	$ 67,613	$ 103,156

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. Primary 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. Some of these obligations provide customers with material rights over a period that we estimate to 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 12-month period, and a portion of this deferred revenue is expected to be recognized beyond this 12-month period mainly due to deployment schedules.

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 September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Revenue from contracts with customers:				
Product revenue	$ 304,976	$ 213,243	$ 713,427	$ 520,415
Installation revenue	21,916	22,682	66,762	48,964
Services revenue	47,535	37,347	130,496	111,012
Electricity revenue	9,012	2,875	16,816	8,352
Total revenue from contract with customers	383,439	276,147	927,501	688,743
Revenue from contracts that contain leases:				
Electricity revenue	16,829	16,127	49,053	47,806
Total revenue	$ 400,268	$ 292,274	$ 976,554	$ 736,549

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):

	September 30, 2023	December 31, 2022
As Held:		
Cash	$ 148,301	$ 226,463
Money market funds	489,395	291,903
	$ 637,696	$ 518,366
As Reported:		
Cash and cash equivalents	$ 557,384	$ 348,498
Restricted cash	80,312	169,868
	$ 637,696	$ 518,366

Restricted cash consisted of the following (in thousands):

	September 30, 2023	December 31, 2022
Current:		
Restricted cash	$ 42,614	$ 50,965
Restricted cash related to PPA V Entity[1]	—	550
	$ 42,614	$ 51,515
Non-current:		
Restricted cash	$ 37,698	$ 110,353
Restricted cash related to PPA V Entity[1]	—	8,000
	37,698	118,353
	$ 80,312	$ 169,868

[1] As of December 31, 2022, we had a variable interest entity ("VIE") related to our PPA entity, PPA V, that represented a portion of the condensed consolidated balances recorded within the "restricted cash" and other financial statement line items in the condensed consolidated balance sheets (see Note 10 - *Portfolio Financings*). In August 2023, we sold the PPA V entity as a result of the PPA V Repowering of Energy Servers (see Note 10 - *Portfolio Financings)*, and as such there were no balances related to PPA V in the condensed consolidated balance sheet as of September 30, 2023. In addition, the restricted cash held in the PPA II and PPA IIIb entities as of September 30, 2023 included $28.1 million and $0.9 million of current restricted cash, respectively, and $12.3 million and $6.7 million of non-current restricted cash, respectively. The restricted cash held in the PPA II and PPA IIIb entities as of December 31, 2022, included $40.6 million and $1.2 million of current restricted cash, respectively, and $28.5 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 certain financial institutions. These transactions are accounted for as sales and cash proceeds are included in cash used in operating activities. We derecognized $108.0 million and $167.6 million of accounts receivable during the three and nine months ended September 30, 2023, respectively. We derecognized $146.3 million and $283.3 million of accounts receivable during the three and nine months ended September 30, 2022, respectively.

The costs of factoring such accounts receivable on our condensed consolidated statements of operations for the three and nine months ended September 30, 2023 were $2.0 million and $2.7 million, respectively. The costs of factoring for the three and nine months ended September 30, 2022 were $2.5 million and $3.7 million, respectively. The costs of factoring are recorded in general and administrative expenses.

5. Fair Value

Our accounting policy for the fair value measurement of cash equivalents and embedded Escalation Protection Plan ("EPP") derivatives is described in Part II, Item 8 Note 2 - *Summary of Significant Accounting Policies* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

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			
September 30, 2023	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 489,395	$ —	$ —	$ 489,395
	$ 489,395	$ —	$ —	$ 489,395
Liabilities				
Derivatives:				
Embedded EPP derivatives	$ —	$ —	$ 3,948	$ 3,948
	$ —	$ —	$ 3,948	$ 3,948

	Fair Value Measured at Reporting Date Using			
December 31, 2022	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 291,903	$ —	$ —	$ 291,903
	$ 291,903	$ —	$ —	$ 291,903
Liabilities				
Derivatives:				
Embedded EPP derivatives	$ —	$ —	$ 5,895	$ 5,895
	$ —	$ —	$ 5,895	$ 5,895

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

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.

The changes in the Level 3 financial liabilities during the nine months ended September 30, 2023 were as follows (in thousands):

	Embedded EPP Derivative Liability
Liabilities at December 31, 2022	$ 5,895
EPP liability settlement	(3,160)
Changes in fair value	1,213
Liabilities at September 30, 2023	$ 3,948

In June 2023, per an EPP agreement with one of our customers, we paid $3.2 million, which was recorded as a reduction to our balance of embedded EPP derivative liability as of September 30, 2023.

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

Debt Instruments - The senior secured notes and convertible notes are based on rates currently offered for instruments with similar maturities and terms (Level 2). The following table presents the estimated fair values and carrying values of debt instruments (in thousands):

	September 30, 2023		December 31, 2022	
	Net Carrying Value	Fair Value	Net Carrying Value	Fair Value
Debt instruments				
Recourse:				
3% Green Convertible Senior Notes due June 2028	$ 614,183	613,298	$ —	—
2.5% Green Convertible Senior Notes due August 2025	226,309	249,665	224,832	309,488
10.25% Senior Secured Notes due March 2027	—	—	60,960	60,472
Non-recourse:				
3.04% Senior Secured Notes due June 2031	—	—	125,787	117,028
4.6% Term Loan due March 2026	$ 1,483	1,345	$ —	—

6. Balance Sheet Components

Inventories

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

	September 30, 2023	December 31, 2022
Raw materials	$ 238,716	$ 165,446
Finished goods	183,078	58,288
Work-in-progress	53,855	44,660
	$ 475,649	$ 268,394

The inventory reserves were $17.8 million and $17.2 million as of September 30, 2023 and December 31, 2022, respectively.

As of September 30, 2023, the inventory balance was reduced by $2.2 million primarily due to the release of a portion of the grant liability, which was recorded as capitalized payroll expenses in the closing inventory balance. For additional information, please see Part I, Item 1, Note 13 - *Commitments and Contingencies*, *Delaware Economic Development Authority* section.

Prepaid Expenses and Other Current Assets

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

	September 30, 2023	December 31, 2022
Receivables from employees	$ 10,314	$ 6,553
Deferred expenses (Note 16)	9,909	—
Prepaid managed services	5,868	4,405
Prepaid hardware and software maintenance	5,243	4,290
Tax receivables	4,428	3,676
Prepaid workers compensation	3,993	5,536
Advance income tax provision	2,349	783
Prepaid rent	2,060	965
Interest receivable	1,854	556
Deposits made	1,683	1,409
Prepaid deferred commissions	911	1,002
Other prepaid expenses and other current assets	17,631	14,468
	$ 66,243	$ 43,643

Property, Plant and Equipment, Net

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

	September 30, 2023	December 31, 2022
Energy Servers	$ 313,866	$ 538,912
Machinery and equipment	165,814	145,555
Leasehold improvements	107,209	104,528
Construction-in-progress	105,787	72,174
Buildings	49,424	49,240
Computers, software and hardware	26,455	24,608
Furniture and fixtures	9,842	9,581
	778,397	944,598
Less: accumulated depreciation	(287,862)	(344,184)
	$ 490,535	$ 600,414

Depreciation expense related to property, plant and equipment for the three and nine months ended September 30, 2023 was $14.6 million and $50.3 million, respectively. Depreciation expense related to property, plant and equipment for the three and nine months ended September 30, 2022 was $15.5 million and $46.2 million, respectively.

Property, plant and equipment under operating leases by PPA V was $226.0 million and accumulated depreciation for these assets was $92.7 million as of December 31, 2022. There was no property, plant and equipment under operating leases by PPA V as of September 30, 2023. Depreciation expense for property, plant and equipment under operating leases by PPA V (sold in August 2023) and PPA IV (sold in November 2022) was $3.7 million and $10.9 million for the three and nine months ended September 30, 2023, respectively. Depreciation expense for these assets was $5.8 million and $17.3 million for the three and nine months ended September 30, 2022, respectively.

PPA V Upgrade

In August 2023, we started a project (the "PPA V Upgrade", the "PPA V Repowering") to replace 37.1 megawatts of Energy Servers (the "old Energy Servers") at PPA V with current generation Energy Servers (the "new Energy Servers"). The replacement was ongoing as of September 30, 2023. See Note 10 - *Portfolio Financings* for additional information.

Other Long-Term Assets

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

	September 30, 2023	December 31, 2022
Deferred commissions	$ 8,901	$ 8,320
Long-term lease receivable	7,604	8,076
Deposits made	2,926	2,672
Deferred expenses (Note 16)	1,980	—
Prepaid managed services	1,896	2,373
Deferred tax asset	1,384	1,151
Prepaid insurance	—	4,047
Prepaid and other long-term assets	8,517	13,566
	$ 33,208	$ 40,205

Accrued Warranty

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

	September 30, 2023	December 31, 2022
Product performance	$ 15,622	$ 16,901
Product warranty	915	431
	$ 16,537	$ 17,332

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

Balances at December 31, 2022	$ 17,332
Accrued warranty, net	23,565
Warranty expenditures during the nine-month period	(24,360)
Balances at September 30, 2023	$ 16,537

Accrued Expenses and Other Current Liabilities

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

	September 30, 2023	December 31, 2022
Compensation and benefits	$ 43,590	$ 48,156
General invoice and purchase order accruals	34,452	44,010
Interest payable	7,919	3,128
Sales-related liabilities	7,666	7,147
Accrued installation	6,094	7,905
Accrued legal expenses	3,666	4,403
Provision for income tax	2,600	1,140
Sales tax liabilities	2,517	6,172
VAT interim liability	2,194	418
Accrued consulting expenses	1,869	1,390
Accrued restructuring costs (Note 12)	1,172	—
Finance lease liabilities	1,142	1,024
PPA IV upgrade financing obligations	276	6,076
Delaware grant (Note 13)	—	9,495
Current portion of derivative liabilities	—	2,596
Other	1,323	1,123
	$ 116,480	$ 144,183

Preferred Stock

As of September 30, 2023, we had 20,000,000 shares of preferred stock authorized. 13,491,701 of these shares were designated as Series B RCPS and were converted to Class A common stock as of September 23, 2023, as a result of the SK ecoplant Second Tranche Closing. As of December 31, 2022, we had 20,000,000 shares of preferred stock authorized. 10,000,000 of these shares were designated as Series A redeemable convertible preferred stock and were converted to Class A common stock as of November 8, 2022, as a result of the SK ecoplant Initial Investment. For additional information, please see Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment.*

The preferred stock had $0.0001 par value. There were no shares of preferred stock issued and outstanding as of September 30, 2023 and December 31, 2022.

Conversion of Class B Common Stock

On July 27, 2023, in accordance with our Restated Certificate of Incorporation, each share of our Class B common stock entitled to ten votes per share automatically converted into one share of our Class A common stock entitled to one vote per share.

7. Outstanding Loans and Security Agreements

The following is a summary of our debt as of September 30, 2023 (in thousands, except percentage data):

	Unpaid Principal Balance	Net Carrying Value			Interest Rate	Maturity Dates	Entity
		Current	Long-Term	Total			
3% Green Convertible Senior Notes due June 2028	632,500	—	614,183	614,183	3.0%	June 2028	Company
2.5% Green Convertible Senior Notes due August 2025	230,000	—	226,309	226,309	2.5%	August 2025	Company
Total recourse debt	862,500	—	840,492	840,492			
4.6% Term Loan due March 2026	1,483	—	1,483	1,483	4.6%	March 2026	Korean Joint Venture
Total non-recourse debt	1,483	—	1,483	1,483			
Total debt	$ 863,983	$ —	$ 841,975	$ 841,975			

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

	Unpaid Principal Balance	Net Carrying Value			Interest Rate	Maturity Dates	Entity
		Current	Long-Term	Total			
10.25% Senior Secured Notes due March 2027	$ 61,653	$ 12,716	$ 48,244	$ 60,960	10.25%	March 2027	Company
2.5% Green Convertible Senior Notes due August 2025	230,000	—	224,832	224,832	2.5%	August 2025	Company
Total recourse debt	291,653	12,716	273,076	285,792			
3.04% Senior Secured Notes due June 30, 2031	127,430	13,307	112,480	125,787	3.04%	June 2031	PPA V
Total non-recourse debt	127,430	13,307	112,480	125,787			
Total debt	$ 419,083	$ 26,023	$ 385,556	$ 411,579			

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 September 30, 2023 and December 31, 2022.

Recourse Debt Facilities

3% *Green Convertible Senior Notes due June 2028* - On May 16, 2023, we issued the 3% Green Notes in an aggregate principal amount of $632.5 million due on June 1, 2028, unless earlier repurchased, redeemed or converted, less an initial purchasers' discount of $15.8 million and other issuance costs of $4.0 million (together, the "Transaction Costs"), resulting in net proceeds of $612.7 million. The 3% Green Notes were issued pursuant to, and are governed by, an indenture (the "Indenture"), dated as of May 16, 2023, between us and U.S. Bank Trust Company, National Association, as Trustee, in private placements to qualified institutional buyers pursuant to Rule 144A of the Securities Act of 1933, as amended (the "Securities Act").

Pursuant to the purchase agreement among the Company and the representatives of the initial purchasers of the 3% Green Notes, the Company granted the initial purchasers an option to purchase up to an additional $82.5 million aggregate principal amount of the 3% Green Notes (the "Greenshoe Option"). The 3% Green Notes issued on May 16, 2023, included $82.5 million aggregate principal amount pursuant to the full exercise by the initial purchasers of the Greenshoe Option.

The 3% Green Notes are senior, unsecured obligations accruing interest at a rate of 3% per annum, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2023.

We may not redeem the 3% Green Notes prior to June 5, 2026, subject to a partial redemption limitation. We may elect to redeem, at face value, all or any portion of the 3% Green Notes at any time, and from time to time, on or after June 5, 2026 and on or before the forty-sixth scheduled trading day immediately before the maturity date, provided the share price for our Class A common stock exceeds 130% of the conversion price at redemption.

Before March 1, 2028, the noteholders have the right to convert their 3% Green Notes only upon the occurrence of certain events, including satisfaction of a condition relating to the closing price of our common stock (the "Closing Price Condition") or the trading price of the 3% Green Notes (the "Trading Price Condition"), a redemption event, or other specified corporate events. If the Closing Price Condition is met on at least 20 (whether or not consecutive) of the last 30 consecutive trading days in any calendar quarter, and only during such calendar quarter, the noteholders may convert their 3% Green Notes at any time during the immediately following quarter, commencing after the calendar quarter ending on September 30, 2023, subject to partial redemption limitation. Subject to the Trading Price Condition, the noteholders may convert their 3% Green Notes during the five business days immediately after any five consecutive trading day period in which the trading price per $1,000 principal amount of the 3% Green Notes, as determined following a request by a holder of the 3% Green Notes, for each day of that period is less than 98% of the product of the closing price of our common stock and the then applicable conversion rate. From and after March 1, 2028, the noteholders may convert their 3% Green Notes at any time at their election until the close of business on the second scheduled trading day immediately before the maturity date. Should the noteholders elect to convert their 3% Green Notes, we may elect to settle the conversion by paying or delivering, as applicable, cash, shares of our Class A common stock, $0.0001 par value per share, or a combination thereof, at our election.

