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

FORM 10-Q

(Mark One)

☑ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarter ended September 30, 2022

or

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

Commission File Number 001-38598

Bloom energy®

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

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

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

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

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

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

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

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

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

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

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

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

The number of shares of the registrant's common stock outstanding as of November 1, 2022 was as follows:

Class A Common Stock, $0.0001 par value, 179,378,926 shares

Class B Common Stock, $0.0001 par value, 15,800,568 shares

Bloom Energy Corporation

Quarterly Report on Form 10-Q for the Three and Nine Months Ended September 30, 2022

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

Part I

ITEM 1 - FINANCIAL STATEMENTS

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

	September 30, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents[1]	$ 492,120	$ 396,035
Restricted cash[1]	42,104	92,540
Accounts receivable less allowance for doubtful accounts of $119 as of September 30, 2022 and December 31, 2021[1]	71,184	87,789
Contract assets	25,768	25,201
Inventories	254,895	143,370
Deferred cost of revenue	31,812	25,040
Customer financing receivable[1]	—	5,784
Prepaid expenses and other current assets[1]	46,489	30,661
Total current assets	964,372	806,420
Property, plant and equipment, net[1]	646,768	604,106
Operating lease right-of-use assets	114,053	106,660
Customer financing receivable[1]	—	39,484
Restricted cash[1]	135,098	126,539
Deferred cost of revenue	3,462	1,289
Other long-term assets[1]	38,316	41,073
Total assets	$ 1,902,069	$ 1,725,571
Liabilities, redeemable convertible preferred stock, redeemable noncontrolling interest and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable	$ 120,444	$ 72,967
Accrued warranty	13,344	11,746
Accrued expenses and other current liabilities[1]	102,010	114,138
Deferred revenue and customer deposits[1]	98,841	89,975
Operating lease liabilities	12,671	13,101
Financing obligations	16,682	14,721
Recourse debt	12,792	8,348
Non-recourse debt[1]	15,943	17,483
Total current liabilities	392,727	342,479
Deferred revenue and customer deposits[1]	68,727	90,310
Operating lease liabilities	122,412	106,187
Financing obligations	443,665	461,900
Recourse debt	274,742	283,483
Non-recourse debt[1]	179,955	217,416
Other long-term liabilities	8,917	16,772
Total liabilities	1,491,145	1,518,547
Commitments and contingencies (Note 13)		
Redeemable convertible preferred stock, Series A: 10,000,000 shares authorized and 10,000,000 shares and no shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively.	208,551	208,551
Redeemable noncontrolling interest	—	300
Stockholders' equity (deficit):		
Common stock: $0.0001 par value; Class A shares - 600,000,000 shares authorized and 179,165,539 shares and 160,627,544 shares issued and outstanding and Class B shares - 600,000,000 shares authorized and 15,802,146 shares and 15,832,863 shares issued and outstanding at September 30, 2022 and December 31, 2021, respectively.	19	18
Additional paid-in capital	3,691,715	3,219,081
Accumulated other comprehensive loss	(1,531)	(350)
Accumulated deficit	(3,517,311)	(3,263,075)
Total equity (deficit) attributable to Class A and Class B common stockholders	172,892	(44,326)
Noncontrolling interest	29,481	42,499
Total stockholders' equity (deficit)	$ 202,373	$ (1,827)
Total liabilities, redeemable convertible preferred stock, redeemable noncontrolling interest and stockholders' equity (deficit)	$ 1,902,069	$ 1,725,571

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

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenue:				
Product	$ 213,243	$ 128,550	$ 520,415	$ 413,347
Installation	22,682	22,172	48,964	53,710
Service	37,347	39,251	111,012	111,375
Electricity	19,002	17,255	56,158	51,273
Total revenue	292,274	207,228	736,549	629,705
Cost of revenue:				
Product	158,176	93,704	393,337	289,889
Installation	28,333	25,616	57,836	66,756
Service	41,792	39,586	124,646	111,269
Electricity	13,029	11,439	83,819	32,913
Total cost of revenue	241,330	170,345	659,638	500,827
Gross profit	50,944	36,883	76,911	128,878
Operating expenses:				
Research and development	36,146	27,634	112,286	76,602
Sales and marketing	23,275	20,124	65,084	62,803
General and administrative	44,115	33,014	119,965	90,470
Total operating expenses	103,536	80,772	297,335	229,875
Loss from operations	(52,592)	(43,889)	(220,424)	(100,997)
Interest income	1,109	72	1,364	222
Interest expense	(13,099)	(14,514)	(41,000)	(43,798)
Loss on extinguishment of debt	—	—	(4,233)	—
Other income, net	4,472	2,011	254	1,948
Gain (loss) on revaluation of embedded derivatives	54	(184)	623	(1,644)
Loss before income taxes	(60,056)	(56,504)	(263,416)	(144,269)
Income tax provision	336	158	888	595
Net loss	(60,392)	(56,662)	(264,304)	(144,864)
Less: Net loss attributable to noncontrolling interest	(3,315)	(4,309)	(9,768)	(13,733)
Net loss attributable to Class A and Class B common stockholders	$ (57,077)	$ (52,353)	$ (254,536)	$ (131,131)
Less: Net (loss) income attributable to redeemable noncontrolling interest	—	17	(300)	(9)
Net loss before portion attributable to redeemable noncontrolling interest and noncontrolling interest	$ (57,077)	$ (52,370)	$ (254,236)	$ (131,122)
Net loss per share available to Class A and Class B common stockholders, basic and diluted	$ (0.31)	$ (0.30)	$ (1.41)	$ (0.76)
Weighted average shares used to compute net loss per share available to Class A and Class B common stockholders, basic and diluted	186,487	174,269	180,762	172,601

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,	
	2022	2021	2022	2021
Net loss	$ (60,392)	$ (56,662)	$ (264,304)	$ (144,864)
Other comprehensive loss, net of taxes:				
Change in derivative instruments designated and qualifying as cash flow hedges	—	(763)	—	(4,031)
Foreign currency translation adjustment	(1,027)	(299)	(1,774)	(523)
Other comprehensive loss, net of taxes	(1,027)	(1,062)	(1,774)	(4,554)
Comprehensive loss	(61,419)	(57,724)	(266,078)	(149,418)
Less: Comprehensive loss attributable to noncontrolling interest	(3,811)	(3,691)	(10,361)	(9,956)
Comprehensive loss attributable to Class A and Class B common stockholders	$ (57,608)	$ (54,033)	$ (255,717)	$ (139,462)
Less: Comprehensive (loss) income attributable to redeemable noncontrolling interest	—	17	(300)	(9)
Comprehensive loss after portion attributable to redeemable noncontrolling interest and noncontrolling interest	$ (57,608)	$ (54,050)	$ (255,417)	$ (139,453)

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, 2022							
	Class A and Class B Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total equity (deficit) attributable to Class A and Class B 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 (Note 1)	14,950,000	1	371,526	—	—	371,527	—	371,527
Forward to purchase Class A Common Stock (Note 5)	—	—	4,183	—	—	4,183	—	4,183
Foreign currency translation adjustment	—	—	—	(531)	—	(531)	(496)	(1,027)
Net loss[1]	—	—	—	—	(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

[1]There is no net loss attributable to redeemable noncontrolling interest.
Note: There was no redeemable noncontrolling interest as of June 30, 2022 and September 30, 2022.

	Three Months Ended September 30, 2021							
	Class A and Class B Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total deficit attributable to Class A and Class B common stockholders	Noncontrolling Interest	Total Stockholders' Equity
	Shares	Amount						
Balances at June 30, 2021	173,402,160	$ 17	$ 3,155,917	$ (124)	$ (3,177,381)	$ (21,571)	$ 51,185	$ 29,614
Issuance of restricted stock awards	581,363	—	—	—	—	—	—	—
ESPP purchase	967,797	—	5,319	—	—	5,319	—	5,319
Exercise of stock options	126,741	1	1,122	—	—	1,123	—	1,123
Stock-based compensation	—	—	20,743	—	—	20,743	—	20,743
Change in effective portion of interest rate swap agreement	—	—	—	—	—	—	763	763
Distributions and payments to noncontrolling interests	—	—	—	—	—	—	(540)	(540)
Foreign currency translation adjustment	—	—	—	(154)	—	(154)	(145)	(299)
Net loss[2]	—	—	—	—	(52,370)	(52,370)	(4,309)	(56,679)
Balances at September 30, 2021	175,078,061	$ 18	$ 3,183,101	$ (278)	$ (3,229,751)	$ (46,910)	$ 46,954	$ 44

[2]Excludes $17 attributable to redeemable noncontrolling interest.
Note: Beginning redeemable noncontrolling interest of $334 - distributions to redeemable noncontrolling interests of $20 + net income attributable to redeemable noncontrolling interest of $17 = ending redeemable noncontrolling interest of $331.