The initial conversion rate is 53.0427 shares of Class A common stock per $1,000 principal amount of notes, which represents an initial conversion price of approximately $18.85 per share of Class A common stock. The conversion rate and conversion price are subject to customary adjustments upon the occurrence of certain events. Also, we may increase the conversion rate at any time if our Board of Directors determines it is in the best interests of the Company or to avoid or diminish income tax to holders of common stock. In addition, if certain corporate events that constitute a Make-Whole Fundamental Change, as defined below, occur, then the conversion rate applicable to the conversion of the 3% Green Notes may, in certain circumstances, be increased by up to 22.5430 shares of Class A common stock per $1,000 principal amount of notes for a specified period of time. At September 30, 2023, the maximum number of shares into which the 3% Green Notes could have been potentially converted if the conversion features were triggered was 47,807,955 shares of Class A common stock.

According to the Indenture, a Make-Whole Fundamental Change means (i) a Fundamental Change, that includes certain change-of-control events relating to us, certain business combination transactions involving us and certain delisting events with respect to our Class A common stock, or (ii) the sending of a redemption notice with respect to the 3% Green Notes.

The 3% Green Notes contain certain customary provisions relating to the occurrence of Events of Default, as defined in the Indenture. If an Event of Default involving bankruptcy, insolvency or reorganization events with respect to us occurs, then the principal amount of, and all accrued and unpaid interest on, all of the 3% Green Notes then outstanding will immediately become due and payable without any further action or notice by any person. However, notwithstanding the foregoing, we may elect, at our option, that the sole remedy for an Event of Default relating to certain failures by us to comply with certain reporting covenants in the Indenture consists exclusively of the right of the noteholders to receive special interest on the 3% Green Notes for up to 180 days at a specified rate per annum not exceeding 0.50% on the principal amount of the 3% Green Notes.

The Transaction Costs were recorded as debt issuance costs and presented a reduction to the 3% Green Notes on our condensed consolidated balance sheets and are amortized to interest expense at an effective interest rate of 3.8%.

Total interest expense recognized related to the 3% Green Notes for the three and nine months ended September 30, 2023 was $5.7 million and $8.7 million, respectively, and was comprised of contractual interest expense of $4.7 million and $7.2 million, respectively, and amortization of the initial purchasers' discount and other issuance costs of $1.0 million and $1.5 million, respectively. We have not recognized any special interest expense related to the 3% Green Notes to date. The amount of unamortized debt issuance costs as of September 30, 2023, was $18.3 million.

Although the 3% Green Notes contain embedded conversion features, we account for the 3% Green Notes in its entirety as a liability. As of September 30, 2023, the net carrying value of the 3% Green Notes was classified as a long-term liability in our condensed consolidated balance sheets.

Capped Calls - On May 11, 2023, in connection with the pricing of the 3% Green Notes, and on May 15, 2023, in connection with initial purchasers' exercise of the Greenshoe Option, we entered into privately negotiated capped call transactions (the "Capped Calls") with certain counterparties (the "Option Counterparties"). The Capped Calls cover, subject to customary anti-dilution adjustments substantially similar to those applicable to the 3% Green Notes, the aggregate number of shares of our Class A common stock that initially underlie the 3% Green Notes, and are expected generally to reduce potential dilution to holders of our common stock upon any conversion of the 3% Green Notes and at our election (subject to certain

conditions) offset any cash payments we would be required to make in excess of the principal amount of converted 3% Green Notes.

The Capped Calls expire on June 1, 2028 and are exercisable only at maturity, but may be early terminated in various circumstances, including if the 3% Green Notes are early converted or repurchased. The default settlement method for the Capped Calls is net share settlement. However, we may elect to settle the Capped Calls in cash.

The Capped Calls have an initial strike price of approximately $18.85 per share of Class A common stock, subject to certain adjustments. The strike price of $18.85 corresponds to the initial conversion price of the 3% Green Notes. The number of shares underlying the Capped Calls is 33,549,508 shares of Class A common stock. The cap price of the Capped Calls is initially $26.46 per share of Class A common stock, which represents a premium of 100% over the last reported sale price of our common stock on May 11, 2023.

The Capped Calls are freestanding financial instruments. We used a portion of the proceeds from the issuance of the 3% Green Notes to pay for the Capped Calls' premium. As the Capped Calls meet certain accounting criteria, they are recorded in stockholders' equity and are not accounted for as derivatives. The cost of $54.5 million incurred to purchase the Capped Calls was recorded as a reduction to additional paid-in capital on our condensed consolidated balance sheets and will not be remeasured.

Please refer to Part II, Item 8, Note 7 - *Outstanding Loans and Security Agreements* in our Annual Form 10-K for the fiscal year ended December 31, 2022, for discussion of our 10.25% *Senior Secured Notes due March 2027* and 2.5% Green Convertible Senior Notes due August 2025.

10.25% Senior Secured Notes due March 2027 - The outstanding unpaid principal balance of $57.6 million on the 10.25% Senior Secured Notes due March 2027 was called and retired at 104% during the nine months ended September 30, 2023. The 4% premium of $2.3 million and unpaid accrued interest of $1.0 million were included in the final payment to the noteholders. We recognized loss on extinguishment of debt of $2.9 million as a result of redemption of the 10.25% Senior Secured Notes.

The current and non-current balance of the outstanding unpaid principal of the 10.25% Senior Secured Notes was $12.7 million and $48.9 million as of December 31, 2022, respectively.

Interest on the 10.25% Senior Secured Notes for the nine months ended September 30, 2023 was $2.7 million, including $0.1 million amortization of issuance costs. Interest on the 10.25% Senior Secured Notes for the three and nine months ended September 30, 2022 was $1.9 million and $3.8 million, respectively, including amortization of issuance costs of $0.1 million and $0.2 million, respectively.

Interest on the 2.5% Green Notes for the three and nine months ended September 30, 2023 was $1.9 million and $5.8 million, respectively, including amortization of issuance costs of $0.5 million and $1.5 million, respectively. Interest on the 2.5% Green Notes for the three and nine months ended September 30, 2022 was $1.9 million and $5.8 million, respectively, including amortization of issuance costs of $0.5 million and $1.5 million, respectively.

Non-recourse Debt Facilities

Please refer to Part II, Item 8, Note 7 - *Outstanding Loans and Security Agreements* in our Annual Form 10-K for the fiscal year ended December 31, 2022 for discussion of our non-recourse debt.

3.04% Senior Secured Notes due June 2031 - On August 24, 2023, as part of the PPA V Upgrade, we paid off the outstanding balance and related accrued interest of $118.5 million and $0.5 million, respectively, of our 3.04% Senior Secured Notes due June 2031, and recognized a loss on extinguishment of debt of $1.4 million (for additional information, please see Note 10 - *Portfolio Financings*). The debt service reserve of $8.6 million was reclassified from restricted cash to cash and cash equivalents at the time of extinguishment of debt.

Repayment Schedule and Interest Expense

The following table presents details of our outstanding loan principal repayment schedule as of September 30, 2023 (in thousands):

Remainder of 2023	$ —
2024	—
2025	230,000
2026	1,483
2027	—
Thereafter	632,500
	$ 863,983

Interest expense of $68.0 million and $93.7 million for the three and nine months ended September 30, 2023, respectively, was recorded in interest expense on the condensed consolidated statements of operations. Interest expense for the three and nine months ended September 30, 2023 included $52.8 million as a result of the SK ecoplant Second Tranche Closing. For additional information, please see Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment*. Interest expense of $13.1 million and $41.0 million for the three and nine months ended September 30, 2022, respectively, was recorded in interest expense on the condensed consolidated statements of operations.

8. Leases

Facilities, Energy Servers, and Vehicles

For the three and nine months ended September 30, 2023, rent expense for all occupied facilities was $5.7 million and $17.0 million, respectively. For the three and nine months ended September 30, 2022, rent expense for all occupied facilities was $5.0 million and $14.2 million, respectively.

Operating and financing lease right-of-use assets and lease liabilities for facilities, Energy Servers, and vehicles as of September 30, 2023 and December 31, 2022 were as follows (in thousands):

	September 30, 2023	December 31, 2022
Operating Leases:		
Operating lease right-of-use assets, net [1, 2]	$ 127,973	$ 126,955
Current operating lease liabilities	(16,666)	(16,227)
Non-current operating lease liabilities	(133,602)	(132,363)
Total operating lease liabilities	$ (150,268)	$ (148,590)
Finance Leases:		
Finance lease right-of-use assets, net [2, 3, 4]	$ 2,899	$ 2,824
Current finance lease liabilities[5]	(1,142)	(1,024)
Non-current finance lease liabilities[6]	(1,956)	(1,971)
Total finance lease liabilities	$ (3,098)	$ (2,995)
Total lease liabilities	$ (153,366)	$ (151,585)

[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.

[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 three and nine months ended September 30, 2023 and 2022 were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Operating lease costs	$ 8,408	$ 6,097	$ 24,373	$ 17,962
Financing lease costs:				
Amortization of right-of-use assets	294	230	689	750
Interest on lease liabilities	72	53	203	160
Total financing lease costs	366	283	892	910
Short-term lease costs	384	538	1,561	699
Total lease costs	$ 9,158	$ 6,918	$ 26,826	$ 19,571

Weighted average remaining lease terms and discount rates for our facilities, Energy Servers and vehicles as of September 30, 2023 and December 31, 2022 were as follows:

	September 30, 2023	December 31, 2022
Weighted average remaining lease term:		
Operating leases	7.9 years	8.6 years
Finance leases	3.4 years	3.3 years
Weighted average discount rate:		
Operating leases	10.4 %	10.3 %
Finance leases	9.3 %	6.9 %

Future lease payments under lease agreements for our facilities, Energy Servers and vehicles as of September 30, 2023 were as follows (in thousands):

	Operating Leases	Finance Leases
Remainder of 2023	$ 8,513	$ 357
2024	29,803	1,289
2025	29,863	839
2026	29,769	598
2027	28,500	412
Thereafter	99,736	98
Total minimum lease payments	226,184	3,593
Less: amounts representing interest or imputed interest	(75,916)	(495)
Present value of lease liabilities	$ 150,268	$ 3,098

Managed Services and Portfolio Financings Through PPA Entities

Managed Services - We recognized $15.8 million of product revenue, $4.8 million of installation revenue, $2.7 million of financing obligations, and $9.3 million of right-of-use assets and lease liabilities from successful sale and leaseback transactions for the nine months ended September 30, 2023. There were no successful sale and leaseback transactions for the three months ended September 30, 2023.

We recognized $0.9 million of product revenue, $0.6 million of installation revenue, $0.3 million of financing obligations, and $0.6 million of right-of-use assets and lease liabilities from successful sale and leaseback transactions for the three and nine months ended September 30, 2022.

The recognized lease expense from successful sale and leaseback transactions for the three and nine months ended September 30, 2023 was $2.6 million and $7.0 million, respectively. The recognized lease expense from successful sale and leaseback transactions for the three and nine months ended September 30, 2022 was $1.3 million and $3.9 million, respectively.

At September 30, 2023, future lease payments under the Managed Services Agreements financing obligations were as follows (in thousands):

	Financing Obligations
Remainder of 2023	$ 11,466
2024	43,368
2025	42,358
2026	37,778
2027	21,441
Thereafter	37,237
Total minimum lease payments	193,648
Less: imputed interest	(103,046)
Present value of net minimum lease payments	90,602
Less: current financing obligations	(39,093)
Long-term financing obligations	$ 51,509

The long-term financing obligations, as reflected in our condensed consolidated balance sheets, were $410.4 million and $442.1 million as of September 30, 2023 and December 31, 2022, respectively. We expect the difference between these obligations and the principal obligations in the table above to 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 were 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.

In August 2023, we sold our PPA entity, PPA V. For additional information, please see Part I, Item 1, Note 10 - *Portfolio Financings.*

9. Stock-Based Compensation 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 September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Cost of revenue	$ 5,581	$ 4,982	$ 14,809	$ 13,609
Research and development	5,585	4,818	21,673	25,113
Sales and marketing	3,015	3,948	15,089	13,528
General and administrative	7,383	10,283	28,025	30,688
	$ 21,564	$ 24,031	$ 79,596	$ 82,938

Stock Option 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, except weighted average exercise price and remaining contractual life)			
Balances at December 31, 2022	8,748,309	$ 20.70	4.6	$ 40,532
Exercised	(332,293)	7.94		
Expired	(541,302)	26.95		
Balances at September 30, 2023	7,874,714	20.81	3.8	17,890
Vested and expected to vest at September 30, 2023	7,873,962	20.81	3.8	17,885
Exercisable at September 30, 2023	7,844,713	$ 20.86	3.8	$ 17,707

Stock Options - For the three and nine months ended September 30, 2023, we recognized $0.1 million and $0.3 million of stock-based compensation costs for stock options, respectively. For the three and nine months ended September 30, 2022, we recognized $1.2 million and $6.7 million of stock-based compensation expense for stock options, respectively.

We did not grant options in the three and nine months ended September 30, 2023 and 2022.

As of September 30, 2023 and December 31, 2022, we had unrecognized compensation costs related to unvested stock options of $0.1 million and $0.4 million, respectively. This cost is expected to be recognized over the remaining weighted-average period of 0.5 years and 0.9 years, respectively. Cash received from stock options exercised totaled $1.1 million and $2.6 million for the three and nine months ended September 30, 2023, respectively. Cash received from stock options exercised totaled $2.2 million and $3.6 million for the three and nine months ended September 30, 2022, respectively.

Stock Award Activity

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, 2022	9,549,035	$ 19.99
Granted	4,814,465	18.37
Vested	(3,496,491)	18.87
Forfeited	(1,428,026)	21.44
Unvested Balance at September 30, 2023	9,438,983	$ 19.36

Stock Awards - The estimated fair value of restricted stock units (“RSUs”) and performance-based stock units (“PSUs”) is based on the fair value of our Class A common stock on the date of grant. For the three and nine months ended September 30, 2023, we recognized $19.3 million and $65.0 million of stock-based compensation costs for stock awards, respectively. For the three and nine months ended September 30, 2022, we recognized $18.4 million and $64.4 million of stock-based compensation expense for stock awards, respectively.

As of September 30, 2023 and December 31, 2022, we had $129.3 million and $135.7 million of unrecognized stock-based compensation expense related to unvested stock awards, expected to be recognized over a weighted average period of 2.0 years and 1.9 years, respectively.

Executive Awards

On February 15, 2023 and July 11, 2023, the Company granted RSU and PSU awards (the "2023 Executive Awards") to certain executive staff pursuant to the 2018 Equity Incentive Plan. The RSUs have time-based vesting schedules, started vesting on February 15, 2023 and shall vest over a three year period. The PSUs which started vesting on February 15, 2023 have either a three-year or one-year cliff vesting period, and the PSUs which started vesting on July 11, 2023, cliff vest on February 15, 2024. The PSUs will vest based on a combination of time and achievement against performance metrics targets assuming continued employment and service through each vesting date. Stock-based compensation costs associated with the 2023 Executive Awards are recognized over the service period as we evaluate the probability of the achievement of the performance conditions.

The following table presents the stock activity and the total number of shares available for grant under our stock plans:

	Plan Shares Available for Grant
Balances at December 31, 2022	28,340,641
Added to plan	8,948,255
Granted	(4,734,700)
Cancelled/forfeited	1,899,563
Expired	(504,347)
Balances at September 30, 2023	33,949,412

2018 Employee Stock Purchase Plan ("2018 ESPP")

For the three and nine months ended September 30, 2023, we recognized $0.1 million and $12.5 million of stock-based compensation costs for the 2018 ESPP, respectively. For the three and nine months ended September 30, 2022, we recognized $4.3 million and $11.2 million of stock-based compensation costs for the 2018 ESPP, respectively.

We issued 426,170 and 875,695 shares in the three and nine months ended September 30, 2023, respectively. We issued 339,055 and 759,744 shares in the three and nine months ended September 30, 2022, respectively.

During the nine months ended September 30, 2023 and 2022, we added an additional 2,239,563 and 12,055,792 shares, respectively, and there were 15,204,584 and 13,840,716 shares available for issuance as of September 30, 2023 and December 31, 2022, respectively.

As of September 30, 2023 and December 31, 2022, we had $12.1 million and $12.0 million of unrecognized stock-based compensation costs, respectively, expected to be recognized over a weighted average period of 1.1 years and 0.6 years, respectively.

10. 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, 2022.

PPA V Repowering of Energy Servers

PPA V was established in 2015 and we, through a special purpose subsidiary (the "Project Company"), had previously entered into certain agreements for the purpose of developing, financing, owning, operating, maintaining and managing a portfolio of 37.1 megawatts of Energy Servers.

On August 10, 2023, we acquired all of Solar TC Corp's ("Intel") interest in PPA V, as set forth in the Purchase and Sale Agreement (the "PPA V Buyout"). The aggregate purchase price of the transaction amounted to $6.9 million. After the acquisition, PPA V became wholly owned by us.

The change in our ownership interest in PPA V was accounted for as an equity transaction in accordance with ASC 810 *Consolidation*. The carrying amount of the noncontrolling interest was eliminated to reflect the change in our ownership interest in PPA V, and the difference between the fair value of the consideration paid and the carrying amount of the noncontrolling interest immediately prior to the PPA V Buyout of $11.5 million was recognized as additional paid-in capital in our condensed consolidated statements of stockholders' equity (deficit).

On August 24, 2023, we entered into the Membership Interest Purchase Agreement (the "MIPA") with Generate C&I Warehouse, LLC (the "Financier"). Following the PPA V Buyout and prior to signing the MIPA, we repaid all of the outstanding debt of the Project Company of $119.0 million, including accrued interest of $0.5 million, and recognized a loss on extinguishment of debt in an amount of $1.4 million, represented in its entirety by the derecognition of the related debt issuance costs. For additional information, please see Part I, Item 1, Note 7 - *Outstanding Loans and Security Agreements*, *Non-recourse Debt Facilities* section.

On August 25, 2023, we sold our 100% interest in the Project Company to the Financier through the MIPA. Simultaneously, we entered into an agreement with the Project Company to upgrade the 37.1 megawatts of old Energy Servers by replacing them with the new Energy Servers and to provide related installation services, which was financed by the Financier (the "EPC Agreement"). We also amended and restated our operations and maintenance agreement with the Project Company to cover all new Energy Servers and old Energy Servers prior to their upgrade ("the O&M Agreement"). The operations and maintenance fees under the O&M Agreement are paid on a fixed dollar per kilowatt basis.

Due to our repurchase option on the old Energy Servers, the Company concluded there was no transfer of control of the old Energy Servers upon sale of the membership interest to the Financier. Accordingly, we continued to recognize the old Energy Servers, despite the legal ownership of such assets having been transferred under the MIPA. We assessed the recorded assets for impairment. The carrying amount of the PPA V property. plant and equipment was determined to be not recoverable as the net undiscounted cash flows are less than the carrying amounts for PPA V property. plant and equipment. Therefore, we recognized the asset impairment charge as electricity cost, consistent with our depreciation expense classification for property, plant and equipment under leases.

The PPA V Upgrade was in progress as of September 30, 2023 and resulted in the following summarized impacts on our condensed consolidated balance sheet as of September 30, 2023: (i) cash and cash equivalents decreased by $62.4 million primarily due to a $119.0 million repayment of outstanding debt and related accrued interest, partially offset by $60.3 million from the sale of the new Energy Servers to the Project Company, (ii) property plant and equipment, net decreased by $124.0 million due to the impairment of the old Energy Servers of $123.7 million and accelerated depreciation of $0.3 million of the old Energy Servers (we revised the expected useful life of the old Energy Servers from 7.5 years to approximately 0.3 years which resulted in recognized accelerated depreciation of $0.3 million recorded in electricity cost of revenue), (iii) contract assets increased by $116.5 million and inventories decreased by $70.0 million, (iv) deferred revenue and customer deposits, current and long-term, increased by $12.4 million, (v) restricted cash, current and long-term, decreased by $8.7 million, (vi) accounts receivable, net decreased by $3.3 million, (vii) other long-term assets decreased by $1.6 million, (viii) prepaid expenses and other current assets decreased by $1.9 million, (ix) financing obligations increased by $0.3 million, and (x) accrued expenses and other current liabilities decreased by $0.5 million.

Impacts on our condensed consolidated statements of operations for the three and nine months ended September 30, 2023 are summarized as follows: (i) product and installation revenue increased by $151.6 million and $9.5 million, respectively, as a result of the sale of the new Energy Servers; (ii) electricity revenue increased by $1.1 million related to the old Energy Servers, (iii) cost of electricity revenue increased by $125.5 million, primarily including the impairment of the old Energy Servers of $123.7 million and accelerated depreciation of $0.3 million prior to the completion of installation; (iv) cost of product revenue and cost of installation revenue increased by $62.6 million and $7.4 million, respectively, due to the sale of the new Energy Servers; (v) general and administrative expenses increased by $6.4 million due to the impairment of non-recoverable production insurance; (vi) loss on extinguishment of debt increased by $1.4 million, (vii) interest expense increased by $0.3 million, and (viii) net loss attributable to noncontrolling interest decreased by $1.0 million.

Impacts on our consolidated statements of cash flows for the nine months ended September 30, 2023 are summarized as follows: net cash provided by financing activities decreased by $118.5 million due to the repayment of debt related to PPA V, and acquisition of all of interest in PPA V from Intel for $6.9 million net of distributions to Intel's noncontrolling interest of $2.3 million.

PPA Entity's 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 were the aggregate carrying values of our VIE's assets and liabilities in our condensed consolidated balance sheets, after eliminations of intercompany transactions and balances, including the PPA V Entity in the PPA V transaction as of December 31, 2022 (in thousands):

	December 31, 2022
Assets	
Current assets:	
Cash and cash equivalents	$ 5,008
Restricted cash	550
Accounts receivable	2,072
Prepaid expenses and other current assets	1,927
Total current assets	9,557
Property, plant and equipment, net	133,285
Restricted cash	8,000
Other long-term assets	1,869
Total assets	$ 152,711
Liabilities	
Current liabilities:	
Accrued expenses and other current liabilities	$ 1,037
Deferred revenue and customer deposits	662
Non-recourse debt	13,307
Total current liabilities	15,006
Deferred revenue and customer deposits	4,748
Non-recourse debt	112,480
Total liabilities	$ 132,234

Before the sale on August 24, 2023, we consolidated the PPA V Entity as a VIE in the PPA V transaction, as we had determined that we were the primary beneficiary of this VIE. The PPA V Entity contained debt that was non-recourse to us and owned Energy Server assets for which we did not have title.

11. Related Party Transactions

On September 23, 2023, all 13,491,701 shares of the Series B RCPS (the "Second Tranche Shares") were automatically converted into shares of our Class A common stock. For more information on the Second Tranche Closing, see Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment*. Consequently, SK ecoplant became a principal owner of an aggregate of 23,491,701 shares of our Class A common stock, including (i) 10,000,000 shares held with sole voting and investment power (as a result of the conversion of 10,000,000 shares of our Series A redeemable convertible preferred stock (the "Series A RCPS") into 10,000,000 shares of our Class A common stock on November 8, 2022) and (ii) 13,491,701 shares held with shared voting and investing power with Econovation LLC, of which SK ecoplant is the sole member, as the assignee of the Second Tranche Shares. SK ecoplant is considered to be a related party as of September 23, 2023, and became entitled to nominate a member to the Board of Directors of Bloom. As of September 30, 2023, SK ecoplant's beneficial ownership of our Class A common stock represents 10.5% of our outstanding Class A common stock.

Other than noted above, there have been no changes in our related party transactions during the nine months ended September 30, 2023. For information on our related party transactions, see Part II, Item 8, Note 12 - *Related Party Transactions* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Total revenue from related parties[1]	$ 125,676	$ 12,532	$ 360,981	$ 30,231

[1] Includes revenue from SK ecoplant for the three and nine months ended September 30, 2023, which became a related party on September 23, 2023, however we had transactions with SK ecoplant in prior periods (see Part II, Item 8, Note 17 - *SK ecoplant Strategic Investment* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, and Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment*).

Below is the summary of outstanding related party balances as of September 30, 2023 and December 31, 2022 (in thousands):

	September 30, 2023	December 31, 2022
Accounts receivable	$ 247,897	$ 4,257
Contract assets	3,415	—
Deferred cost of revenue, current	23,424	—
Accrued expenses and other current liabilities	5,722	—
Deferred revenue and customer deposits, current	11,118	—

Debt to/from Related Parties

We had no material debt or convertible notes to/from investors considered to be related parties as of September 30, 2023 and December 31, 2022.

12. Restructuring

In September 2023, as a result of a review of current strategic priorities and resource allocation, we approved a restructuring plan (the "Plan") intended to realign our operational focus to support our multi-year growth, scale the business, and improve our cost structure and operating margins. The Plan included (i) an optimization of our workforce across multiple functions, (ii) a relocation of our repair and overhaul ("R&O") department of our manufacturing and warehousing facility in Newark, Delaware, to Mexico, and (iii) a closure of a manufacturing, warehousing, research and development ("R&D") facility in Sunnyvale, California. We began executing the Plan in September 2023 and expect these efforts to continue in subsequent quarters. The restructuring activities are expected to be completed in the first half of fiscal 2024, subject to local law and consultation requirements, as well as our business needs. We evaluate restructuring charges in accordance with ASC 420, *Exit or Disposal Cost Obligations* ("ASC 420").

According to the Plan, 74 full-time employees and 48 contractors separated from the Company in September 2023. An additional 71 full-time employees and 8 contractors separated from the Company in October 2023. Both full-time employees and contractors who were impacted by the restructuring were eligible to receive severance benefits.

In the third quarter of fiscal 2023, we incurred $2.2 million in restructuring costs recorded as severance expenses. We expect to incur another $16.4 million in restructuring costs in subsequent quarters, out of which we expect $10.0 million will relate to the closure of our manufacturing, warehousing, and R&D facility in Sunnyvale, California, $3.0 million will relate to severance costs, $2.7 million will relate to relocation costs, and $0.7 million will relate to other one-time employee termination benefits. However, the actual timing and amount of costs associated with these restructuring actions may differ from our current expectations and estimates and such differences may be material.

The following table presents our current and non-current liability as accrued for restructuring charges on our condensed consolidated balance sheets. The table sets forth an analysis of the components of the restructuring charges and payments and other deductions made against the accrual for the three months ended September 30, 2023 (in thousands):

	Three Months Ended, September 30, 2023
	Severance
Balance at June 30, 2023	$ —
Restructuring accruals	2,219
Payments	(1,047)
Balance at September 30, 2023	$ 1,172

Severance expense recorded in the third quarter of fiscal 2023 in accordance with ASC 420 was a result of the separation of 74 full-time employees and 48 contractors associated with the Plan. At September 30, 2023, $1.2 million of accrued severance-related costs were included in accrued expenses and other current liabilities in our condensed consolidated balance sheets.

The following table summarizes restructuring costs included in the accompanying condensed consolidated statements of operations (in thousands):

	Three Months Ended, September 30, 2023
Cost of product revenue	$ 677
Cost of service revenue	48
Operating expenses:	
Sales and marketing	1,387
General and administrative	107
Total	$ 2,219

13. Commitments and Contingencies

Commitments

Purchase Commitments with Suppliers and Contract Manufacturers - In order to reduce manufacturing lead-times for an adequate supply of inventories, we have agreements with our component suppliers and contract manufacturers to allow long lead-time component inventory procurement based on a rolling production forecast. We are contractually obligated to purchase long lead-time component inventory procured by certain manufacturers in accordance with our forecasts. We can generally give notice of order cancellation at least 90 days prior to the delivery date. However, we occasionally issue purchase orders to our component suppliers and third-party manufacturers that may not be cancellable. As of September 30, 2023 and December 31, 2022, we had no material open purchase orders with our component suppliers and third-party manufacturers that are not cancellable.

Performance Guarantees - We guarantee the performance of Energy Servers at certain levels of output and efficiency to our customers over the contractual term. We monitor the need for any accruals arising from such guaranties, which are calculated as the difference between committed and actual power output or between natural gas consumption at warranted efficiency levels and actual consumption, multiplied by the contractual rates with the customer. Amounts payable under these guaranties are accrued in periods when the guaranties are not met and are recorded as service revenue in the condensed consolidated statements of operations. We paid $4.5 million and $24.4 million for the three and nine months ended September 30, 2023, respectively, for such performance guarantees. We paid $0.8 million and $10.5 million for the three and nine months ended September 30, 2022, respectively, for such performance guarantees.

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 developments and established a

cash-collateralized letter of credit facility for this purpose. As of September 30, 2023 and December 31, 2022, the balance of this cash-collateralized letter of credit was $40.4 million and $69.1 million, respectively.

In August 2023, as part of the PPA V Upgrade, the debt service reserve of $8.6 million was reclassified from restricted cash to cash and cash equivalents at the time of repayment of the 3.04% Senior Secured Notes due June 2031. For additional information, please see Part I, Item 1, Note 7 – *Outstanding Loans and Security Agreements* and Note 10 – *Portfolio Financings*. The restricted cash held in the PPA V entity as of December 31, 2022, was $8.6 million.

In addition, we have other outstanding letters of credit issued to our customers and other counterparties in the U.S. and international locations under different performance and financial obligations. These letters of credit are collateralized through cash deposited in the controlled bank accounts with the issuing banks, and are classified as restricted cash in our condensed consolidated balance sheets. In September 2023, we canceled certain existing cash-collateralized letters of credit with an approximate value of $60.4 million issued to our customers in the Republic of Korea under long-term service agreements (the "LTSAs"), and replaced them with surety bonds on a non-collateralized basis. As of September 30, 2023 and December 31, 2022, the balances of the cash-collateralized letters of credit issued to our customers and other counterparties in the U.S. and international locations were $32.3 million and $84.3 million,

respectively.

Pledged Funds - In 2019, pursuant to the PPA IIIb upgrade of Energy Servers, we established a restricted cash fund of $20.0 million, which had been pledged for a seven-year period to secure our operations and maintenance obligations with respect to the totality of our obligations to the financier. 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 September 30, 2023 and December 31, 2022, the balance of the restricted cash fund was $7.6 million and $7.9 million, respectively.

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.