	Nine Months Ended September 30, 2022							
	Class A and Class B Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total equity (deficit) attributable to Class A and Class B 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 expense	—	—	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 (Note 1)	14,950,000	1	371,526	—	—	371,527	—	371,527
Forward to purchase Class A Common Stock (Note 5)	—	—	4,183	—	—	4,183	—	4,183
Foreign currency translation adjustment	—	—	—	(1,181)	—	(1,181)	(593)	(1,774)
Net loss[3]	—	—	—	—	(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

[3]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.

	Nine Months Ended September 30, 2021							
	Class A and Class B Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total (deficit) equity attributable to Class A and Class B common stockholders	Noncontrolling Interest	Total Stockholders' Equity
	Shares	Amount						
Balances at December 31, 2020	168,002,726	$ 17	$ 3,182,753	$ (9)	$ (3,103,937)	$ 78,824	$ 62,195	$ 141,019
Cumulative effect upon adoption of Accounting Standards Update 2020-06	—	—	(126,799)	—	5,308	(121,491)	—	(121,491)
Issuance of restricted stock awards	2,533,027	—	—	—	—	—	—	—
ESPP purchase	1,945,305	—	10,045	—	—	10,045	—	10,045
Exercise of stock options	2,597,003	1	62,064	—	—	62,065	—	62,065
Stock-based compensation expense	—	—	55,038	—	—	55,038	—	55,038
Change in effective portion of interest rate swap agreement	—	—	—	—	—	—	4,031	4,031
Distributions and payments to noncontrolling interests	—	—	—	—	—	—	(5,285)	(5,285)
Foreign currency translation adjustment	—	—	—	(269)	—	(269)	(254)	(523)
Net loss[4]	—	—	—	—	(131,122)	(131,122)	(13,733)	(144,855)
Balances at September 30, 2021	175,078,061	$ 18	$ 3,183,101	$ (278)	$ (3,229,751)	$ (46,910)	$ 46,954	$ 44

[4]Excludes $9 attributable to redeemable noncontrolling interest.

Note: Beginning redeemable noncontrolling interest of $377 - distributions to redeemable noncontrolling interest of $37 - net loss attributable to redeemable noncontrolling interest of $9 = ending redeemable noncontrolling interest of $331.

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,	
	2022	**2021**
Cash flows from operating activities:		
Net loss	$ (264,304)	$ (144,864)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	46,182	40,079
Non-cash lease expense	18,153	7,161
Gain on sale of property, plant and equipment	(523)	—
Write-off of assets related to PPA IIIa	44,800	—
Revaluation of derivative liabilities	(9,640)	486
Stock-based compensation	81,460	57,309
Gain on remeasurement of investment	—	(1,966)
Loss on extinguishment of debt	4,233	—
Amortization of warrants and debt issuance costs	2,355	2,824
Unrealized foreign currency exchange loss	3,086	184
Other	3,487	—
Changes in operating assets and liabilities:		
Accounts receivable	15,758	34,236
Contract assets	(567)	(24,418)
Inventories	(110,797)	(39,953)
Deferred cost of revenue	(8,856)	7,307
Customer financing receivable	2,510	4,022
Prepaid expenses and other current assets	(15,766)	236
Other long-term assets	(730)	(374)
Operating lease right-of-use assets and operating lease liabilities	2,162	(7,593)
Finance lease liabilities	499	—
Accounts payable	38,642	37,795
Accrued warranty	1,597	(2,357)
Accrued expenses and other current liabilities	502	(26,178)
Deferred revenue and customer deposits	(12,716)	(53,181)
Other long-term liabilities	(9,980)	1,289
Net cash used in operating activities	(168,453)	(107,956)
Cash flows from investing activities:		
Purchase of property, plant and equipment	(80,907)	(44,625)
Net cash acquired from step acquisition	—	3,114
Net cash used in investing activities	(80,907)	(41,511)
Cash flows from financing activities:		
Repayment of debt of PPA IIIa	(30,212)	—
Repayment of debt	(17,262)	(11,017)
Debt make-whole payment related to PPA IIIa debt	(2,413)	—
Proceeds from financing obligations	—	7,534
Repayment of financing obligations	(28,821)	(10,174)
Contributions from noncontrolling interests	2,815	—
Distributions to redeemable noncontrolling interests	—	(37)
Distributions and payments to noncontrolling interests	(5,972)	(5,285)
Proceeds from issuance of common stock	15,150	72,109
Proceeds from public share offering (Note 1)	385,396	—
Public share offering costs (Note 1)	(13,407)	—
Other	(63)	—
Net cash provided by financing activities	305,211	53,130
Effect of exchange rate changes on cash, cash equivalent and restricted cash	(1,643)	(472)
Net decrease in cash, cash equivalents and restricted cash	54,208	(96,809)
Cash, cash equivalents and restricted cash:		
Beginning of period	615,114	416,710
End of period	$ 669,322	$ 319,901
Supplemental disclosure of cash flow information:		
Cash paid during the period for interest	$ 39,664	$ 42,598

Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	11,759	10,332
Operating cash flows from finance leases	788	643
Cash paid during the period for income taxes	1,296	372
Non-cash investing and financing activities:		
Transfer of customer financing receivable to property, plant and equipment, net	42,758	—
Increase in recourse debt, non-current upon adoption of ASU 2020-06, net	—	121,491
Forward to purchase Class A Common Stock (Note 5)	4,183	—
Liabilities recorded for property, plant and equipment, net	13,373	6,188
Recognition of operating lease right-of-use asset during the year-to-date period	17,623	43,660
Recognition of finance lease right-of-use asset during the year-to-date period	—	1,961

The accompanying notes are an integral part of these 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 2021 Annual Report on Form 10-K.

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, 2021.

We have not experienced any supply chain disruptions as a result of the invasion by the Russian Federation in Ukraine on February 24, 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 extensions and conversions to equity that we completed during 2020 and 2021, we had $287.5 million of total outstanding recourse debt as of September 30, 2022, $274.7 million of which is classified as long-term debt. Our recourse debt scheduled repayments commenced in June 2022.

On August 10, 2022, pursuant to the Securities Purchase Agreement ("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 (the "Second Tranche Shares") at a purchase price of $23.05 per share, calculated as a 15% premium to the volume-weighted average closing price of the 20 consecutive trading day period immediately preceding the exercise of the option (see Note 5 - Fair Value). The aggregate purchase price approximates cash proceeds to be received by us of $311.0 million, net of related incremental direct costs of $0.1 million. The payment for the Second Tranche Shares will be due the later of (i) December 6, 2022 and (ii) upon clearance under the Hart Scott Rodino ("HSR") Act of the sale of the Second Tranche Shares as contemplated by the Second Tranche Exercise Notice.

On August 19, 2022, we completed an underwritten public offering ("the Offering"), pursuant to which we issued and sold 13,000,000 shares of Class A Common Stock at price of $26.00 per share. As a part of the Offering, the underwriters were provided a 30-day option to purchase an additional 1,950,000 shares of our Class A Common Stock at the same price, less underwriting discounts and commissions ("the Greenshoe"), which was exercised contemporaneously with the Offering. The aggregate net proceeds received by us from the Offering were $371.5 million after deducting underwriting discounts and commissions of $16.5 million and incremental costs directly attributable to the Offering of $0.7 million.

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

On August 7, 2022, the United States Senate passed the Inflation Reduction Act of 2022 ("the IRA") under fiscal year 2022 budget reconciliation instructions. On August 16, 2022, the IRA was signed into law. This new bill is the U.S. federal government's largest-ever investment to fight climate change. The IRA includes numerous investments in climate protection, including investments in clean energy production and tax credits aimed at reducing carbon emissions by roughly 40% by 2030. By implementing the IRA, the government aims to make an impact on energy markets so that cleaner options are more affordable to consumers.

The IRA contains several credits and incentive provisions that may be relevant to us:

Credit	Credit summary
Section 45 – Production Tax credit ("PTC")	Provides a 10-year tax credit for a variety of renewable energy technologies to incentivize electricity generation to be sold to a third party.
Section 48 – Investment Tax Credit ("ITC")	Provides a tax credit based on capital investment in a variety of renewable and conventional energy technologies to incentivize investment in new energy resources and more efficient use of fuel.
Section 45X – Advanced Manufacturing Production	Provides a PTC for the production of certain eligible components sold to an unrelated person (exceptions apply). The credit amount varies based on the eligible component, which includes solar components, wind energy components, inverters, qualifying battery components, and critical minerals.
Section 48C – Qualified Advanced Energy Project (reenacted)	Provides an ITC through a competitive application process administered through the Department of Energy equal to 6% or 30% of the investment with respect to advanced energy projects.
Section 45Y – Clean Electricity Production Credit	Provides a 10-year technology-neutral PTC, equal to the kWh of electricity produced by the taxpayer times an applicable amount (based of $0.003/kWh up to $0.015/kWh) for the production of clean electricity produced at a qualifying facility for which the GHG emission rate is not greater than zero and electricity is sold, consumed or stored.
Section 48E – Clean Electricity Investment Tax Credit	Provides a technology-neutral ITC of between 6% (or 2%) to 30% (or 10%) for qualified capital investments in an electric generating facility or energy storage for which GHG rate is not greater than zero.
Section 45V – Clean Hydrogen	Provides a PTC of up to $3 per kg of clean hydrogen over a 10-year credit period for the production of clean hydrogen at a qualified facility in the US.
Section 45Q – Carbon Capture Sequestration	Provides a credit ranging from $12-$17 or $60-$85 per metric ton based on the amount of carbon oxides captured from a qualified facility over a 12-year period.