Delaware Economic Development Authority - In March 2012, we entered into an agreement with the Delaware Economic Development Authority (the "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. The approved grant consisted of two components - a performance grant of $12.0 million that was received in 2012-2013 and was tied to total compensation paid to full time workers and a supplier incentive grant of $4.5 million that we would have received if we had employed 900 full time employees by pre-established dates. We forfeited the entire $4.5 million supplier incentive component of the grant. We forfeited and repaid two portions of the performance grant based on our achievement of one out of three milestones for the total compensation paid to full time workers, as follows:

- $108 million in total compensation over the four-year period ended September 30, 2017, which we did not meet, requiring us to repay $1.5 million of the grant,
- $144 million in total compensation over the four-year period ended September 30, 2021, which we did not meet, requiring us to repay $1.0 million of the grant, and
- $72 million in total compensation over the two-year period ended September 30, 2023, which we met, so no repayment was required.

We account for grants by analogizing to the grant accounting model under IAS 20, *Accounting for Government Grants and Disclosure of Government Assistance* ("IAS 20"). As of December 31, 2022, we recorded $9.5 million of grant related liability in accrued expenses and other current liabilities for future repayment of the grant. As of September 30, 2023, we concluded there was reasonable assurance that we had met the grant requirements, and as such, the grant related liability of $9.5 million was recognized in (a) the condensed consolidated statements of operations as a reduction in (i) cost of product revenue of $3.1 million, (ii) cost of service revenue of $2.9 million, (iii) general and administrative expenses of $0.6 million, (iv) research and development expenses of $0.5 million, and (v) sales and marketing expenses of $0.2 million for the three months ended September 30, 2023, and in (b) the condensed consolidated balance sheets as of September 30, 2023 as a reduction of inventories of $2.2 million, which is represented by capitalized payroll expenses and will be realized in the condensed consolidated statements of operations in future periods upon sale of these inventories.

Investment Tax Credits - Our Energy Servers are eligible for federal investment tax credits ("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.

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 condensed consolidated balance sheets, results of operations or cash flows for the period in which the resolution occurs or in future periods.

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 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 in contravention of our forum selection clause in our Restated Certificate of Incorporation 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 Sections 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 motions 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 filed a motion asking the court to certify an interlocutory appeal as to the accounting claims. The court denied plaintiffs' motion on April 14, 2022. The claims for violation of Sections 11 and 15 of the Securities Act that were not dismissed by the court entered the discovery phase.

On January 6, 2023, Bloom and the plaintiffs' entered into an agreement in principle to settle the claims against Bloom, its executives and directors, and the IPO underwriters for a payment of $3 million, which we expect to be funded entirely by our insurers. If the settlement becomes effective, we expect it to result in a dismissal with prejudice of all claims against us, our executives and directors, and the underwriters. The settlement does not constitute an acknowledgement of liability or wrongdoing. On June 30, 2023, Bloom and the plaintiff's executed a definitive settlement agreement containing the foregoing terms and customary terms for class action settlements, and on the same date, filed the settlement agreement with the court to seek its approval. The judge issued a preliminary approval of the settlement on October 31, 2023.

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 demurrer seeking to dismiss all of the Company's claims. The trial judge rejected the demurrer on all claims except one, and allowed Bloom leave to amend that claim. The second amended petition was filed on July 5, 2022. The City of Santa Clara demurred only to the amended cause of action seeking damages for tortious conduct. The trial judge granted that demurrer and struck the tort claim on October 27, 2022; the writ of mandate and constitutional claims were allowed to proceed. The parties are currently briefing the writ of mandate claims which seek immediate issuance of the building permits. On April 21, 2023, the parties executed a settlement agreement which allows our two pending customer installations to proceed under building permits and requires the City to amend its zoning code so that future installations of Bloom Energy Servers in Santa Clara require only building permits.

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 ("WIPO"), for various claims allegedly in relation to an Intellectual Property and Confidential Disclosure Agreement between Plansee/GTP and Bloom Energy Corporation. Plansee/GTP's statement of claims includes allegations of infringement 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 we have 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 (RICO) Act and violations of the Clayton Antitrust Act. On June 9, 2022, Plansee/GTP filed a motion to dismiss the complaint filed in the Eastern District of Texas and compel arbitration (or alternatively to stay). We filed our opposition on June 30, 2022, Plansee/GTP filed its reply on July 14, 2022 and we filed our sur-reply on July 22, 2022. On February 9, 2023, Magistrate Judge Payne issued a report and recommendation to stay the district court action pending an arbitrability determination by the arbitrator for each claim.

On February 23, 2023, we filed an amended complaint adding additional causes of action and filed objections to the Magistrate's report and recommendation. On April 26, 2023, Judge Gilstrap overruled our objections to the Magistrate's report and recommendation and stayed the district court action pending arbitrability determinations by the arbitrator in the WIPO proceeding. The arbitration had been held in abeyance awaiting the District Court's decision. A hearing by the arbitrator in WIPO on arbitrability took place on June 27, 2023. Further proceedings in the arbitration are confidential pursuant to the WIPO rules. Given that the WIPO arbitration had been held in abeyance, the arbitration is in an early stage. We are unable to predict the ultimate outcome of the arbitration at this time.

14. Income Taxes

For the three and nine months ended September 30, 2023, we recorded an income tax provisions of $0.6 million and $1.1 million, respectively, on pre-tax losses of $167.4 million and $311.0 million for effective tax rates of (0.4)% and (0.3)%, respectively. For the three and nine months ended September 30, 2022, we recorded an income tax benefit and income tax provision of $0.3 million and $0.9 million, respectively, on pre-tax losses of $60.1 million and $263.4 million for effective tax rates of (0.6)% and (0.3)%, respectively.

The effective tax rate for the three and nine months ended September 30, 2023 and 2022 was lower than the statutory federal tax rate primarily due to a full valuation allowance against U.S. deferred tax assets.

15. Net Loss per Share Available to Common Stockholders

Please refer to the condensed consolidated statements of operations for computation of our net loss per share available to common stockholders, basic and diluted.

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 and nine months presented as their inclusion would have been antidilutive:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Convertible notes	47,736	14,187	31,146	14,187
Redeemable convertible preferred stock	12,319	10,000	13,096	10,000
Stock options and awards	3,352	6,445	4,880	5,503
	63,407	30,632	49,122	29,690

16. SK ecoplant Strategic Investment

In October 2021, we expanded our existing relationship with SK ecoplant. As part of this arrangement, we amended the previous Preferred Distribution Agreement ("PDA") and Joint Venture Agreement ("JVA") with SK ecoplant. The restated PDA establishes SK ecoplant's purchase commitments for our Energy Servers for the three year period on a take or pay basis as well as the basis for determining the prices at which the Energy Servers and related components will be sold. The restated JVA increases the scope of assembly done by the joint venture facility in the Republic of Korea, which was established in 2019, for the procurement of local parts for our Energy Servers and the assembly of certain portions of the Energy Servers for the South Korean market. The joint venture is a VIE of Bloom and we consolidate it in our financial statements as we are the primary beneficiary and therefore have the power to direct activities which are most significant to the joint venture.

On September 15, 2023, we entered into the Amended and Restated JVA and the Share Purchase Agreement (together, the "Amended JV Agreements") with SK ecoplant which changed the share of our voting rights in the Korean joint venture to 40% and increases the scope of assembly done by the joint venture facility in the Republic of Korea to full assembly. Neither the Amended JV Agreements, nor the fact that SK ecoplant is considered to be our related party after the conversion of Series B RCPS into shares of our Class A common stock (for additional information, please see Part I, Item 1, Note 11 - *Related Party Transactions*) changed our status as the primary beneficiary of the Korean joint venture. Therefore, we continue to consolidate this VIE in our financial statements as of September 30, 2023.

The following are the aggregate carrying values of the Korean joint venture's assets and liabilities in our condensed consolidated balance sheets, after eliminations of intercompany transactions and balances, as of September 30, 2023 and December 31, 2022 (in thousands):

	September 30, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 1,012	$ 2,591
Accounts receivable	20,483	4,257
Inventories	10,617	13,412
Prepaid expenses and other current assets	1,574	2,645
Total current assets	33,686	22,905
Property and equipment, net	1,705	1,141
Operating lease right-of-use assets	2,249	2,390
Other long-term assets	44	47
Total assets	$ 37,684	$ 26,483
Liabilities		
Current liabilities:		
Accounts payable	$ 4,828	$ 5,607
Accrued expenses and other current liabilities	3,324	1,355
Deferred revenue and customer deposits	—	2
Operating lease liabilities	409	393
Total current liabilities	8,561	7,357
Operating lease liabilities	1,665	2,000
Non-recourse debt	1,483	—
Total liabilities	$ 11,709	$ 9,357

In October 2021, we also entered into a new Commercial Cooperation Agreement (the "CCA") regarding initiatives pertaining to the hydrogen market and general market expansion for our products.

The Initial Investment

In October 2021, we entered into the SPA pursuant to which we agreed to sell and issue to SK ecoplant 10,000,000 shares of Series A 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. On December 29, 2021, the closing of the sale of the Series A RCPS was completed and we issued the 10,000,000 shares of the Series A RCPS (the "Initial Investment"). In addition to the Initial Investment, the SPA provided SK ecoplant with an option to acquire a variable number of shares of Class A Common Stock (the "Option"). According to the SPA, SK ecoplant was entitled to exercise the Option through August 31, 2023, and the transaction must have been completed by November 30, 2023.

The sale of Series A RCPS was recorded at its fair value of $218.0 million on the date of issuance. Accordingly, we allocated the excess of the cash proceeds received of $255.0 million plus the change in fair value of the Series A RCPS between October 23, 2021, and December 29, 2021, of $9.7 million, over the fair value of the Series A RCPS on December 29, 2021, and the fair value of the Option on October 23, 2021, to the PDA. This excess amounted to $37.0 million and was recorded in deferred revenue and customer deposits. Accordingly, during the three and nine months ended September 30, 2022, we recognized product revenue of $3.2 million and $7.9 million, respectively, in connection with this arrangement. No product revenue was recognized during the three and nine months ended September 30, 2023 in connection with this arrangement. As of December 31, 2022, the unrecognized amount of $24.6 million included $10.0 million in current deferred revenue and customer deposits and $14.6 million in non-current deferred revenue and customer deposits on the condensed consolidated balance sheets. As of September 30, 2023, the unrecognized amount of deferred revenue and customer deposits was reduced to zero as a result of the Second Tranche Closing (see details below in section "The Second Tranche Closing").

PDA, JVA, CCA and the SPA entered into with SK ecoplant concurrently were evaluated as a combined contract in accordance with ASC 606 *Revenue from Contracts with Customers* and, to the extent applicable for separated components,

under the guidance of Topic 815 *Derivatives and Hedging* and applicable subsections and ASC 480 *Distinguishing Liabilities from Equity*.

We concluded that the Option was a freestanding financial instrument that should have been separately recorded at fair value on the date the SPA was executed.

On August 10, 2022, pursuant to the SPA, SK ecoplant notified us of its intent to exercise its option to purchase additional shares of our Class A common stock, pursuant to a Second Tranche Exercise Notice (as defined in the SPA) electing to purchase 13,491,701 shares at a purchase price of $23.05 per share (the "Second Tranche Closing"). As of December 31, 2022, this option was accounted for as the equity-classified forward contract.

For further information, see Part II, Item 8, Note 17 - *SK ecoplant Strategic Investment* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

The Second Tranche Closing

On March 20, 2023, SK ecoplant entered into the Amended SPA with us, pursuant to which on March 23, 2023, we issued and sold to SK ecoplant 13,491,701 shares of non-voting Series B RCPS, par value $0.0001 per share, at a purchase price of $23.05 per share for cash proceeds of $311.0 million, excluding issuance cost of $0.5 million.

The Amended SPA triggered the modification of the equity-classified forward contract on Class A common stock, which resulted in the derecognition of the pre-modification fair value of the forward contract given to SK ecoplant of $76.2 million. The derecognition of the pre-modification fair value was recorded in additional paid-in capital in our condensed consolidated balance sheets as of September 30, 2023.

The Series B RCPS was accounted for as a stock award with liability and equity components. The liability component of the Series B RCPS was recognized at the redemption value of $311.0 million, less issuance costs of $0.5 million, and the equity component of the Series B RCPS was recognized at its fair value of $16.1 million on March 20, 2023 and recorded in current liabilities and additional paid-in capital, respectively, in our condensed consolidated balance sheets as of September 30, 2023.

On March 20, 2023, in connection with the Amended SPA we also entered into the Loan Agreement, pursuant to which we had the option to draw on a loan from SK ecoplant with a maximum principal amount of $311.0 million, a maturity of five years and an interest rate of 4.6%, should SK ecoplant have sent a redemption notice to us under the Amended SPA.

The Amended SPA and the Loan Agreement provided us with cash proceeds of $311.0 million and a loan commitment asset of $52.8 million from SK ecoplant for total consideration of $363.8 million. In return, SK ecoplant received consideration of $403.3 million, consisting of the release from the obligation to close on the original transaction fair valued at $76.2 million, the obligation from us to issue the Series B RCPS at redemption value of $311.0 million, and the option to convert the Series B RCPS to Class A common stock, which had an estimated fair value of $16.1 million. The excess consideration provided by us amounted to $39.5 million, which resulted in a reduction of our deferred revenue and customer deposits by $24.6 million related to the Initial Investment, as of September 30, 2023. The net excess consideration of $14.9 million was recognized as $8.2 million in prepaid expenses and other current assets and $6.7 million was classified as other long-term assets in our condensed consolidated balance sheets as of March 31, 2023. The deferred expense is recognized as contra-revenue over the take or pay period based on an estimate of the revenue we expect to receive under the remaining term of the PDA. During the three and nine months ended September 30, 2023, the deferred expense recognized as contra-revenue was $3.0 million. As a result, as of September 30, 2023, we recognized the net excess consideration of $11.9 million, of which $9.9 million was classified as prepaid expenses and other current assets and $2.0 million was classified as other long-term assets, in our condensed consolidated balance sheet.

On September 23, 2023, all 13,491,701 shares of the Series B RCPS were automatically converted into shares of our Class A common stock pursuant to the Certificate of Designation, dated as of March 20, 2023, setting forth the rights, preferences, privileges, and restrictions of the Series B RCPS, as amended by the Certificate of Amendment to the Certificate of Designation, dated as of April 18, 2023. As a result of the conversion: (i) the liability component of the Series B RCPS of $310.5 million was reclassified to additional paid-in capital, less par value of the issued 13,491,701 shares of our Class A common stock, and (ii) the loan commitment asset was recorded at its fair value of $52.8 million, of which $5.3 million was

classified as current and $47.5 million was classified as non-current in our condensed consolidated balance sheets, and was expensed immediately and recognized in interest expense in our condensed consolidated statements of operations.

Upon conversion of all Series B RCPS into shares of our Class A common stock, SK ecoplant is considered to be a related party. For additional information, please see Part I, Item 1, Note 11 - *Related Party Transactions.*

17. Subsequent Events

There have been no material 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, our expanded strategic partnership with SK ecoplant, operations, supply chain (including any direct or indirect effects from the Russia-Ukraine war or geopolitical developments in China), new markets, government incentive programs, impact of the Inflation Reduction Act of 2022 (the "IRA") on our business, growth of the hydrogen market and the sufficiency of our cash and our liquidity. All statements contained in this Quarterly Report on Form 10-Q other than statements of historical fact are forward-looking statements. Forward-looking statements may be identified by words such as "future," "anticipates," "believes," "estimates," "expects," "intends," "designs," "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, outcomes and the timing of certain events to differ materially from results or outcomes expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those factors discussed in the section titled "Risk Factors" included in Part I, Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, in the section titled "Risk Factors" included in Part II, Item 1A of our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2023 and in our other filings with the Securities and Exchange Commission (the "SEC"). You should review these risk factors for a more complete understanding of the risks associated with an investment in our securities. Such forward-looking statements speak only as of the date of this report. We disclaim any obligation to update any forward-looking statements made in this Quarterly Report on Form 10-Q to reflect events or circumstances after the date of this report or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. 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 for the 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 by delivering 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 towards renewable fuel production 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 we also have direct and indirect sales channels internationally. Recognizing that deploying our solutions requires a significant 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, and who may prefer to finance the acquisition using third-party financing or 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 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

For information on the strategic investment with SK ecoplant, see Part II, Item 8, Note 1 - *Nature of Business, Liquidity and Basis of Presentation, Liquidity* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, and Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment*.

Certain Factors Affecting our Performance

Energy Market Conditions

The global energy transition to a zero-carbon environment has created new challenges and opportunities for utilities, suppliers of energy solutions and customers. Shifts and uncertainty in market and regulatory dynamics and corporate and governmental policies are currently impacting the selling process and extending sales cycles and timelines for the Company's natural gas-, biogas- and hydrogen-related products. Increasing electricity rates, decreasing energy reliability, and delays in the development of transmission infrastructure and grid interconnection have led to increased customer interest in our power solutions, but at the same time natural gas supply and pricing concerns due to geopolitical stresses and resulting market changes as well as increasing focus on sustainability targets have led to increased caution from customers. The increased use of renewable power generation and weather effects of climate change have exacerbated aging grid fragilities, increased the occurrence of power outages, created grid transmission shortages and lengthened already extensively delayed interconnection cycles. Low- and zero-carbon sources of baseload energy have also been curtailed and even banned in some locations, forcing utilities, states and countries to revisit less clean sources of baseload and intermediate power in an attempt to ensure energy reliability. This supply and demand mismatch globally has threatened energy security reliability, reduced the availability of energy and increased the cost of energy.

Bloom's power solutions enable customers to address these energy market challenges by offering fuel flexible solutions that are designed to provide cost predictable, resilient, reliable energy in a timely fashion. As customers and utilities navigate the energy transition and evolving landscape, the ability of our power solutions to fit their economic, regulatory and policy needs depends on a number of factors, including natural gas availability and pricing, electrical interconnection needs and availability, redundant back up power requirements, cost requirements and sustainability profile. Even in those situations where the time to power from the utility is years away in light of the need to build out energy transmission infrastructure, these factors still may impact a customer's buying decision. For example, although Bloom's power generation solutions can operate as microgrids, independent from the grid, if a customer desires back up power or a "grid parallel" solution in combination with the Bloom microgrid, required interconnection studies and lengthy interconnection queues remain, eroding the time to power value proposition. According to the Lawrence Berkeley National Lab, U.S. interconnection queue delays are growing, with a forty percent year over year increase in 2022. The typical project interconnection process for large scale projects grew to five years in 2022 compared to three years in 2015 and two years in 2008. In addition, the rising cost of natural gas, increases in gas distribution rates, limited availability of natural gas supply, as well as disruptions to the world gas markets has increased the cost of our power solutions for customers and, in certain cases where there is a lack of fuel supply, a complete inability to operate the systems. In the United States, in particular, the lack or slow development of pipeline infrastructure is impacting the timing of customers being able to take advantage of our power solution opportunities. In certain jurisdictions in the United States and Europe, natural gas bans have been enacted that prevent the use of our power solutions unless alternative fuels are available. In addition, there is a growing hesitancy by potential customers to purchase our power solutions to run on natural gas. Increasingly, customers want a zero-carbon solution for power, and, although our power solutions are designed to run on biofuels or hydrogen (in addition to natural gas) and help our customers achieve their sustainability goals, these fuels continue to have very limited availability and, for most customers, are not yet economical. This impetus by customers to use zero-carbon solutions today, combined with the current lack of availability of zero-carbon fuels, is impacting our power solution selling opportunities. In addition, many of our potential data center and industrial customers are pursuing greenfield opportunities where the development cycle is long and laden with permitting requirements and the uncertainty of these factors is leading to a more difficult customer decision-making process and longer sales cycles.

Corporate procurement policy is also undergoing change that creates uncertainty; while some customers are increasingly focused on decarbonizing their own direct energy supply, including aligning the timing of their zero-carbon power generation with their energy consumption, others are shifting to prioritize overall carbon emissions from the energy system, both of which are impacting our sales.

The regulatory environment for energy solutions continues to shift. In South Korea, the government recently moved to a new, government-run bidding process for fuel cell purchases, which has impacted and may continue to impact demand for our power solutions. In the United States, the investment tax credit (ITC) for fuel cells running on a non-zero carbon fuel currently expires at the end of 2024. In Ireland, which is a large data center market, a directive from the Minister of the Department of the Environment, Climate and Communications to restrict grid connections to data centers and other large power users, along with a halt in high-pressure gas installations has delayed our selling activities in Ireland. Delays in adoption of Renewable Fuel Standard regulations in the United States for the use of biogas to generate electricity for electric vehicles, and minimal governmental focus on utilization of biogas outside of its direct use by methane-fueled vehicles, have created uncertainty in prospects for broader biogas availability for industrial uses, including our power solutions. In addition, in most jurisdictions, air permits and various land use permits are required for installation of our solutions over a certain amount of mega-watts, and generally the length of time to obtain these permits increased, while the level of certainty of issuance has decreased and if issued, the cost of compliance requirements is often cost prohibitive. We have experienced a reluctance in certain states to issue permits for gas generation equipment and if issued require a blend of costly renewable fuels or other measures to advance a state's climate goals. This has impacted our selling activities.

Significant governmental interest, investment and stimulation of clean hydrogen in the U.S., Europe and in many other regions across the globe have not yet had significant impacts on demand for hydrogen. To date, while the number of proposed hydrogen production projects has grown rapidly, only a small fraction have reached final investment decision (FID) stage, and an even smaller fraction have been deployed. In addition, the infrastructure needed to transport hydrogen, whether through pipelines or maritime or land-based tankers, is currently only sufficient for existing uses, and has not begun to be extended for anticipated future uses, with hydrogen blending and other approaches remaining at pilot stages. It remains unclear whether regulators in some jurisdictions will allow hydrogen to be introduced into gas distribution systems, which could effectively preclude or severely limit our ability to transport hydrogen from the point of production to the point of consumption.

All of these factors have impacted the selling cycles for our electrolyzer product and power solutions. Our revenue, margins and cash flow in any given year are largely dependent on bookings during the prior year. Historically, the majority of our bookings have occurred in the second half of the year, with a significant portion occurring in the fourth quarter. If a substantial portion of our anticipated bookings for the remainder of 2023 is delayed beyond the end of this year, our revenue, margins and cash flow could be materially adversely impacted in 2024.

Supply Chain Constraints

We continue to see effects from global supply chain tightness due to the current inflationary environment, war in Ukraine and trade tensions between the United States and China. We are not aware of, and do not expect, any direct impact on our business or supply chain from the Israel-Gaza Strip armed conflict. While we have not experienced any significant component shortages to date, we are facing pressures from inflation. These dynamics could worsen as a result of continued geopolitical instability. In the event we are unable to mitigate the impacts of delays and/or price increases in raw materials and components, it could delay the manufacturing and installation, and increase the costs of, our Energy Servers, which would adversely impact our cash flows and results of operations, including our revenues and gross margin. We expect these supply chain challenges to continue in the short term.

Customer Financing Constraints

Our ability to obtain financing for our Energy Servers depends partially on the creditworthiness of our customers, and deterioration of our customers' credit ratings can impact the financing for their use of our Energy Servers. Regional banking and financial institution instability, such as the failure of Silicon Valley Bank in the first quarter of 2023, may make it more difficult for our customers to obtain financing. Rising interest rates have also increased the cost of financing for our customers. As interest rates rise, financiers of our installations demand a higher rate of return. Rising interest rates could put pressure on our margins in order to meet the higher returns expected by the financiers. We continue to work on obtaining the financing required for our 2023 installations, but if we are unable to secure such financing, our revenue, cash flow and liquidity could be materially impacted. We expect that in the United States, the IRA and the transferability of tax credits, should make the financing market more robust.

Manufacturing and Labor Market Constraints

As recently as 2022, we experienced impacts from labor shortages and challenges in hiring for our manufacturing facilities. While these constraints abated in 2023 and we reduced headcount as part of a restructuring plan adopted in September 2023, we may still experience difficulties with hiring and retention, and may face additional labor shortages in the future. The restructuring plan included (i) an optimization of our workforce across multiple functions, (ii) a relocation of a portion of our repair and overhaul department of our manufacturing and warehousing facility in Newark, Delaware, to Mexico, and (iii) a closure of a manufacturing, warehousing, research and development facility in Sunnyvale, California. According to the plan, 74

full-time employees and 48 contractors separated from the Company in September 2023. Additional 71 full-time employees and 8 contractors separated from the Company in October 2023. For additional information, please see Part I, Item I, Note 12 - *Restructuring*. In addition, the current inflationary environment has led to rising wages and labor costs as well as increased competition for labor. In the event these constraints return and we are unable to continue to mitigate the impacts of these challenges, it could delay the manufacturing and installation of our Energy Servers or Electrolyzers and we may be unable to meet customer demand, which could adversely impact our cash flows and results of operations, including our revenues and gross margin.

Installations and Maintenance of Energy Servers

During the first three quarters of 2023, our installation projects experienced some delays relating to, among other things, permitting, utility delays and access to customer facilities. However, these delays did not significantly impact our revenue.

If we are delayed in or unable to perform maintenance, our previously installed Energy Servers would 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 incur higher costs in the future. For the nine months ended September 30, 2023, we experienced no significant delays in servicing our Energy Servers.

Environmental, Social and Governance ("ESG")

We are committed to a goal of providing consistent returns to our stockholders while maintaining a strong sense of good corporate citizenship that places a high value on the environment, welfare of our employees, the communities in which we operate, the customers we serve, and the world as a whole. We believe that prioritizing, improving, and managing our ESG related risks, opportunities and programs help us to better create long-term value for our investors.

In April 2023, we released our 2022 Sustainability Report, Advancing the Mission of Decarbonization (the "Sustainability Report"), using generally accepted ESG frameworks and standards, including alignment with Sustainability Accounting Standards Board standards and the Task Force on Climate-related Financial Disclosures recommendations. In addition, the Sustainability Report also utilized certain Global Reporting Initiative standards and was mapped against the United Nations Sustainable Development Goals. We plan to issue a sustainability report on an annual basis.

Our mission is to make clean, reliable energy affordable for everyone in the world. To that end, we strive to empower businesses and communities to responsibly take charge of their energy while addressing both the causes and consequences of climate change. We aim to serve our customers with products that are resilient, providing uninterrupted power with predictable pricing over the long-term, while addressing sustainability issues by developing an increasingly broad portfolio of solutions for decarbonization.

The Sustainability Report can be found on our website at *https://www.bloomenergy.com/sustainibility*.

Inflation Reduction Act of 2022

For information on the IRA, which was signed into law on August 16, 2022, and its impact on our business, see Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations, Inflation Reduction Act of 2022 – New and Expanded Production and Tax Credits for Manufacturers and Projects to Support Clean Energy* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Liquidity and Capital Resources

We raised cash and supplemented liquidity through financing activities with SK ecoplant in the first quarter of 2023 and issuing the 3% Green Notes due June 2028 in the second quarter of 2023. At the same time, we increased our working capital spend. In the first three quarters of 2023, we built up inventory in preparation for more expected shipments in the fourth quarter of 2023. This enabled us to level load production and gain manufacturing efficiency. In addition, we expanded our warehouse space in Delaware to store more inventory to meet the anticipated increase in demand. If this increase in demand does not materialize to the degree we anticipated, our liquidity condition may be adversely impacted.

On March 20, 2023, we entered into the Amended SPA, with SK ecoplant, pursuant to which we issued and sold to SK ecoplant 13,491,701 shares of Series B RCPS for cash proceeds of $311.0 million, excluding issuance cost of $0.5 million.

On March 20, 2023, in connection with the Amended SPA, we also entered into the Loan Agreement, pursuant to which we were entitled to draw down on a loan from SK ecoplant with a maximum principal amount of $311.0 million, if SK ecoplant sent a redemption notice to us under the Amended SPA or otherwise had reduced any portion of its current holdings of our Class A common stock. On September 23, 2023, all 13,491,701 shares of the Series B RCPS were automatically converted into

shares of our Class A common stock. For further information on the strategic investment with SK ecoplant, see Part I, Item 1, Note 16 - *SK ecoplant Strategic Investment*.

On May 16, 2023, we issued the 3% Green Notes with an aggregate principal amount of $632.5 million due June 2028, unless earlier repurchased, redeemed or converted, resulting in net cash proceeds of $613.0 million. On June 1, 2023, we used approximately $60.9 million of the net proceeds from this offering to redeem all of the outstanding principal amount of our 10.25% Senior Secured Notes due March 2027. The redemption price equaled 104% of the principal amount redeemed plus accrued and unpaid interest. We also used approximately $54.5 million of the net proceeds from the offering to purchase the Capped Calls.

On August 24, 2023, as part of the PPA V Upgrade, we paid off the outstanding balance and related accrued interest of $118.5 million and $0.5 million, respectively, of our 3.04% Senior Secured Notes due June 30, 2031.

For further information on issuance of 3% Green Notes, redemption of our 10.25% Senior Secured Notes, and repayment of 3.04% Senior Secured Notes, please see Part I, Item 1, Note 7 - *Outstanding Loans and Security Agreements*.

As of September 30, 2023, we had cash and cash equivalents of $557.4 million. Our cash and cash equivalents consist of highly liquid investments with maturities of three months or less, including money market funds of $489.4 million. We maintain these balances with high credit quality counterparties, regularly monitor the amount of credit exposure to any one issuer and diversify our investments in order to minimize our credit risk.

As of September 30, 2023, we had $840.5 million of recourse debt, $1.5 million of non-recourse debt and $8.8 million of other long-term liabilities. As of September 30, 2023, all of our debt was classified as long-term liabilities. For a complete description of our outstanding debt, please see Part I, Item 1, Note 7 - *Outstanding Loans and Security Agreements*.

The combination of our cash and cash equivalents and cash flow to be generated by our operations is expected to be sufficient to meet our anticipated cash flow needs for at least the next 12 months. If these sources of cash are insufficient or are not received in a timely manner to satisfy our near-term or future cash needs, we may require additional capital from equity or debt financings to fund our operations, our manufacturing capacity, product development and market expansion requirements and to timely respond to competitive market pressures or strategic opportunities, among other things. We may, from time to time, engage in a variety of financing transactions for such purposes, including factoring our accounts receivable. During the three and nine months ended September 30, 2023, we factored $108.0 million and $167.6 million of accounts receivable, respectively. However, we may not be able to secure timely additional financing on favorable terms, or at all. The terms of any additional financing may place limits on our financial and operating flexibility. Although currently we only have fixed-rate convertible notes on the balance sheet, rising interest rates may increase our overall cost of capital, if and when we refinance those notes. 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 depends 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 of inventory build in anticipation of future sales and installations, and overall economic conditions. In order to support and achieve our future growth plans, we may need or seek advantageously to obtain additional funding through equity or debt financing. Failure to obtain this financing in future quarters may affect our results of operations, including our revenues and cash flows.