We are currently assessing the impact of these provisions on our business beyond the third quarter of 2022.

Some of our existing contracts contemplated price adjustments due to changes to ITC rate at the inception of the contracts. As a result, we recognized $8.7 million product revenue and $1.3 million installation revenue for the three months ended September 30, 2022, due to a change in variable considerations for energy servers placed in service during the eligible periods from such existing contracts.

Basis of Presentation

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

Principles of Consolidation

For information on 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, 2021.

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, 2021.

Concentration of Risk

Geographic Risk - The majority of our revenue and long-lived assets are attributable to operations in the United States for all periods presented. In addition to shipments in the US, we also ship our Energy Servers to other countries, primarily to the Republic of Korea, Japan, and India (collectively, the "Asia Pacific region"). In the three and nine months ended September 30, 2022, total revenue in the Asia Pacific region was 58% and 61%, respectively, of our total revenue. In the three and nine months ended September 30, 2021, total revenue in the Asia Pacific region was 36% and 38%, respectively, of our total revenue.

Credit Risk - At September 30, 2022 and December 31, 2021, one customer accounted for approximately 23% and 60% of accounts receivable, respectively. To date, we have not experienced any credit losses.

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

During the three months ended September 30, 2021, one customer represented 35% of our total revenue. During the nine months ended September 30, 2021, revenue from two customers represented 37% and 12% of our total revenue, respectively.

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, 2021.

Recent Accounting Pronouncements

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

Accounting Guidance Not Yet Adopted

Contract Assets and Contract Liabilities Acquired in a Business Combination - In October 2021, the FASB issued ASU 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers ("ASU 2021-08"), which requires contract assets and contract liabilities acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606, *Revenue from Contracts with Customers*, as if it had originated the contracts. This approach differs from the current requirement to measure contract assets and contract liabilities acquired in a business combination at fair value. ASU 2021-08 will be effective for fiscal years, including interim periods within those fiscal years, beginning after December 15, 2022. Early adoption is permitted. The adoption impact of ASU 2021-08 will depend on the magnitude of any future acquisitions. The standard will not impact acquired contract assets or liabilities from business combinations occurring prior to the adoption date.

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, 2022	December 31, 2021
Accounts receivable	$ 71,184	$ 87,788
Contract assets	25,768	25,201
Customer deposits	64,412	64,809
Deferred revenue	103,156	115,476

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 sheet when the Company expects to complete the related performance obligations and invoice the customers within one year of the balance sheet date, and as long-term when the Company expects to complete the related performance obligations and invoice the customers more than one year out from the balance sheet date. Contract liabilities are classified as current in the condensed consolidated balance sheet 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,	
	2022	2021	2022	2021
Beginning balance	$ 33,374	$ 18,638	$ 25,201	$ 3,327
Transferred to accounts receivable from contract assets recognized at the beginning of the period	(21,677)	(11,758)	(21,304)	—
Revenue recognized and not billed as of the end of the period	14,071	20,865	21,871	24,418
Ending balance	$ 25,768	$ 27,745	$ 25,768	$ 27,745

Deferred Revenue

Deferred revenue activity, including deferred incentive revenue activity, during the three and nine months ended September 30, 2022 and 2021 consisted of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Beginning balance	$ 96,377	$ 116,255	$ 115,476	$ 135,578
Additions	248,574	175,423	597,318	541,519
Revenue recognized	(241,795)	(179,808)	(609,638)	(565,227)
Ending balance	$ 103,156	$ 111,870	$ 103,156	$ 111,870

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,	
	2022	2021	2022	2021
Revenue from contracts with customers:				
Product revenue	$ 213,243	$ 128,550	$ 520,415	$ 413,347
Installation revenue	22,682	22,172	48,964	53,710
Services revenue	37,347	39,251	111,012	111,375
Electricity revenue	2,875	804	8,352	2,107
Total revenue from contract with customers	276,147	190,777	688,743	580,539
Revenue from contracts that contain lease:				
Electricity revenue	16,127	16,451	47,806	49,166
Total revenue	$ 292,274	$ 207,228	$ 736,549	$ 629,705

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, 2022	December 31, 2021
As Held:		
Cash	$ 215,926	$ 318,080
Money market funds	453,396	297,034
	$ 669,322	$ 615,114
As Reported:		
Cash and cash equivalents	$ 492,120	$ 396,035
Restricted cash	177,202	219,079
	$ 669,322	$ 615,114

Restricted cash consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
Current:		
Restricted cash	$ 41,124	$ 89,462
Restricted cash related to PPA Entities[1]	980	3,078
	$ 42,104	$ 92,540
Non-current:		
Restricted cash	$ 117,590	$ 103,300
Restricted cash related to PPA Entities[1]	17,508	23,239
	135,098	126,539
	$ 177,202	$ 219,079

[1] We have VIEs related to PPAs that represent a portion of the consolidated balances recorded within the "restricted cash" and other financial statement line items in the condensed consolidated balance sheets (see Note 11 - *Portfolio Financings*). In addition, the restricted cash held in the PPA II and PPA IIIb entities as of September 30, 2022, includes $33.3 million and $1.1 million of current restricted cash, respectively, and $35.7 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, 2021, includes $41.7 million and $1.2 million of current restricted cash, respectively, and $57.7 million and $6.7 million of non-current restricted cash, respectively. These entities are not considered VIEs.

Factoring Arrangements

We sell certain customer trade receivables on a non-recourse basis under factoring arrangements with our designated financial institution. These transactions are accounted for as sales and cash proceeds are included in cash used in operating activities. We derecognized $146.3 million and $116.3 million of accounts receivable as of September 30, 2022 and December 31, 2021, respectively, under these factoring arrangements. The costs of factoring such accounts receivable on our condensed consolidated statements of operations for the three and nine months ended September 30, 2022, were $2.5 million and $3.7 million, respectively. The costs of factoring for the three and nine months ended September 30, 2021, were not material. The cost of factoring is 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, 2021.

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, 2022	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 453,396	$ —	$ —	$ 453,396
	$ 453,396	$ —	$ —	$ 453,396
Liabilities				
Derivatives:				
Embedded EPP derivatives	—	—	5,838	5,838
	$ —	$ —	$ 5,838	$ 5,838

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

SK ecoplant Notice to Exercise the Option to Acquire a Variable Number of Shares of Class A Common Stock

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. Upon receipt of SK's notice the purchase price and the number of shares of Class A Common Stock that SK will purchase under the Option are fixed. The payment for the Second Tranche Shares will be due the later of (i) December 6, 2022 and (ii) upon clearance under the HSR Act of the sale of the Second Tranche Shares as contemplated by the Second Tranche Exercise Notice.

The Option was fair valued as of the notice date at $4.2 million. Upon the receipt of the notice from SK ecoplant the Option met the criteria of equity award and was classified as a forward contract as part of additional paid-in capital. The fair value of the Option was reflected in accrued expenses and other current liabilities in our condensed consolidated balance sheet as of December 31, 2021.

Embedded EPP Derivative Liability

For the three months ended September 30, 2022 and 2021, we recorded the fair value of the embedded EPP derivatives and recognized an unrealized gain of $0.1 million and an unrealized loss of $0.2 million, respectively, in gain (loss) on revaluation of embedded derivatives on our condensed consolidated statements of operations.

For the nine months ended September 30, 2022 and 2021, we recorded the fair value of the embedded EPP derivatives and recognized an unrealized gain of $0.6 million and an unrealized loss of $1.6 million, respectively, in gain (loss) on revaluation of embedded derivatives on our condensed consolidated statements of operations.

The changes in the Level 3 financial liabilities during the nine months ended September 30, 2022, were as follows (in thousands):

	Embedded EPP Derivative Liability
Liabilities at December 31, 2021	$ 6,461
Changes in fair value	(623)
Liabilities at September 30, 2022	$ 5,838

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

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

	September 30, 2022		December 31, 2021	
	Net Carrying Value	Fair Value	Net Carrying Value	Fair Value
Customer receivables				
Customer financing receivable	$ —	$ —	$ 45,269	$ 38,334
Debt instruments				
Recourse:				
10.25% Senior Secured Notes due March 2027	63,194	59,939	68,968	72,573
2.5% Green Convertible Senior Notes due August 2025	224,340	319,822	222,863	356,822
Non-recourse:				
7.5% Term Loan due September 2028 (Note 7)	—	—	29,006	35,669
6.07% Senior Secured Notes due March 2030	68,899	70,085	73,262	83,251
3.04% Senior Secured Notes due June 2031	125,999	115,294	132,631	137,983

6. Balance Sheet Components

Inventories

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

	September 30, 2022	December 31, 2021
Raw materials	$ 156,163	$ 80,809
Finished goods	61,376	30,668
Work-in-progress	37,356	31,893
	$ 254,895	$ 143,370

The inventory reserves were $17.6 million and $13.9 million as of September 30, 2022 and December 31, 2021, respectively.

Prepaid Expenses and Other Current Assets

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

	September 30, 2022	December 31, 2021
Receivables from employees	$ 7,949	$ 5,463
Prepaid hardware and software maintenance	5,079	3,494
Prepaid managed services	4,291	2,480
Tax receivables	3,259	1,518
Prepaid workers compensation	3,114	5,330
Deposits made	1,425	817
Prepaid deferred commissions	794	724
State incentive receivable	214	427
Other prepaid expenses and other current assets	20,364	10,408
	$ 46,489	$ 30,661

Property, Plant and Equipment, Net

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

	September 30, 2022	December 31, 2021
Energy Servers	$ 669,606	$ 674,799
Machinery and equipment	132,965	110,600
Construction-in-progress	91,301	43,544
Leasehold improvements	68,369	52,936
Building	49,240	48,934
Computers, software and hardware	24,100	21,276
Furniture and fixtures	9,123	8,607
	1,044,704	960,696
Less: accumulated depreciation	(397,936)	(356,590)
	$ 646,768	$ 604,106

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. Depreciation expense related to property, plant and equipment for the three and nine months ended September 30, 2021 was $13.3 million and $40.1 million, respectively.

Property, plant and equipment under operating leases by the PPA Entities was $362.0 million and $368.0 million and accumulated depreciation for these assets was $153.8 million and $139.4 million as of September 30, 2022 and December 31, 2021, 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. Depreciation expense for these assets was $5.9 million and $17.6 million for the three and nine months ended September 30, 2021, respectively.

PPA IIIa Upgrade

In June 2022, we started a project to replace 9.8 megawatts of second-generation Energy Servers (the "old Energy Servers") at PPA IIIa Investment Company and Operating Company ("PPA IIIa") with current generation Energy Servers (the "new Energy Servers") (the "PPA IIIa Upgrade", the "PPA IIIa Repowering"). The replacement was ongoing as of September 30, 2022. See Note 11 - *Portfolio Financing* for additional information.

Change in Estimate

In June 2022, due to the replacement of old Energy Servers as part of the PPA IIIa Repowering, we revised the expected useful life of the old Energy Servers. As a result, the expected useful life of old Energy Servers decreased from 15 years to approximately 0.5 years. We recognized accelerated depreciation of $0.2 million in electricity cost of revenue on the revised carrying amount of the old Energy Servers after impairment loss in our condensed consolidated statements of operations. There is no effect from this change in accounting estimate on future periods.

Other Long-Term Assets

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

	September 30, 2022	December 31, 2021
Long-term lease receivable	$ 8,131	$ 7,953
Prepaid insurance	7,969	9,534
Deferred commissions	7,229	7,569
Deposits made	2,694	1,923
Prepaid managed services	2,533	3,010
Deferred tax asset	885	954
Investments in subsidiaries	—	1,819
Prepaid and other long-term assets	8,875	8,311
	$ 38,316	$ 41,073

Accrued Expenses and Other Current Liabilities

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

	September 30, 2022	December 31, 2021
Compensation and benefits	$ 30,002	$ 38,222
Sales-related liabilities	10,374	6,040
Delaware grant	9,495	—
Accrued installation	6,032	13,968
Accrued legal expenses	5,513	1,765
Current portion of derivative liabilities	3,053	6,059
Accrued consulting expenses	1,423	1,731
Sales tax liabilities	1,359	1,491
Interest payable	719	2,159
Option to acquire a variable number of shares of Class A Common Stock (Note 5)	—	13,200
Other	34,040	29,503
	$ 102,010	$ 114,138

7. Outstanding Loans and Security Agreements

The following is a summary of our debt as of September 30, 2022 (in thousands, except percentage data):

	Unpaid Principal Balance	Net Carrying Value			Interest Rate	Maturity Dates	Entity	Recourse
		Current	Long-Term	Total				
10.25% Senior Secured Notes due March 2027	$ 63,966	$ 12,792	$ 50,402	$ 63,194	10.25%	March 2027	Company	Yes
2.5% Green Convertible Senior Notes due August 2025	230,000	—	224,340	224,340	2.5%	August 2025	Company	Yes
Total recourse debt	293,966	12,792	274,742	287,534				
3.04% Senior Secured Notes due June 30, 2031	127,736	10,332	115,667	125,999	3.04%	June 2031	PPA V	No
6.07% Senior Secured Notes due March 2030	70,492	5,611	64,288	69,899	6.07%	March 2030	PPA IV	No
Total non-recourse debt	198,228	15,943	179,955	195,898				
Total debt	$ 492,194	$ 28,735	$ 454,697	$ 483,432				

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

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

We and all of our subsidiaries were in compliance with all financial covenants as of September 30, 2022 and December 31, 2021.

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, 2021, for discussion of our 10.25% *Senior Secured Notes due March 2027* and 2.5% Green Convertible Senior Notes due August 2025.

Interest expense on the 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. Interest expense on the Green Notes for the three and nine months ended September 30, 2021, 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, 2021 for discussion of our non-recourse debt.

Both note purchase and credit agreements require us to maintain a debt service reserve, the balances of which are presented below (in millions):

	September 30, 2022	December 31, 2021
3.04% Senior Secured Notes due June 30, 2031	$ 8.0	$ 8.0
7.5% Term Loan due September 2028	—	3.6
6.07% Senior Secured Notes due March 2030	9.5	9.1

These debt service balances are included as part of long-term restricted cash in the condensed consolidated balance sheets. Both notes and the loan are secured by assets of respective PPAs.

7.5% Term Loan due September 2028 - On June 14, 2022, as part of the PPA IIIa Upgrade, we paid off the outstanding balance and related accrued interest of $30.2 million and $0.4 million, respectively, and recognized a loss on extinguishment of debt of $4.2 million. The debt service reserve of $3.6 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, 2022 (in thousands):

Remainder of 2022	$ 6,755
2023	28,503
2024	31,872
2025	265,494
2026	39,078
Thereafter	120,492
	$ 492,194

Interest expense of $13.1 million and $14.5 million for the three months ended September 30, 2022 and 2021, respectively, was recorded in interest expense on the condensed consolidated statements of operations. Interest expense of $41.0 million and $43.8 million for the nine months ended September 30, 2022 and 2021, respectively, was recorded in interest expense on the condensed consolidated statements of operations.

8. Derivative Financial Instruments

Cash Flow Hedges

As of December 31, 2021, we had settled our interest rate swaps, which had been designated as cash flow hedges. There were no cash flow hedges as of September 30, 2022. The changes in fair value of the interest rate swaps designated as cash flow hedges and the amounts recognized in accumulated other comprehensive loss and in earnings were as follows during the three and nine months ended September 30, 2022 and 2021 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Beginning balance	$ —	$ 12,651	$ —	$ 15,989
Loss (gain) recognized in other comprehensive loss	—	(264)	—	(2,548)
Amounts reclassified from other comprehensive loss to earnings	—	(499)	—	(1,483)
Net loss (gain) recognized in other comprehensive loss	—	(763)	—	(4,031)
Gain recognized in earnings	—	(35)	—	(105)
Ending balance	$ —	$ 11,853	$ —	$ 11,853

Embedded EPP Derivatives in Sales Contracts

For information on embedded EPP Derivatives in sales contracts, see Part II, Item 8, Note 8 - *Derivative Financial Instruments* in our Annual Report on form 10-K for the fiscal year ended December 31, 2021.

9. Leases

Facilities, Energy Servers, and Vehicles

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. For the three and nine months ended September 30, 2021, rent expense for all occupied facilities was $4.4 million and $11.4 million, respectively.

Operating and finance lease right-of-use assets and lease liabilities for facilities, Energy Servers, and vehicles as of September 30, 2022 and December 31, 2021 were as follows (in thousands):

	September 30, 2022	December 31, 2021
Operating Leases:		
Operating lease right-of-use assets, net [1, 2]	$ 114,053	$ 106,660
Current operating lease liabilities	(12,671)	(13,101)
Non-current operating lease liabilities	(122,412)	(106,187)
Total operating lease liabilities	$ (135,083)	$ (119,288)
Finance Leases:		
Finance lease right-of-use assets, net [2, 3, 4]	$ 2,692	$ 2,944
Current finance lease liabilities	(988)	(863)
Non-current finance lease liabilities	(1,899)	(2,157)
Total finance lease liabilities	$ (2,887)	$ (3,020)
Total lease liabilities	$ (137,970)	$ (122,308)

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

[2] Net of accumulated amortization.