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

	Nine Months Ended September 30,	
	2023	**2022**
Net cash (used in) provided by:		
Operating activities	$ (494,364)	$ (168,453)
Investing activities	(67,482)	(80,907)
Financing activities	682,161	305,211

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):

	Nine Months Ended September 30,	
	2023	2022
PPA Entities [1]		
Net cash provided by PPA operating activities	$ 10,036	$ 95,445
Net cash used in PPA financing activities	(23,594)	(103,546)

[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. In August 2023, we sold our PPA V entity.

Operating Activities

Our operating activities consisted of net loss adjusted for certain non-cash items plus changes in our operating assets and liabilities, or working capital. Net cash used in operating activities during the nine months ended September 30, 2023 was $494.4 million, an increase of $325.9 million compared to the prior year period. The increase in cash used in operating activities during the nine months ended September 30, 2023, as compared to the prior year period, was primarily a result of an increase in working capital of $489.5 million due to (1) an increase in inventory levels of $206.3 million to support future demand, (2) an increase in contract assets of $97.1 million, which was driven by the PPA V Upgrade, (3) an increase in accounts receivable of $83.9 million which was primarily due to the timing of revenue transactions and corresponding collections, and (4) the timing of payments to vendors.

Investing Activities

Our investing activities have consisted of capital expenditures, including investments to increase our production capacity. We expect to continue such investing activities as our business grows. Cash used in investing activities during the nine months ended September 30, 2023 was $67.5 million, an increase of $13.4 million compared to the prior year period, and was primarily due to expenditures on tenant improvements for a newly leased engineering and manufacturing building in Fremont, California, opened in July 2022. We expect to continue to make capital expenditures over the next few quarters to expand production capacity at our new manufacturing facility in Fremont, California, 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 consisted of borrowings and repayments of debt, proceeds and repayments of financing obligations, distributions paid to noncontrolling interests, contributions from noncontrolling interests, and proceeds from the issuances of our common stock. Net cash provided by financing activities during the nine months ended September 30, 2023, was $682.2 million, an increase of $377.0 million compared to the prior year period. The increase was primarily due to (1) proceeds from the issuance of the 3% Green Notes of $613.0 million, net of paid debt issuance costs of $19.5 million, (2) proceeds from the issuance of redeemable convertible preferred stock of $310.6 million, net of paid debt issuance costs of $0.4 million, as a result of SK ecoplant Second Tranche Closing, (3) proceeds from the issuance of common stock of $16.0 million, (4) a contribution from noncontrolling interest of $7.0 million, and (5) proceeds from financing obligations of $2.7 million. This was partially offset by (1) a settlement of the 3.04% Senior Secured Notes due June 30, 2031 of $118.5 million as a result of PPA V Upgrade, (2) repayment of recourse debt of $72.9 million, (3) purchases of Capped Calls of $54.5 million, (4) repayment of financing obligations of $13.5 million, and (5) the acquisition of all interest in PPA V for $6.9 million net of distributions to Intel's noncontrolling interest of $2.3 million.

Please refer to Part I, Item 1, Note 7 - *Outstanding Loans and Security Agreements* of this Quarterly Report on Form 10-Q and Part I, Item 1A, *Risk Factors - Risks Related to Our Liquidity - Our 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 *We may not be able to generate sufficient cash to meet our debt service obligations or our growth plans* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 for more information regarding the terms of and risks associated with our debt.

Purchase and Financing Options

For information about our purchase and financing options, see Part II, Item 7 - *Management's Discussion and Analysis of Financial Condition and Results of Operations, Purchase and Financing Options* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Performance Guarantees

As of September 30, 2023, we had incurred no liabilities due to failure to repair or replace our Energy Servers pursuant to any performance warranties made under operations and maintenance agreements ("O&M Agreements"). For O&M Agreements that are subject to renewal, our future service revenue from such agreements are subject to our obligations to make payments for underperformance against the performance guaranties, which are capped at an aggregate total of approximately $552.0 million (including $424.0 million related to portfolio financing entities and $128.0 million related to all other transactions, and include payments for both low output and low efficiency), and our aggregate remaining potential payments related to these underperformance obligations was approximately $481.4 million as of September 30, 2023. For the nine months ended September 30, 2023, we made performance guarantee payments of $24.4 million.

International Channel Partners

There were no significant changes in our international channel partners during the nine months ended September 30, 2023. For information on international channel partners, see Part II, Item 7 - *Management's Discussion and Analysis of Financial Condition and Results of Operations, International Channel Partners* section in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Key Operating Metrics - Comparison of the Three and Nine Months Ended September 30, 2023 and 2022

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, *Management's Discussion and Analysis of Financial Condition and Results of Operations, Key Operating Metrics* section in our Annual Report on Form 10-K for the year ended December 31, 2022.

Product Acceptances

The product and megawatts accepted in the three and nine months ended September 30, 2023 and 2022 were as follows:

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
Product accepted	813	581	232	39.9 %	1,931	1,427	504	35.3 %
Megawatts accepted, net	81	58	23	39.9 %	193	143	50	35.3 %

Product accepted increased approximately by 232 systems, or 39.9%, and 504 systems, or 35.3%, for the three and nine months ended September 30, 2023, respectively, as compared to the prior year periods, which is the equivalent of 23 megawatts and 50 megawatts, respectively. Acceptance volume increased as demand increased for the Energy Servers.

The increase in acceptances of 193 megawatts achieved from December 31, 2022 to September 30, 2023 was added to our installed base and, therefore, increased our total megawatts accepted, net, from 973 megawatts to 1,166 megawatts.

Purchase Options

Our customers have several purchase options for our Energy Servers. The portion of acceptances attributable to each purchase option in the three and nine months ended September 30, 2023 and 2022 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Direct purchase (including third-party PPAs and international channels)	100 %	99 %	98 %	100 %
Traditional lease	— %	1 %	2 %	— %

The portion of total revenue attributable to each purchase option in the three and nine months ended September 30, 2023 and 2022 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Direct purchase (including third-party PPAs and international channels)	94 %	91 %	90 %	89 %
Traditional lease	— %	1 %	1 %	1 %
Managed services	4 %	5 %	7 %	6 %
Portfolio financings	2 %	3 %	2 %	4 %

Costs Related to Our Products

Total product related costs for the three and nine months ended September 30, 2023 and 2022 was as follows:

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
Product costs of product accepted in the period	$2,040/kW	$2,456/kW	($416/kW)	(16.9)%	$2,126/kW	$2,485/kW	($359/kW)	(14.4)%
Period costs of manufacturing related expenses not included in product costs (in thousands)	$ 17,330	$ 15,496	$ 1,834	11.8 %	$ 47,403	$ 38,672	$ 8,731	22.6 %
Installation costs on product accepted in the period	$318/kW	$488/kW	($170/kW)	(34.8)%	$402/kW	$405/kW	($3/kW)	(0.7)%

Product costs of product accepted decreased by $416 per kilowatt, or 16.9%, and $359 per kilowatt, or 14.4%, for the three and nine months ended September 30, 2023, as compared to the prior year periods, respectively. The decrease in costs was primarily driven by our continued efforts to reduce material costs, implement cost reduction programs with our vendors, and reduce our labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Period costs of manufacturing related expenses increased by $1.8 million, or 11.8%, and $8.7 million, or 22.6%, for the three and nine months ended September 30, 2023, as compared to the prior year periods, respectively. Our period costs of manufacturing related expenses increased primarily as a result of costs incurred to support capacity expansion efforts, which are expected to be brought online in future periods, partially offset by a $3.1 million release of a liability as of September 30, 2023 related to a grant from the Delaware Economic Development Authority upon the end of the measurement period stipulated in the grant agreement.

Installation costs on product accepted decreased by $170 per kilowatt, or 34.8%, and $3 per kilowatt, or 0.7%, for the three and nine months ended September 30, 2023, as compared to the prior year periods, respectively. Each customer site is unique and installation costs can vary due to a number of factors, including site complexity, size, and location of gas, among other factors. As such, installation on a per kilowatt basis can vary significantly from period to period. For the three and none months ended September 30, 2023, this decrease in cost was primarily driven by the change in the mix of sites requiring Bloom installation.

Results of Operations

A discussion regarding the comparison of our financial condition and results of operations for the three and nine months ended September 30, 2023 and 2022 is presented below.

Revenue

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
				(dollars in thousands)				
Product	$ 304,976	$ 213,243	$ 91,733	43.0 %	$ 713,427	$ 520,415	$ 193,012	37.1 %
Installation	21,916	22,682	(766)	(3.4)%	66,762	48,964	17,798	36.3 %
Service	47,535	37,347	10,188	27.3 %	130,496	111,012	19,484	17.6 %
Electricity	25,841	19,002	6,839	36.0 %	65,869	56,158	9,711	17.3 %
Total revenue	$ 400,268	$ 292,274	$ 107,994	36.9 %	$ 976,554	$ 736,549	$ 240,005	32.6 %

Total Revenue

Total revenue increased by $108.0 million, or 36.9%, for the three months ended September 30, 2023, as compared to the prior year period. This increase was driven by a $91.7 million increase in product revenue, a $10.2 million increase in service revenue, and a $6.8 million increase in electricity revenue, partially offset by a $0.8 million decrease in installation revenue.

Total revenue increased by $240.0 million, or 32.6%, for the nine months ended September 30, 2023, as compared to the prior year period. This increase was driven by a $193.0 million increase in product revenue, a $19.5 million increase in service revenue, a $17.8 million increase in installation revenue, and a $9.7 million increase in electricity revenue.

Product Revenue

Product revenue increased by $91.7 million, or 43.0%, for the three months ended September 30, 2023, as compared to the prior year period. Product revenue increased by 39.9%, primarily driven by higher product acceptances and improved product pricing due to increased demand for our products--including the PPA V Upgrade--resulting in revenue from new Energy Servers of $151.6 million. The increase was partially offset by revenue recognized from PPA IIIa (the "PPA IIIa Upgrade") of $12.7 million for the three months ended September 30, 2022.

Product revenue increased by $193.0 million, or 37.1%, for the nine months ended September 30, 2023, as compared to the prior year period. The product revenue increase was primarily driven by a 35.3% increase in product acceptances due to increased demand for our products and the PPA V Upgrade, resulting in revenue from new Energy Servers of $151.6 million, partially offset by revenue recognized from the PPA IIIa Upgrade of $49.6 million for the nine months ended September 30, 2022.

Installation Revenue

Installation revenue decreased by $0.8 million, or 3.4%, for the three months ended September 30, 2023, as compared to the prior year period. This decrease in installation revenue was primarily driven by the change in the mix of product acceptances requiring installations by us in the three months ended September 30, 2023, and the revenue recognized from the PPA IIIa Upgrade of $2.1 million for the three months ended September 30, 2022, partially offset by the revenue recognized from the PPA V Upgrade of $9.5 million.

Installation revenue increased by $17.8 million, or 36.3%, for the nine months ended September 30, 2023, as compared to the prior year period. This increase in installation revenue was primarily driven by the revenue recognized from the PPA V Upgrade of $9.5 million and the change in the mix of product acceptances requiring installations by us in the nine months ended September 30, 2023, partially offset by revenue recognized from the PPA IIIa Upgrade of $3.2 million for the nine months ended September 30, 2022.

Service Revenue

Service revenue increased by $10.2 million, or 27.3%, for the three months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by 181 megawatts of Energy Servers reaching full power in the past year, which contributed to an $11.3 million increase in revenue from maintenance contracts associated with our fleet of Energy Servers, partially offset by the impact of product performance guarantees of $1.1 million.

Service revenue increased by $19.5 million, or 17.6%, for the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by 181 megawatts of Energy Servers reaching full power in the past year, which contributed to a $31.4 million increase in revenue from maintenance contracts associated with our fleet of Energy Servers, partially offset by the impact of product performance guarantees of $10.4 million and a $0.7 million decrease in state incentives.

Electricity Revenue

Electricity revenue includes both revenue from contracts with customers and revenue from contracts that contain leases.

Electricity revenue increased by $6.8 million, or 36.0%, for the three months ended September 30, 2023, as compared to the prior year period, primarily due to an increase in electricity revenue of $1.1 million from old Energy Servers as part of the PPA V Upgrade and an increase in installed units as a result of an increase in Managed Services transactions recorded between the third quarter of fiscal year 2021 and the third quarter of fiscal 2023.

Electricity revenue increased by $9.7 million, or 17.3%, for the nine months ended September 30, 2023, as compared to the prior year period, primarily due to an increase in electricity revenue of $1.1 million from old Energy Servers as part of the PPA V Upgrade and an increase in installed units as a result of an increase in Managed Services transactions recorded between the third quarter of fiscal year 2021 and the third quarter of fiscal 2023.

Cost of Revenue

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
	(dollars in thousands)							
Product	$ 182,832	$ 158,176	$ 24,656	15.6 %	$ 457,591	$ 393,337	$ 64,254	16.3 %
Installation	25,902	28,333	(2,431)	(8.6)%	77,881	57,836	20,045	34.7 %
Service	57,370	41,792	15,578	37.3 %	165,877	124,646	41,231	33.1 %
Electricity	139,378	13,029	126,349	969.8 %	169,802	83,819	85,983	102.6 %
Total cost of revenue	$ 405,482	$ 241,330	$ 164,152	68.0 %	$ 871,151	$ 659,638	$ 211,513	32.1 %

Total Cost of Revenue

Total cost of revenue increased by $164.2 million, or 68.0%, for the three months ended September 30, 2023, as compared to the prior year period. The increase was driven by a $126.3 million increase in cost of electricity revenue, a $24.7 million increase in cost of product revenue and a $15.6 million increase in cost of service revenue, partially offset by a $2.4 million decrease in cost of installation revenue.

Total cost of revenue increased by $211.5 million, or 32.1%, for the nine months ended September 30, 2023, as compared to the prior year period. The increase was driven by a $86.0 million increase in cost of electricity revenue, a $64.3 million increase in cost of product revenue, a $41.2 million increase in cost of service revenue, and a $20.0 million increase in cost of installation revenue.

Cost of Product Revenue

Cost of product revenue increased by $24.7 million, or 15.6%, for the three months ended September 30, 2023, as compared to the prior year period. The increase in cost of product revenue was primarily driven by a 39.9% increase in product acceptances, including the effect of $62.6 million from the sale of new Energy Servers as a result of the PPA V Upgrade. This increase was partially offset by (1) a lower cost per unit attributable to our ongoing efforts to reduce material costs, (2) cost reduction programs with our vendors and a reduction in labor and overhead costs due to increased volume, (3) improved processes and automation at our manufacturing facilities, (4) the cost of sales of new Energy Servers of $5.7 million as a result of the PPA IIIa Upgrade for the three months ended September 30, 2022, and (5) the release of $3.1 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023.

Cost of product revenue increased by $64.3 million, or 16.3%, for the nine months ended September 30, 2023, as compared to the prior year period. The increase in cost of product revenue was primarily driven by a 35.3% increase in product acceptances, including the effect of $62.6 million from the sale of new Energy Servers as a result of the PPA V Upgrade. This increase was partially offset by (1) a lower cost per unit attributable to our ongoing efforts to reduce material costs, (2) cost reduction programs with our vendors and a reduction in labor and overhead costs due to increased volume, (3) improved processes and automation at our manufacturing facilities, (4) the cost of sales of new Energy Servers of $21.6 million as a result of the PPA IIIa Upgrade for the nine months ended September 30, 2022, and (5) the release of $3.1 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023.