[3] These assets primarily include leases for vehicles.

[4] Included in property, plant and equipment, net in the condensed consolidated balance sheet.

The components of our facilities, Energy Servers, and vehicles' lease costs for the three and nine months ended September 30, 2022 and 2021 were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Operating lease costs	$ 6,097	$ 3,925	$ 17,962	$ 10,620
Finance lease costs:				
Amortization of finance lease right-of-use assets	230	214	750	1,096
Interest expense for finance lease liabilities	53	51	160	296
Total finance lease costs	283	265	910	1,392
Short-term lease costs	538	625	699	951
Total lease costs	$ 6,918	$ 4,815	$ 19,571	$ 12,963

Weighted average remaining lease terms and discount rates for our facilities, Energy Servers and vehicles as of September 30, 2022 and December 31, 2021 were as follows:

	September 30, 2022	December 31, 2021
Weighted average remaining lease term:		
Operating leases	9.1 years	8.9 years
Finance leases	3.1 years	3.5 years
Weighted average discount rate:		
Operating leases	10.0 %	9.6 %
Finance leases	7.6 %	7.6 %

Future lease payments under lease agreements for our facilities, Energy Servers and vehicles as of September 30, 2022 were as follows (in thousands):

	Operating Leases	Finance Leases
Remainder of 2022	$ 6,365	$ 281
2023	24,688	1,121
2024	23,028	948
2025	23,504	461
2026	23,332	222
Thereafter	54,170	73
Total minimum lease payments	155,087	3,106
Less: amounts representing interest or imputed interest	(20,004)	(219)
Present value of lease liabilities	$ 135,083	$ 2,887

Managed Services and Portfolio Financings Through PPA Entities

At September 30, 2022, future lease payments under the Managed Services Agreements financing obligations were as follows (in thousands):

	Financing Obligations
Remainder of 2022	$ 10,889
2023	44,124
2024	42,051
2025	41,025
2026	36,426
Thereafter	55,508
Total minimum lease payments	230,023
Less: imputed interest	(128,150)
Present value of net minimum lease payments	101,873
Less: current financing obligations	(16,682)
Long-term financing obligations	$ 85,191

The long-term financing obligations, as reflected in our condensed consolidated balance sheets, were $443.7 million and $461.9 million as of September 30, 2022 and December 31, 2021, respectively. The difference between these obligations and the principal obligations in the table above will be offset against the carrying value of the related Energy Servers at the end of the lease and the remainder recognized as a gain at that point.

Portfolio Financings through PPA Entities

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

	September 30, 2022	December 31, 2021
Lease payment receivables, net[1]	$ —	$ 44,378
Estimated residual value of leased assets (unguaranteed)	—	890
Net investment in sales-type leases	—	45,268
Less: current portion	—	(5,784)
Non-current portion of net investment in sales-type leases	$ —	$ 39,484

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

As of September 30, 2022, there was no net investment in sales-type leases as a result of PPA IIIa Repowering. Please refer to Note 11 - *Portfolio Financing* for details.

As of September 30, 2022, future estimated operating minimum lease payments we expect to receive from Portfolio Financing arrangements through PPA Entities were as follows (in thousands):

	Operating Leases
Remainder of 2022	$ 9,582
2023	37,608
2024	40,067
2025	42,589
2026	43,761
Thereafter	197,868
Total minimum lease payments	$ 371,475

10. Stock-Based Compensation Expense and Employee Benefit Plans

Stock-Based Compensation Expense

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Cost of revenue	$ 4,982	$ 2,945	$ 13,609	$ 9,749
Research and development	4,818	5,678	25,113	15,876
Sales and marketing	3,948	4,391	13,528	12,486
General and administrative	10,283	7,952	30,688	19,198
	$ 24,031	$ 20,966	$ 82,938	$ 57,309

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)
Balances at December 31, 2021	10,737,295	$ 21.23	5.2	$ 60,304
Exercised	(468,821)	7.52		
Forfeited	(42,742)	6.97		
Expired	(1,229,091)	30.38		
Balances at September 30, 2022	8,996,641	20.77	4.8	45,054
Vested and expected to vest at September 30, 2022	8,985,005	20.78	4.8	44,901
Exercisable at September 30, 2022	8,598,209	$ 21.46	4.7	39,364

Stock Options - During 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. During the three and nine months ended September 30, 2021, we recognized $2.7 million and $10.0 million of stock-based compensation expense for stock options, respectively. We did not grant options in the three and nine months ended September 30, 2022 and 2021.

As of September 30, 2022 and December 31, 2021, we had unrecognized compensation expense related to unvested stock options of $0.8 million and $6.2 million, respectively. This expense 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 $3.6 million and $62.1 million for the nine months ended September 30, 2022 and 2021, 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, 2021	8,367,664	$ 20.52
Granted	4,945,001	19.69
Vested	(2,328,713)	17.59
Forfeited	(900,629)	21.76
Unvested Balance at September 30, 2022	10,083,323	19.99

Stock Awards - The estimated fair value of restricted stock units ("RSUs") and performance stock units ("PSUs") is based on the fair value of our Class A common stock on the date of grant. During 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. During the three and nine months ended September 30, 2021, we recognized $15.8 million and $40.6 million of stock-based compensation expense for stock awards, respectively.

As of September 30, 2022 and December 31, 2021, we had $155.2 million and $114.9 million of unrecognized stock-based compensation expense related to unvested stock awards, expected to be recognized over a weighted average period of 2.1 and 2.3 years, respectively.

The following table presents the stock activity for the nine months ended September 30, 2022, and the total number of shares available for grant under our stock plans as of September 30, 2022:

	Plan Shares Available for Grant
Balances at December 31, 2021	24,146,784
Added to plan	8,384,460
Granted	(4,981,732)
Cancelled/Forfeited	2,062,177
Expired	(1,196,565)
Balances at September 30, 2022	28,415,124

2018 Employee Stock Purchase Plan

During the nine months ended September 30, 2022 and 2021, we recognized $11.2 million and $4.5 million of stock-based compensation expense for the 2018 Employee Stock Purchase Plan, respectively. We issued 759,744 and 1,945,305 shares in the nine months ended September 30, 2022 and 2021, respectively. During the nine months ended September 30, 2022 and 2021, we added an additional 12,055,792 shares and 1,902,572 shares, respectively. There were 13,840,716 shares and 2,544,668 shares available for issuance as of September 30, 2022 and 2021, respectively.

As of September 30, 2022 and December 31, 2021, we had $10.4 million and $9.8 million of unrecognized stock-based compensation expense, expected to be recognized over a weighted average period of 1.1 years and 0.5 years, respectively.

11. Portfolio Financings

Overview

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

PPA IIIa Repowering of Energy Servers

PPA IIIa was established in 2012 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 9.8 megawatts of Energy Servers.

On March 31, 2022, we entered into a Membership Interest Purchase Agreement where we bought out the equity interest of the third-party investor, wherein the PPA IIIa became wholly owned by us (the "Buyout").

Following the Buyout and prior to June 14, 2022, we repaid all outstanding debt of the Project Company of $30.6 million, and recognized loss on extinguishment of debt in an amount of $4.2 million, which includes the write-off of the debt discount related to warrants of $1.8 million and a make-whole payment of $2.4 million associated with the debt extinguishment. Refer to Note 7 - *Outstanding Loans and Security Agreements, Non-recourse Debt Facilities* section.

On June 14, 2022, we sold our 100% interest in the Project Company to Generate C&I Warehouse, LLC ("Generate") through a Membership Interest Purchase Agreement ("MIPA"). Simultaneously, we entered into an agreement with the Project Company to upgrade the old 9.8 megawatts of Energy Servers (the "old Energy Servers") by replacing them with a newer generation of Energy Servers ("new Energy Servers") and providing related installation services, which was financed by Generate (the "EPC Agreement"). The old Energy Servers will be removed prior to installing the new Energy Servers, whereby upon completion of installation the old Energy Servers will be returned to Bloom. 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.

Certain power purchase agreements within the PPA IIIa portfolio were classified as sales-type leases under ASC 840, while some were classified as operating leases. The Company elected the practical expedient package with the adoption of ASC 842, which allowed the Company to carry forward the lease classification upon adoption of ASC 842 on January 1, 2020. The leases were modified prior to the sale of the PPA IIIa to Generate. Such modified leases were reassessed and determined to not be leases under ASC 842 because customers have no control over the identified assets. Accordingly, on the date of modification, the customer financing receivables were derecognized and recognized as property, plant, and equipment ("PPA IIIa PP&E").

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 Generate. Accordingly, the Company continued to recognize the old Energy Servers, despite the legal ownership of such assets under the MIPA. Upon reclassification of the lease assets to PP&E, the Company assessed the recorded assets for impairment. The carrying amount of the PPA IIIa PP&E was determined to be not recoverable as the net undiscounted cash flows are less than the carrying amounts for PPA IIIa PP&E. Therefore, we recognized the asset impairment charge as electricity cost, consistent with depreciation expense classification for property, plant and equipment under leases.

The PPA IIIa Upgrade was in progress as of September 30, 2022 and resulted in the following summarized impacts on our condensed consolidated balance sheet as of September 30, 2022: (i) cash and cash equivalents increased by $17.7 million mainly due to $54.7 million cash receipts from the sale of new Energy Servers to the Project Company, offset by $30.6 million for the repayment of outstanding debt, (ii) both customer financing receivables, current and non-current, and property plant and equipment, net decreased by $5.9 million, $36.9 million and $2.2 million, respectively, due to the impairment of $44.8 million and accelerated depreciation of $0.2 million of the existing old Energy Servers (we revised the expected useful life of the old Energy Servers from 15 years to approximately 0.5 years which resulted in recognized accelerated depreciation of $0.2 million in electricity cost of revenue (see Note 6)), (iii) contract assets increased by $5.0 million, (iv) inventories and deferred cost of revenue decreased by $24.1 million, and (v) other liabilities increased by $4.7 million. Impacts on our condensed consolidated statements of operations for the three and nine months ended September 30, 2022 are summarized as follows: (i) net product and installation revenue recognized of $12.7 million and $2.1 million and $49.6 million and $3.2 million, respectively, as a

result of the sale of new Energy Servers; (ii) cost of electricity revenue of nil and $45.0 million, respectively, including the write-off of old Energy Servers of nil and $44.8 million, respectively, accelerated depreciation of nil and $0.2 million, respectively, prior to the completion of installation; (iii) cost of product and installation revenue of $5.7 million and $1.7 million and $21.6 million and $2.5 million, respectively, due to the sale of new Energy Servers; and (iv) nil and $4.2 million, respectively, of loss on extinguishment of debt.

Impacts on our condensed consolidated statements of cash flows for the nine months ended September 30, 2022 are summarized as follows: net cash provided by financing activities decreased by $32.6 million due to the repayment of debt of $30.2 million and cash fee of $2.4 million associated with debt extinguishment.

PPA Entities' Aggregate Assets and Liabilities

Generally, the assets of an operating company owned by an investment company can be used to settle only the operating company obligations, and the operating company creditors do not have recourse to us. The following are the aggregate carrying values of our VIEs' assets and liabilities in our condensed consolidated balance sheets, after eliminations of intercompany transactions and balances, including as of September 30, 2022 each of the PPA Entities in the PPA IV transaction and the PPA V transaction, and as of December 31, 2021 each of the PPA Entities in the PPA IIIa transaction, the PPA IV transaction and the PPA V transaction (in thousands):

	September 30, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 1,265	$ 1,541
Restricted cash	980	3,078
Accounts receivable	3,170	5,112
Customer financing receivable	—	5,784
Prepaid expenses and other current assets	2,766	3,071
Total current assets	8,181	18,586
Property, plant and equipment, net	208,208	228,546
Customer financing receivable	—	39,484
Restricted cash	17,508	23,239
Other long-term assets	1,994	2,362
Total assets	$ 235,891	$ 312,217
Liabilities		
Current liabilities:		
Accrued expenses and other current liabilities	$ 111	$ 194
Deferred revenue and customer deposits	662	662
Non-recourse debt	15,943	17,483
Total current liabilities	16,716	18,339
Deferred revenue and customer deposits	4,915	5,410
Non-recourse debt	179,955	217,417
Total liabilities	$ 201,586	$ 241,166

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

12. Related Party Transactions

There have been no changes in related party relationships during the three and nine months ended September 30, 2022. For information on our related parties, 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, 2021.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Total revenue from related parties	$ 12,532	$ 3,333	$ 30,231	$ 8,227

Below is the summary of outstanding related party balances as of September 30, 2022 and December 31, 2021 (in millions):

	September 30, 2022	December 31, 2021
Accounts receivable	$ 12.5	$ 4.4

We had no debt or convertible notes from investors considered to be related parties as of September 30, 2022 and December 31, 2021.

13. Commitments and Contingencies

Commitments

Purchase Commitments with Suppliers and Contract Manufacturers - As of September 30, 2022, we had a commitment with NetJets to purchase a fractional interest in one of its jets, which is to be used for corporate travel purposes, in the amount of approximately $3.4 million. The jet is expected to be delivered by July of 2023. As of December 31, 2021, we had no material open purchase orders with our component suppliers and third-party manufacturers that are not cancellable.

Portfolio Financings Performance Guarantees - We guarantee the performance of Energy Servers at certain levels of output and efficiency to customers over the contractual term. We paid $1.3 million and $0.2 million in performance guarantees for the nine months ended September 30, 2022 and 2021, respectively.

Letters of Credit - In 2019, pursuant to the PPA II upgrade of Energy Servers, we agreed to indemnify our financing partner for losses that may be incurred in the event of certain regulatory, legal or legislative development and established a cash-collateralized letter of credit facility for this purpose. There were no letters of credit or pledged funds associated with the PPA IIIa Upgrade. As of September 30, 2022, the balance of this cash-collateralized letter of credit was $69.0 million, of which $33.3 million and $35.7 million is recognized as short-term and long-term restricted cash, respectively. As of December 31, 2021, the balance of this cash-collateralized letter of credit was $99.4 million, of which $41.7 million and $57.7 million is recognized as short-term and long-term restricted cash, respectively.

Pledged Funds - In 2019, pursuant to the PPA IIIb refinancing and energy servers upgrade program, we pledged $20.0 million for a seven-year period to secure our operations and maintenance obligations with respect to the totality of our obligations to the financier. We categorized the $20.0 million as restricted cash on our condensed consolidated balance sheet. It was agreed all or a portion of such funds would be released if we meet certain credit rating and/or market capitalization milestones prior to the end of the pledge period. If we do not meet the required criteria within the first five-year period, the funds would still be released to us over the following two years as long as the energy servers continue to perform in compliance with our warranty obligations. As of September 30, 2022 and December 31, 2021, the balance of the long-term restricted cash was $6.7 million and $6.7 million.

Contingencies

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

Delaware Economic Development Authority - In March 2012, we entered into an agreement with the Delaware Economic Development Authority to provide a grant of $16.5 million to us as an incentive to establish a new manufacturing facility in Delaware and to provide employment for full time workers at the facility over a certain period of time. As of September 30, 2022 the grant became current and we have recorded $9.5 million in accrued expenses and other current liabilities for future repayments of this grant. As of December 31, 2021, we have recorded $9.5 million in other long-term liabilities for potential future repayments of this grant.

Investment Tax Credits - For information on ITCs, see Part II, Item 8, Note 13 - *Commitments and Contingencies* on our Annual Report on Form 10-K for the fiscal year ended December 31, 2021. Please also refer to Note 1 - *Nature of Business, Liquidity and Basis of Presentation* for discussion of investment tax credits implemented by the IRA.

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

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

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

We are unable to predict the outcome of this litigation at this time and accordingly are not able to estimate any range of reasonably possible losses.

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

In 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 We filed the second amended petition was filed on July 1, 2022. The City of Santa Clara demurred to one cause of action seeking damages for tortious conduct; the hearing is scheduled for October 27, 2022. The next Status Conference with the judge is scheduled for September December 115, 2022. If we are unable to secure building permits for these customer installations in a timely fashion, our customers will terminate their contracts with us and select another energy provider. In addition, if we are no longer able to install our Energy Servers in Santa Clara under building permits, we may not be able to secure future customer bookings for installation in the City of Santa Clara.

In February 2022, Plansee SE/Global Tungsten & Powders Corp. ("Plansee/GTP"), a former supplier, filed a request for expedited arbitration with the World Intellectual Property Organization Arbitration and Mediation Center in Geneva Switzerland, for various claims 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 hawse 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's filed its reply on July 14, 2022 and we filed our sur-reply on July 22, 2022. We await a ruling on the matter and in the interim, discovery has commenced in Federal District Court. Given that the cases are still in their early stages, we are unable to predict the ultimate outcome of the arbitration and district court action at this time, and accordingly are not able to estimate a range of reasonably possible losses.

14. Income Taxes

For the three and nine months ended September 30, 2022, we recorded an income tax provisions 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. For the three and nine months ended September 30, 2021, we recorded income tax provisions of $0.2 million and $0.6 million on pre-tax losses of $56.5 million and $144.3 million for effective tax rates of (0.3)% and (0.4)%, respectively.