Cost of Installation Revenue

Cost of installation revenue decreased by $2.4 million, or 8.6%, for the three months ended September 30, 2023, as compared to the prior year period. This decrease was driven by the change in the mix of product acceptances requiring Bloom Energy installations, as fewer sites had installation costs in the three months ended September 30, 2023 compared to the prior year period. The decrease was partially offset by the cost of installation revenue of $7.4 million as a result of PPA V Upgrade for the three months ended September 30, 2023.

Cost of installation revenue increased by $20.0 million, or 34.7%, for the nine months ended September 30, 2023, as compared to the prior year period. This increase was driven by the change in the mix of product acceptances requiring Bloom Energy installations, as more sites had installation costs in the nine months ended September 30, 2023 compared to the prior year period, and the cost of installation revenue of $7.4 million as a result of the PPA V Upgrade for the nine months ended September 30, 2023.

Cost of Service Revenue

Cost of service revenue increased by $15.6 million, or 37.3%, for the three months ended September 30, 2023, as compared to the prior year period. This increase was primarily due to the deployment of field replacement units, partially offset by (1) cost reductions and our actions to proactively manage fleet optimizations and (2) a portion of released grant liability of $2.9 million recognized against payroll related costs incurred in the third quarter of fiscal 2023.

Cost of service revenue increased by $41.2 million, or 33.1%, for the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily due to the deployment of field replacement units, partially offset by (1) cost reductions and our actions to proactively manage fleet optimizations and (2) the release of $2.9 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023.

Cost of Electricity Revenue

Cost of electricity revenue includes both cost of revenue from contracts with customers and cost of revenue from contracts that contain leases.

Cost of electricity revenue increased by $126.3 million, or 969.8%, for the three months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by the impairment of old Energy Servers of $123.7 million as a result of the PPA V Upgrade.

Cost of electricity revenue increased by $86.0 million, or 102.6%, for the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by the impairment of old Energy Servers of $123.7 million as a result of the PPA V Upgrade, partially offset by the impairment of old Energy Servers of $44.8 million due to the PPA IIIa Upgrade in the third quarter of fiscal year 2022.

Gross Profit and Gross Margin

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2023	2022	Change	2023	2022	Change
	(dollars in thousands)					
Gross profit (loss):						
Product	$ 122,144	$ 55,067	$ 67,077	$ 255,836	$ 127,078	$ 128,758
Installation	(3,986)	(5,651)	1,665	(11,119)	(8,872)	(2,247)
Service	(9,835)	(4,445)	(5,390)	(35,381)	(13,634)	(21,747)
Electricity	(113,537)	5,973	(119,510)	(103,933)	(27,661)	(76,272)
Total gross profit (loss)	$ (5,214)	$ 50,944	$ (56,158)	$ 105,403	$ 76,911	$ 28,492
Gross margin:						
Product	40 %	26 %		36 %	24 %	
Installation	(18)%	(25)%		(17)%	(18)%	
Service	(21)%	(12)%		(27)%	(12)%	
Electricity	(439)%	31 %		(158)%	(49)%	
Total gross margin	(1)%	17 %		11 %	10 %	

Total Gross Profit

Gross profit decreased by $56.2 million in the three months ended September 30, 2023, as compared to the prior year period. This change was primarily due to a $119.5 million decrease in electricity gross profit, primarily driven by the impairment of old Energy Servers of $123.7 million as a result of the PPA V Upgrade, and a $5.4 million decrease in service gross profit, partially offset by a $67.1 million increase in product gross profit, primarily due to a 39.9% increase in product acceptances resulting from higher demand in existing markets and the PPA V Upgrade, and an improvement in installation gross loss by $1.7 million.

Gross profit increased by $28.5 million in the nine months ended September 30, 2023, as compared to the prior year period. This change was mostly due to a $128.8 million increase in product gross profit, primarily driven by a 35.3% increase in product acceptances resulting from higher demand in existing markets and the PPA V Upgrade, partially offset by a $76.3 million decrease in electricity gross profit, primarily as a result of the impairment of old Energy Servers of $123.7 million as part of the PPA V Upgrade, and a $21.7 million and a $2.2 million improvement in service gross loss and installation gross loss, respectively. Other factors contributing to the gross profit improvement were (1) our ongoing cost reduction efforts to reduce material costs, (2) our reduction in labor and overhead unit cost due to increased volume, and (3) improved processes and automation at our manufacturing facilities.

Product Gross Profit

Product gross profit increased by $67.1 million in the three months ended September 30, 2023, as compared to the prior year period. The increase was primarily driven by (1) a 39.9% increase in product acceptances and improved product pricing due to increased demand for our products and the PPA V Upgrade, resulting in the gross profit from sales of new Energy Servers of $89.0 million, (2) our ongoing cost reduction efforts to reduce material costs and our reduction in labor and overhead unit cost due to increased volume, improved processes and automation at our manufacturing facilities, and (3) a release of $3.1 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023. The increase was partially offset by the gross profit from sales of new Energy Servers of $7.0 million as a result of the PPA IIIa Upgrade for the three months ended September 30, 2022.

Product gross profit increased by $128.8 million in the nine months ended September 30, 2023, as compared to the prior year period. The increase was primarily driven by (1) a 35.3% increase in product acceptances due to higher demand for our products and the PPA V Upgrade, resulting in the gross profit from sales of new Energy Servers of $89.0 million, (2) the release of $3.1 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023, and (3) our ongoing cost reduction efforts to reduce material costs and our reduction in labor and overhead unit cost due to increased volume, improved processes and automation at our manufacturing facilities. The increase was partially offset by the gross profit from sales of new Energy Servers of $28.0 million as a result of the PPA IIIa Upgrade for the nine months ended September 30, 2022.

Installation Gross Loss

Installation gross loss improved by $1.7 million in the three months ended September 30, 2023, as compared to the prior year period. This was primarily driven by (1) the gross profit from installations of new Energy Servers of $2.1 million as a result of the PPA V Upgrade, and (2) the change in site mix and other site related factors such as site complexity, size, local ordinance requirements and location of the utility interconnect, partially offset by the gross profit from installations of new Energy Servers of $0.4 million as a result of the PPA IIIa Upgrade for the three months ended September 30, 2022.

Installation gross loss worsened by $2.2 million in the nine months ended September 30, 2023, as compared to the prior year period. This change was primarily driven by (1) the change in site mix and other site related factors such as site complexity, size, local ordinance requirements and location of the utility interconnect, (2) the gross profit from installations of new Energy Servers of $0.7 million as a result of the PPA IIIa Upgrade for the nine months ended September 30, 2022, partially offset by the gross profit from installation of new Energy Servers of $2.1 million as a result of the PPA V Upgrade.

Service Gross Loss

Service gross loss worsened by $5.4 million in the three months ended September 30, 2023, as compared to the prior year period. This was primarily due to deployments of field replacement units and the impact of product performance guarantees of $1.1 million, partially offset by (1) the release of $2.9 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023 and (2) cost reductions and our actions to proactively manage fleet optimizations.

Service gross loss worsened by $21.7 million in the nine months ended September 30, 2023, as compared to the prior year period. This was primarily due to deployments of field replacement units and the impact of product performance guarantees of $10.4 million, partially offset by (1) the release of $2.9 million of grant liability recognized against payroll related costs incurred in the third quarter of fiscal 2023 and (2) cost reductions and our actions to proactively manage fleet optimizations.

Electricity Gross Profit (Loss)

Electricity gross profit decreased by $119.5 million in the three months ended September 30, 2023, as compared to the prior year period. This was primarily due to the impairment of old Energy Servers of $123.7 million as a result of the PPA V Upgrade, partially offset by an increase in installed units driven by an increase in Managed Services transactions recorded between the third quarter of fiscal year 2021 and the third quarter of fiscal year 2023.

Electricity gross loss worsened by $76.3 million in the nine months ended September 30, 2023, as compared to the prior year period. This was primarily due to the impairment of old Energy Servers from the PPA V Upgrade of $123.7 million, partially offset by (1) an increase in installed units driven by an increase in Managed Services transactions recorded between the third quarter of fiscal year 2021 and the third quarter of fiscal year 2023, and (2) the impairment of old Energy Servers from the PPA IIIa Upgrade of $44.8 million in the second quarter of fiscal year 2022.

Operating Expenses

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
	(dollars in thousands)							
Research and development	$ 35,126	$ 36,146	$ (1,020)	(2.8)%	$ 122,309	$ 112,286	$ 10,023	8.9 %
Sales and marketing	20,002	23,275	(3,273)	(14.1)%	73,935	65,084	8,851	13.6 %
General and administrative	43,366	44,115	(749)	(1.7)%	131,004	119,965	11,039	9.2 %
Total operating expenses	$ 98,494	$ 103,536	$ (5,042)	(4.9)%	$ 327,248	$ 297,335	$ 29,913	10.1 %

Total Operating Expenses

Total operating expenses decreased by $5.0 million in the three months ended September 30, 2023, as compared to the prior year period. This decrease was primarily driven by (1) a $7.1 million decrease in employee compensation and benefits primarily due to (i) a separation of 27 full-time employees from the marketing and finance departments as a result of the restructuring, and (ii) a decrease in stock-based compensation expenses of $3.0 million, as well as (2) a decrease in professional services costs, consulting and advisory expenses, and other operating expenses of $2.4 million, $1.0 million, and $2.1 million, respectively. The decrease was partially offset by (1) an increase in office and other expenses of $5.6 million, primarily driven by the impairment of non-recoverable production insurance of $6.4 million as a result of PPA V Upgrade, and (2) an increase in facility costs and depreciation expenses of $2.0 million and $1.6 million, respectively.

Total operating expenses increased by $29.9 million in the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily attributable to (1) our continued investment in R&D capabilities to support our technology roadmap, (2) our continued investment in our workforce to support our growth, resulting in an increase in employee compensation and benefits expenses of $10.4 million, and (3) our investment in business development, as well as (4) increases in facility costs, office expenses and consulting and advisory expenses of $8.4 million, $4.9 million, and $4.0 million, respectively. The increase was partially offset by a decrease in professional services costs of $2.9 million and a decrease in other operating expenses of $3.9 million.

Research and Development

Research and development expenses decreased by $1.0 million in the three months ended September 30, 2023, as compared to the prior year period. This decrease was primarily driven by a $3.7 million decrease in laboratory and related costs, partially offset by increases in employee compensation and benefits, outside services, and other research and development costs of $1.7 million, $0.7 million, and $0.6 million, respectively.

Research and development expenses increased by $10.0 million in the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by an increase in employee compensation and benefits of $5.0 million, an increase in outside services of $1.4 million, an increase in travel expenses of $0.4 million, an increase in depreciation expenses of $0.4 million, and an increase in other research and development costs of $3.2 million, partially offset by a decrease in consulting and advisory expenses of $0.4 million.

Sales and Marketing

Sales and marketing expenses decreased by $3.3 million in the three months ended September 30, 2023, as compared to the prior year period. This decrease was primarily driven by (1) a $4.4 million decrease in employee compensation and benefits primarily due to (i) a separation of 25 full-time employees from the marketing department as a result of the restructuring, and (ii) a decrease in stock-based compensation expenses of $0.9 million, as well as (2) a decrease in travel expenses of $0.3 million, and (3) a decrease in professional services costs of $0.3 million, partially offset by an increase in consulting and advisory expenses of $1.5 million.

Sales and marketing expenses increased by $8.9 million in the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by an increase in consulting and advisory expenses of $4.8 million, an increase in employee compensation and benefits of $3.5 million, and an increase in travel expenses of $0.4 million, partially offset by a decrease in facility costs and other sales and marketing expenses of $0.2 million and $0.2 million, respectively.

General and Administrative

General and administrative expenses decreased by $0.7 million in the three months ended September 30, 2023, as compared to the prior year period. This decrease was primarily driven by (1) a $4.4 million decrease in employee compensation and benefits primarily due to (i) a separation of 2 full-time employees from the finance department as a result of the restructuring, (ii) a decrease in stock-based compensation expenses of $2.9 million, and (iii) a decrease in recruiting costs of $1.0 million, as well as (2) a decrease in consulting and advisory expenses of $2.3 million, (3) a decrease in professional services costs of $2.1 million, and (4) a decrease in other general and administrative expenses of $2.6 million. The decrease was partially offset by an increase in office and other expenses of $5.4 million, primarily driven by the impairment of non-recoverable production insurance of $6.4 million as a result of PPA V Upgrade, and an increase in facility costs and depreciation expenses of $2.1 million and $1.5 million, respectively.

General and administrative expenses increased by $11.0 million in the nine months ended September 30, 2023, as compared to the prior year period. This increase was primarily driven by (1) an increase in facility costs of $8.5 million, primarily due to rent expenses and utility costs, (2) an increase in office and other expenses of $4.7 million, primarily driven by the impairment of non-recoverable production insurance of $6.4 million as a result of PPA V Upgrade, (3) an increase in depreciation expenses of $3.5 million, and (4) an increase in employee compensation and benefits of $1.9 million. The increase was partially offset by a decrease in professional services costs of $3.0 million and a decrease in other general and administrative expenses of $6.9 million.

Stock-Based Compensation

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
	(dollars in thousands)							
Cost of revenue	$ 5,581	$ 4,982	$ 599	12.0 %	$ 14,809	$ 13,609	$ 1,200	8.8 %
Research and development	5,585	4,818	767	15.9 %	21,673	25,113	(3,440)	(13.7)%
Sales and marketing	3,015	3,948	(933)	(23.6)%	15,089	13,528	1,561	11.5 %
General and administrative	7,383	10,283	(2,900)	(28.2)%	28,025	30,688	(2,663)	(8.7)%
Total stock-based compensation	$ 21,564	$ 24,031	$ (2,467)	(10.3)%	$ 79,596	$ 82,938	$ (3,342)	(4.0)%

Total stock-based compensation for the three months ended September 30, 2023 compared to the prior year period decreased by $2.5 million. The decrease was primarily driven by (1) the separation of full-time employees holding equity awards as a result of the restructuring, (2) the voluntary resignation of our Executive Vice President and Chief Business Development and Marketing Officer on September 1, 2023, and (3) modified awards in the second quarter of fiscal year 2022.

Total stock-based compensation for the nine months ended September 30, 2023 compared to the prior year period decreased by $3.3 million. The decrease was primarily driven by (1) the separation of full-time employees holding equity awards as a result of the restructuring, (2) the voluntary resignation of our Executive Vice President and Chief Business Development and Marketing Officer on September 1, 2023, and (3) a decrease in option expense compared to the nine months ended September 30, 2022, as existing options were either exercised, expired or cancelled. This decrease was partially offset by an increase in ESPP expense of $1.3 million and the increased headcount.

Other Income and Expense

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2023	2022	Change	2023	2022	Change
			(in thousands)			
Interest income	$ 7,419	$ 1,109	$ 6,310	$ 13,771	$ 1,364	$ 12,407
Interest expense	(68,037)	(13,099)	(54,938)	(93,736)	(41,000)	(52,736)
Other (expense) income, net	(1,577)	4,472	(6,049)	(3,660)	254	(3,914)
Loss on extinguishment of debt	(1,415)	—	(1,415)	(4,288)	(4,233)	(55)
(Loss) gain on revaluation of embedded derivatives	(114)	54	(168)	(1,213)	623	(1,836)
Total	$ (63,724)	$ (7,464)	$ (56,260)	$ (89,126)	$ (42,992)	$ (46,134)

Interest Income

Interest income is derived from investment earnings on our cash balances primarily from money market funds. The increase in interest income of $6.3 million and $12.4 million was due to increases in cash balances in our money market funds for the three and nine months ended September 30, 2023, respectively, as compared to the prior year periods.