The effective tax rate for the three and nine months ended September 30, 2022 and 2021 is lower than the statutory federal tax rate primarily due to a full valuation allowance against U.S. deferred tax assets.

U.S. tax law changes

On August 16, 2022, the United States government enacted the Inflation Reduction Act of 2022 ("IRA"). The IRA establishes a new corporate alternative minimum tax based on financial statement income adjusted for certain items. The new minimum tax is effective for tax years beginning after December 31, 2022. The enactment of the IRA did not have a material impact to the Company's financial statements for the three and nine months ended September 30, 2022 and 2021, but we are currently assessing the impact of the production and tax credit-related IRA provisions on our business for future quarters.

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 (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Convertible notes	14,187	14,187	14,187	14,187
Redeemable convertible preferred stock	10,000	—	10,000	—
Stock options and awards	6,445	5,415	5,503	6,998
	30,632	19,602	29,690	21,185

As of September 30, 2022, pursuant to the notice received from SK ecoplant of its intent to exercise its option to purchase additional shares of our Class A common stock (see Note 5), there were an additional 13,491,701 common stock equivalents that were excluded from the table above.

16. Subsequent Events

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

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

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

Overview

Description of Bloom Energy

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

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

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

We market and sell our Energy Servers directly and through indirect channels to our customers both in the United States and abroad. In order to appeal to the largest variety of customers, we have developed a number of financing options to enable customers' use of our Energy Servers on a pay-as-you-go model, made available through third-party ownership financing arrangements. For information about our different financing options, see Part II, Item 7*, Management's Discussion and Analysis of Financial Condition and Results of Operations - Purchase and Financing Options* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

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

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

Strategic Investment

On October 23, 2021, we entered into the SPA with SK ecoplant in connection with a strategic partnership. Pursuant to the SPA, on December 29, 2021, we sold to SK ecoplant 10 million shares of zero coupon, non-voting redeemable convertible Series A Preferred Stock in us, par value $0.0001 per share ("RCPS"), at a purchase price of $25.50 per share for an aggregate purchase price of $255 million (the "Initial Investment"). According to the SPA, on December 29, 2022, the first anniversary of the original issue date, all outstanding shares of Series A Preferred Stock will automatically be converted into shares of Class A Common Stock.

Please refer to Note 1 - *Nature of Business, Liquidity and Basis of Presentation* for the Second Tranche Shares Option exercise notice received from SK ecoplant on August 10, 2022.

Simultaneous with the execution of the SPA, we and SK ecoplant executed an amendment to the Joint Venture Agreement ("JVA"), an amendment and restatement to our Preferred Distribution Agreement ("PDA Restatement") and a new Commercial Cooperation Agreement regarding initiatives pertaining to the hydrogen market and general market expansion for the Bloom Energy Server and Bloom Energy Electrolyzer.

Certain Factors Affecting our Performance

Global Macroeconomic Conditions

We generally are seeing worsening global macroeconomic conditions, including rising interest rates, recession fears, foreign exchange rate volatility and inflationary pressures, as well as increasing geopolitical instability. These conditions impact our business in several ways. For example, the strengthening U.S. dollar has caused our Energy Servers to become relatively more expensive in several markets outside the United States, which, coupled with worsening global macroeconomic conditions, has the potential to adversely impact demand for our products. Our Energy Server Product runs on a variety of fuels, including natural gas. The rising cost of natural gas, limited availability of gas supply, as well as disruptions to the world gas markets increase the cost of our product to the end customer. To date, the potential impact of this on customer demand has been offset by the customer needs for resiliency and time to power that our Energy Server provides. In addition, these conditions also impact our manufacturing and supply chain, as discussed below.

Manufacturing and Labor Market Constraints

We are experiencing impacts from the ongoing labor shortage and continue to face challenges in hiring for our manufacturing facilities, which is exacerbated by absences for any employees who are recovering from or have been exposed to COVID-19. While we continue to dedicate resources to supporting our capacity expansion efforts, we are experiencing difficulties with hiring and retention, particularly for our new manufacturing facility in Fremont, California. In addition, the current inflationary environment has led to rising wages and labor rates and increased competition for labor. To date, we have been able to mitigate any impact to production through a contingent workforce and other measures. In the event we are unable to mitigate the impacts of these challenges, it could delay the manufacturing and installation of our Energy Servers and we may be unable to meet customer demand, which would adversely impact our cash flows and results of operations, including revenue and gross margin. We expect the hiring and retention challenges arising from the labor shortages to continue for the foreseeable future.

Supply Chain Constraints

We continue to see effects from the global supply chain disruptions and are experiencing supply chain challenges and logistics constraints. While we have not experienced any component shortages to date, we are facing pressures from longer lead times, shipping and freight delays, and increased costs of raw materials. These dynamics could worsen as a result of continued increase in geopolitical instability. In addition, the current inflationary environment and conflict in Ukraine has led to an increase in the price of components and raw materials. In the event we are unable to mitigate the impacts of delays and/or price increases in raw materials, components and freight, it could delay the manufacturing and installation of our Energy Servers and increase the cost of our Energy Server, which would adversely impact our cash flows and results of operations, including revenue and gross margin. We expect these supply chain challenges and logistics constraints to continue for the foreseeable future.

For additional information on our manufacturing and supply chain matters, see Part II, Item 7 - *Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

COVID-19 Pandemic

We continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic. We maintain protocols to minimize the risk of COVID-19 transmission within our facilities, including enhanced cleaning and masking if required by the local authorities, as well as providing testing for all employees. We will continue to follow CDC and local guidelines when notified of possible exposures. For more information regarding the risks posed to our company by the COVID-19 pandemic, refer to Part I, Item 1A, *Risk Factors – Risks Related to Our Products and Manufacturing – Our business has been and continues to be adversely affected by the COVID-19 pandemic* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Our Energy Server Product runs on a variety of fuels, including natural gas. The rising cost of natural gas increases the cost of our product to the end customer. To date, the potential impact of this on customer demand has been offset by the customer needs for resiliency and time to power that our Energy Server provides.

Environmental, Social and Governance ("ESG")

We released our 2021 Sustainability Report, Solutions for a Decarbonized Future, (the "Report") during the first quarter of 2022 using 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 Report also utilized certain Global Reporting Initiative standards and United Nations Sustainable Development Goals. We plan to issue the Report on an annual basis. Certain items within the Report will be updated to investors to the extent they are considered meaningful and reflective of our mission – "To make clean, reliable energy affordable for everyone in the world".

We strive to empower businesses and communities to responsibly take charge of their energy. We aim to serve our customers with products that are resilient, providing uninterrupted power with predictable pricing from fixed power prices over the long-term, while addressing sustainability issues by considering and developing solutions relating to causes and consequences of climate change.

For further details of the Report, please refer to the following website: 2021-bloom-energy-sustainability-report.pdf (bloomenergy.com). 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.

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

On August 16, 2022, President Biden signed into law the Inflation Reduction Act of 2022 (the "IRA"). The IRA contains provisions which we expect will have a significant impact on the development and financing of clean energy projects in the United States over the next ten years. The IRA includes a number of key changes relevant to clean energy in the United States, among them the extension of the Investment Tax Credit and Production Tax Credit and the addition of expanded tax credits for other technologies and for manufacturing of clean energy equipment as well as terms allowing parties to more easily monetize the tax credits. The IRA also includes some targeted incentives intended to encourage development in low-income communities and the use of domestically produced materials and compliance with certain prevailing wage requirements. The IRA contains a two-tiered credit-amount structure for many applicable tax credits. Specifically, many of the credits have a lower base credit amount that can be increased up to five times if the taxpayer can satisfy applicable prevailing wage or apprenticeship requirements. In general, under the prevailing wage requirements, the IRA requires all laborers, mechanics and workers to be paid the prevailing wage during project construction (and, during the credit term, for repairs and alterations). Separately and subject to certain exceptions, to meet the apprenticeship requirements, qualified apprentices have to perform an applicable percentage of total labor hours for project construction. Further, the IRA establishes certain options to cure the failure to meet either the prevailing wage or apprenticeship requirements.

Please refer to Note 1 - *Nature of Business, Liquidity and Basis of Presentation* for discussion of credits and incentive provisions implemented by the IRA relevant to us. We are currently assessing the impact of these provisions on our business.

Liquidity and Capital Resources

While we improved our liquidity in 2021, we increased our working capital spend in the first half of 2022. We have entered into new leases to maintain sufficient manufacturing facilities to meet anticipated demand in 2022 and beyond, including new product line expansion. In addition, we also increased our working capital spend and resources to enhance our marketing efforts and to expand into new geographies both domestically and internationally.