Interest Expense

Interest expense is primarily due to our debt held by third parties.

Interest expense for the three and nine months ended September 30, 2023, as compared to the prior year periods, increased by $54.9 million and $52.7 million, respectively. The increase was primarily driven by (1) the expensing of current and long-term commitment assets of $5.3 million and $47.5 million, respectively, immediately upon the automatic conversion on September 23, 2023, of Series B RCPS to Class A common stock as a result of the Second Tranche Closing with SK ecoplant, and (2) an increase in interest expense related to the 3% Green Convertible Senior Notes due June 2028, issued on May 16, 2023. The increase was offset by a decrease in interest expense as a result of the redemption on June 1, 2023 of 10.25% Senior Secured Notes due March 2027, and the repayment of the 7.5% Term Loan due September 2028, the 6.07% Senior Secured Notes due March 2030, and the 3.04% Senior Secured Notes due June 2031 on June 14, 2022, November 22, 2022, and August 24, 2023, respectively.

Other (Expense) Income, net

Other (expense) income, net is primarily derived from investments in joint ventures, the impact of foreign currency transactions, and adjustments to fair value for derivatives.

Other income, net for the three months ended September 30, 2023, as compared to the prior year period, decreased by $6.0 million primarily as a result of the gain on the revaluation of the Option to purchase Class A common stock of $7.9 million upon receipt of the notice of exercise from SK ecoplant on August 10, 2022 for the three months ended September 30, 2022, and an increase in unrealized foreign exchange loss of $1.5 million, partially offset by the effect of a cumulative translation adjustment of $3.5 million.

Other income, net for the nine months ended September 30, 2023, as compared to the prior year period, decreased by $3.9 million primarily as a result of the gain on the revaluation of the Option to purchase Class A common stock of $9.0 million upon receipt of the notice of exercise from SK ecoplant on August 10, 2022 for the nine months ended September 30, 2022, and an increase in unrealized foreign exchange loss of $3.3 million. The decrease was partially offset by the effect of a cumulative translation adjustment of $5.1 million, and the loss on remeasurement of our equity investments of $3.5 million recorded for the nine months ended September 30, 2022.

Loss on Extinguishment of debt

Loss on extinguishment of debt for the three months ended September 30, 2023 was $1.4 million, which was recognized as a result of the repayment on August 24, 2023 of 3.04% Senior Secured Notes due June 2031 as part of the PPA V Upgrade, and comprised in its entirety of derecognition of debt issuance costs.

Loss on extinguishment of debt for the nine months ended September 30, 2023 was $4.3 million, which was recognized as a result of the redemption on June 1, 2023 of the 10.25% Senior Secured Notes due March 2027, and the repayment on August 24, 2023 of the 3.04% Senior Secured Notes due June 2031 as part of the PPA V Upgrade, and including the repayment of the 4% premium upon redemption of the 10.25% Senior Secured Notes due March 2027 of $2.3 million and derecognition of debt issuance costs of $2.0 million.

Loss on extinguishment of debt for the nine months ended September 30, 2022 was $4.2 million, which was recognized as a result of repayment of the 7.5% Term Loan due September 2028 as part of the PPA IIIa Upgrade. There was no loss (gain) on extinguishment of debt for the three months ended September 30, 2022.

(Loss) Gain on Revaluation of Embedded Derivatives

(Loss) gain 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 on revaluation of embedded derivatives for the three months ended September 30, 2023, as compared to the prior year period, decreased by $0.2 million due to an increase in the fair value of our embedded EPP derivatives in our sales contracts.

Gain on revaluation of embedded derivatives for the nine months ended September 30, 2023, as compared to the prior year period, decreased by $1.8 million due to an increase in the fair value of our embedded EPP derivatives in our sales contracts of $1.2 million, offset by a payment of $3.2 million to one of our customers in the second quarter of fiscal 2023.

Income Tax Provision

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
	(dollars in thousands)							
Income tax provision	646	336	$ 310	92.3 %	1,083	888	$ 195	22.0 %

Income tax provision for the three and nine months ended September 30, 2023, as compared to the prior year periods, increased by $0.3 million and $0.2 million, respectively.

Net Gain (Loss) Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2023	2022	Amount	%	2023	2022	Amount	%
	(dollars in thousands)							
Net gain (loss) attributable to noncontrolling interest	$ 921	$ (3,315)	$ 4,236	(127.8)%	$ (5,427)	$ (9,768)	$ 4,341	(44.4)%
Net loss attributable to redeemable noncontrolling interest	$ —	$ —	$ —	— %	—	(300)	$ 300	(100.0)%

Net gain (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 for the three months ended September 30, 2023, as compared to the prior year period, improved by $4.2 million due to an increase in gain in the joint venture in the Republic of Korea of $1.8 million, and loss in PPA IV of $2.8 million recorded for the three months ended September 30, 2022, partially offset by an increase in loss in PPA V of $0.4 million.

Net loss attributable to noncontrolling interests for the nine months ended September 30, 2023, as compared to the prior year period, improved by $4.3 million primarily due to loss in PPA IV of $6.8 million recorded for the nine months ended September 30, 2022, partially offset by an increase in loss in PPA V of $2.2 million and a decrease in gain in the joint venture in the Republic of Korea of $0.5 million.

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 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:

- Revenue Recognition;
- Valuation of Assets and Liabilities of the SK ecoplant Strategic Investment;
- Incremental Borrowing Rate by Lease Class;
- Stock-Based Compensation;
- Income Taxes;
- Principles of Consolidation; and
- Allocation of Profits and Losses of Consolidated Entities to Noncontrolling Interests.

Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operation* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 provides a more complete discussion of our critical accounting policies and estimates. During the nine months ended September 30, 2023, 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 the nine months ended September 30, 2023. 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, 2022 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 and Accounting 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 September 30, 2023. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of September 30, 2023, our disclosure controls and procedures were effective.

Changes in Internal Control over Financial Reporting

During the three months ended September 30, 2023, there were no changes in our internal control over financial reporting, which were identified in connection with management's evaluation required by paragraphs (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.

For further information on controls and procedures, see Part II, Item 9A, *Controls and Procedures* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Part II - OTHER INFORMATION

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 our legal proceedings, see Part I, Item 1, Note 13 - *Commitments and Contingencies*. 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

Except as discussed in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, there were no material changes in our risk factors as disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

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 INFORMATION

(a) On November 7, 2023, our board of directors (the "Board") approved a resolution to file a Certificate of Elimination (the "Certificate of Elimination") of the Certificate of Designation (as amended, the "Certificate of Designation") of our Series B redeemable convertible preferred stock, par value $0.0001 per share (the "Series B Preferred Stock"), which was filed with the Secretary of State of the State of Delaware ("Secretary of State") on November 7, 2023, following the prior conversion of all of the 13,491,701 shares of Series B Preferred Stock that were outstanding into shares of our Class A common stock, par value $0.0001 per share ("Class A common stock"). The filing of the Certificate of Elimination had the effect of eliminating from our Restated Certificate of Incorporation (as amended, the "Certificate of Incorporation") all matters set forth in the Certificate of Designation with respect to the Series B Preferred Stock and returning all previously designated shares of Series B Preferred Stock to their status as authorized Preferred Stock, par value $0.0001 per share, available for issuance as determined by the Board.

In addition, on November 7, 2023, the Board approved a resolution to file a Certificate of Retirement (the "Certificate of Retirement") with the Secretary of State effecting the retirement of all of the previously outstanding shares of our Class B common stock, par value $0.0001 per share ("Class B common stock"), following the automatic conversion of the remaining outstanding shares of the Class B common stock into shares of Class A common stock pursuant to Section 2 of Article V of the Certificate of Incorporation, which conversion occurred on July 27, 2023 (the "Class B Conversion"). No additional shares of Class B common stock have been or will be issued following the Class B Conversion. The Certificate of Retirement was filed with the Secretary of State on November 7, 2023. Pursuant to Section 243 of the General Corporation Law of the State of Delaware, the filing of the Certificate of Retirement had the effect of amending the Certificate of Incorporation such that, upon the effectiveness of the Certificate of Retirement, our total number of authorized shares of capital stock and the total number of authorized shares of Class B Common Stock were reduced by the number of the retired shares of Class B common stock. Following the Class B Conversion, the Class A common stock continued, and will continue, to trade on The New York Stock

Exchange under the ticker symbol “BE” and did and will maintain the same CUSIP number previously assigned to the Class A common stock.

The foregoing descriptions of the Certificate of Elimination and Certificate of Retirement are summaries only and are qualified in their entirety by reference to the full text of (a) the Certificate of Retirement, (b) the Certificate of Elimination, (c) the Certificate of Incorporation and (d) the Certificate of Amendment to the Certificate of Incorporation, copies of which are filed with this Quarterly Report on Form 10-Q as Exhibits 3.2, 3.3, 3.4 and 3.5, respectively, and are incorporated herein by reference.

(c) Trading Plans

During the quarter ended September 30, 2023, no director or Section 16 officer adopted or terminated any Rule 10b5-1 trading arrangements or non-Rule 10b5-1 trading arrangements (in each case, as defined in Item 408(a) of Regulation S-K).

ITEM 6 - EXHIBITS

			Incorporated by Reference			
Exhibit Number		**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**
3.1		Amended and Restated Bylaws, as effective August 9, 2023	8-K	001-38598	3.1	8/11/2023
3.2		Certificate of Retirement for Class B Common Stock				Filed herewith
3.3		Certificate of Elimination of Certificate of Designations of Series B Convertible Preferred Stock				Filed herewith
3.4		Restated Certificate of Incorporation	10-Q	001-38598	3.1	9/07/2018
3.5		Certificate of Amendment to the Restated Certificate of Incorporation	10-Q	001-38598	3.1	8/09/2022
31.1		Certification of Chief Executive Officer pursuant to Rules 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 Rules 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	*	Certifications 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				Furnished 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)				

* 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: November 8, 2023

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

Date: November 8, 2023

By: /s/ Gregory Cameron
Gregory Cameron
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 September 30, 2023 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: November 8, 2023

By: /s/ KR Sridhar

KR Sridhar

Founder, Chief Executive Officer, Chairman and Director

(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 September 30, 2023 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: November 8, 2023

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

EXHIBIT 3.2

CERTIFICATE OF RETIREMENT
OF
CLASS B COMMON STOCK
OF
BLOOM ENERGY CORPORATION

Pursuant to Section 243(b)
of the General Corporation Law
of the State of Delaware

Bloom Energy Corporation, a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), HEREBY CERTIFIES as follows:

1. Section 1.1 of Article IV of the Restated Certificate of Incorporation of the Corporation filed with the Secretary of State of the State of Delaware on July 27, 2018 and amended on May 31, 2022 (as amended, the "Restated Certificate") provides, among other things, that the total number of shares of capital stock that the Corporation shall have authority to issue is 1,220,000,000 shares, consisting of three classes: (i) 600,000,000 shares of Class A Common Stock, $0.0001 par value per share ("Class A Common Stock"), (ii) 600,000,000 shares of Class B Common Stock, $0.0001 par value per share ("Class B Common Stock"), and (iii) 20,000,000 shares of Preferred Stock, $0.0001 par value per share ("Preferred Stock").

2. 129,907,258 outstanding shares of Class B Common Stock have been converted into shares of Class A Common Stock pursuant to the provisions of the Restated Certificate and there are no shares of Class B Common Stock currently outstanding.

3. The Restated Certificate provides that, following the conversion of shares of Class B Common Stock into shares of Class A Common Stock, the shares of Class B Common Stock so converted shall automatically be retired and shall not be reissued by the Corporation.

4. The Board of Directors of the Corporation has adopted resolutions retiring all of the previously outstanding shares of Class B Common Stock.

5. Accordingly, pursuant to the provisions of Section 243(b) of the General Corporation Law of the State of Delaware, upon the filing of this Certificate of Retirement, the Restated Certificate shall be amended so as to reduce the total authorized number of shares of the capital stock of the Corporation by 129,907,258 shares of Class B Common Stock, such that the total number of authorized shares of the Corporation shall be 1,090,092,742 shares, such shares consisting of (i) 600,000,000 shares designated Class A Common Stock, (ii) 470,092,742 shares designated Class B Common Stock, and (iii) 20,000,000 shares designated Preferred Stock.

[Signature page follows]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Retirement to be signed and attested by its duly authorized officer this 7th day of November, 2023.

BLOOM ENERGY CORPORATION

By: /s/ Shawn M. Soderberg
Name: Shawn M. Soderberg
Title: EVP, General Counsel and Secretary

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 September 30, 2023 of Bloom Energy Corporation (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"):

I, KR Sridhar, Founder, Chief Executive Officer, Chairman and Director, 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: November 8, 2023

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

I, Gregory Cameron, 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: November 8, 2023

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

EXHIBIT 3.3

CERTIFICATE OF ELIMINATION
OF
THE CERTIFICATE OF DESIGNATION
OF
SERIES B REDEEMABLE CONVERTIBLE PREFERRED STOCK
OF
BLOOM ENERGY CORPORATION

BLOOM ENERGY CORPORATION, a Delaware corporation (the "Corporation"), in accordance with Section 151(g) of the General Corporation Law of the State of Delaware, DOES HEREBY CERTIFY that:

1. Pursuant to authority conferred on the Board of Directors of the Corporation (the "Board") by the Restated Certificate of Incorporation of the Corporation (as amended, the "Restated Certificate") and pursuant to the provisions of Section 151(g) of the General Corporation Law of the State of Delaware, the Board at a meeting of its members held on March 17, 2023, adopted a resolution authorizing the issuance of a series of preferred stock designated Series B Redeemable Convertible Preferred Stock, par value $0.0001 per share (the "Series B Preferred Stock"), and established the voting powers, designations, preferences and relative, participating and other rights, and the qualifications or restrictions thereof, and, on March 23, 2023, the Corporation filed a Certificate of Designation with respect to such Preferred Stock (the "Series B Certificate") in the office of the Secretary of State of the State of Delaware (the "Secretary of State").

2. The Corporation filed a Certificate of Amendment to the Certificate of Designation of Series B Redeemable Convertible Preferred Stock with the Secretary of State on April 18, 2023 (the Series B Certificate, as amended, the "Amended Series B Certificate").

3. No shares of said Series B Preferred Stock are outstanding and no shares thereof will be issued subject to said Amended Series B Certificate.

4. The Board has adopted resolutions resolving that none of the authorized shares of Series B Preferred Stock are outstanding and that none will be issued subject to the Amended Series B Certificate previously filed with respect to the Series B Preferred Stock.

5. Accordingly, all matters set forth in the Amended Series B Certificate with respect to the Series B Preferred Stock be, and hereby are, eliminated from the Restated Certificate.

[Signature page follows]

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Elimination to be signed by and attested by its duly authorized officer this 7th day of November, 2023.

BLOOM ENERGY CORPORATION

By: /s/ Shawn M. Soderberg
Name: Shawn M. Soderberg
Title: EVP, General Counsel and Secretary