On August 10, 2022, pursuant to the Securities Purchase Agreement ("the SPA") SK ecoplant notified us of its intent to exercise its option the 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 (the "Second Tranche Shares") at a purchase price of $23.05 per share, calculated as a 15% premium to the volume-weighted average closing price of the 20 consecutive trading day period immediately preceding the exercise of the option. The aggregate purchase price approximates cash proceeds to be received by us of $311.0 million, net of related incremental direct costs of $0.1 million. The payment for the Second Tranche Shares will be due the later of (i) December 6, 2022 and (ii) upon clearance under the HSR Act of the sale of the Second Tranche Shares as contemplated by the Second Tranche Exercise Notice.

On August 19, 2022, we completed an underwritten public offering, pursuant to which we issued and sold 13,000,000 shares of Class A Common Stock at a price of $26.00 per share (the "Offering"). As a part of the Offering, the underwriters were provided a 30-day option to purchase an additional 1,950,000 shares of our Class A Common Stock at the same price, less underwriting discounts and commissions, which was exercised contemporaneously with the Offering. The aggregate net proceeds received by us from the Offering were $371.5 million, after deducting underwriting discounts and commissions of $16.5 million and incremental costs directly attributable to the Offering of $0.7 million.

As of September 30, 2022, we had cash and cash equivalents of $492.1 million. Our cash and cash equivalents consist of highly liquid investments with maturities of three months or less, including money market funds. We maintain these balances with high credit quality counterparties, continually monitor the amount of credit exposure to any one issuer and diversify our investments in order to minimize our credit risk.

As of September 30, 2022, we had $287.5 million of total outstanding recourse debt, $195.9 million of non-recourse debt and $8.9 million of other long-term liabilities. For a complete description of our outstanding debt, please see Note 7 - *Outstanding Loans and Security Agreements* in Part I, Item 1, *Financial Statements (unaudited)*.

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

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

As of September 30, 2022, the current portion of our total debt is $28.7 million, of which $15.9 million is outstanding non-recourse debt.

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,	
	2022	**2021**
Net cash (used in) provided by :		
Operating activities	$ (168,453)	$ (107,956)
Investing activities	(80,907)	(41,511)
Financing activities	305,211	53,130

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,	
	2022	2021
PPA Entities [1]		
Net cash provided by PPA operating activities	$ 95,445	$ 15,751
Net cash used in PPA financing activities	(103,546)	(17,641)

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

Operating Activities

Our operating activities have consisted of net loss adjusted for certain non-cash items plus changes in our operating assets and liabilities or working capital. The increase in cash used in operating activities during the nine months ended September 30, 2022 as compared to the prior year period was primarily the result of an increase in our net loss and a decrease in our net working capital of $70.6 million in the nine months ended September 30, 2022 due to the timing of revenue transactions and corresponding collections, the increase in inventory levels to support future demand, and the timing of payments to vendors.

Investing Activities

Our investing activities have consisted of capital expenditures that include investment to increase our production capacity. We expect to continue such activities as our business grows. Cash used in investing activities of $80.9 million during the nine months ended September 30, 2022 was primarily the result of expenditures on tenant improvements for a newly leased engineering and manufacturing building in Fremont, California. We expect to continue to make capital expenditures over the next few quarters to prepare our new manufacturing facility in Fremont, California for production, which includes the purchase of new equipment and other tenant improvements. We intend to fund these capital expenditures from cash on hand as well as cash flow to be generated from operations. We may also evaluate and arrange equipment lease financing to fund these capital expenditures.

Financing Activities

Historically, our financing activities have consisted of borrowings and repayments of debt, proceeds and repayments of financing obligations, distributions paid to noncontrolling interests, and the proceeds from the issuance of our common stock. Net cash provided by financing activities during the nine months ended September 30, 2022 was $305.2 million, an increase of $252.1 million compared to the prior year period, primarily due to the proceeds from public share offering of $372.0 million and the proceeds from issuance of common stock of $15.2 million, partially offset by the repayment debt related to PPA IIIa of $30.2 million and other debt of $17.3 million, and repayment of financing obligations of $28.8 million.

We believe we have the sufficient capital to operate our business over the next 12 months, including the completion of the build out of our manufacturing facilities. Our working capital was strengthened with the initial and subsequent investments by SK ecoplant and our public offering. In addition, we may still enter the equity or debt market as needed to support the expansion of our business. Please refer to Note 7 - *Outstanding Loans and Security Agreements* in Part 1, Item 1, *Financial Statements (unaudited);* and Part I, Item 1A, *Risk Factors - Risks Related to Our Liquidity - Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities' outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs,* and *We may not be able to generate sufficient cash to meet our debt service obligations,* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 for more information regarding the terms of and risks associated with our debt.

Purchase and Financing Options

For information on purchase and financing options, see the *Purchasing and Financing Options* section in Part II, Item 7 - *Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

International Channel Partners

There were no significant changes in our international channel partners during the three and nine months ended September 30, 2022. For information on international channel partners, see the *International Channel Partners* section in Part II, Item 7 - *Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Key Operating Metrics - Comparison of the Three and Nine Months Ended September 30, 2022 and 2021

For a description of the key operating metrics we use to evaluate business activity, to measure performance, to develop financial forecasts and to make strategic decisions, see Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations - Key Operating Metrics* in our Annual Report on Form 10-K for the year ended December 31, 2021.

Purchase Options

The portion of acceptances attributable to each purchase option in the three and nine months ended September 30, 2022 and 2021 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Direct Purchase	99 %	99 %	100 %	99 %
Traditional Lease	1 %	— %	— %	— %
Managed Services	— %	1 %	— %	1 %

The portion of revenue attributable to each purchase option in the three and nine months ended September 30, 2022 and 2021 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Direct Purchase	91 %	86 %	89 %	88 %
Traditional Lease	1 %	1 %	1 %	1 %
Managed Services	5 %	8 %	6 %	6 %
Bloom Electrons	3 %	5 %	4 %	5 %

Product Acceptances

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
Product accepted during the period (in 100 kilowatt systems)	581	353	228	64.6 %	1,427	1,144	283	24.7 %

Product accepted increased approximately 228 systems, or 64.6%, for the three months ended September 30, 2022 compared to the three months ended September 30, 2021. Acceptance volume increased as demand increased for the Bloom Energy servers.

Product accepted increased approximately 283 systems, or 24.7%, for the nine months ended September 30, 2022 compared to the nine months ended September 30, 2021. Acceptance volume increased as demand increased for the Bloom Energy servers.

Megawatts accepted, net, increased approximately 208 megawatts, or 30.4%, for the nine months ended September 30, 2022 compared to the nine months ended September 30, 2021. The increase in acceptances achieved from September 30, 2021 to September 30, 2022 was added to our installed base and, therefore, increased our megawatts accepted, net, from 682 megawatts to 890 megawatts.

Costs Related to Our Products

Total product related costs for the three and nine months ended September 30, 2022 and 2021 was as follows:

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
Product costs of product accepted in the period	$2,344/kW	$2,434/kW	$-90/kW	(3.7)%	$2,438/kW	$2,362/kW	$76/kW	3.2 %
Period costs of manufacturing related expenses not included in product costs (in thousands)	$ 15,496	$ 7,774	$7,722	99.3 %	$ 38,672	$ 19,653	$19,019	96.8 %
Installation costs on product accepted in the period	$465/kW	$726/kW	$-261/kW	(36.0)%	$398/kW	$584/kW	$-186/kW	(31.8)%

Product costs of product accepted decreased approximately $90 per kilowatt, or 3.7%, for the three months ended September 30, 2022 compared to the three months ended September 30, 2021. This decrease in cost is primarily driven by our ongoing cost reduction efforts to reduce material costs, labor and overhead through improved automation of our manufacturing facilities, our increased facility utilization and our ongoing material cost reduction programs with our vendors.

Product costs of product accepted increased approximately $76 per kilowatt, or 3.2%, for the nine months ended September 30, 2022 compared to the nine months ended September 30, 2021. This increase in cost is primarily driven by some of the cost pressures seen in the external inflationary environment with commodity pricing and logistics increasing significantly from one year ago. Our ongoing cost reduction efforts to reduce material costs, labor and overhead through improved automation of our manufacturing facilities, our increased facility utilization and our ongoing material cost reduction programs with our vendors continued but were offset by the temporary increases in cost that we experienced.

Period costs of manufacturing related expenses increased approximately $7.7 million, or 99.3%, for the three months ended September 30, 2022 compared to the three months ended September 30, 2021. 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.

Period costs of manufacturing related expenses increased approximately $19.0 million, or 96.8%, for the nine months ended September 30, 2022 compared to the nine months ended September 30, 2021. 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.

Installation costs on product accepted decreased approximately $261 per kilowatt, or 36.0%, for the three months ended September 30, 2022 as compared to the three months ended September 30, 2021. This decrease in cost is primarily driven by the change in the mix of sites requiring Bloom installation and changes in installation process. Each customer site is different and installation costs can vary due to a number of factors, including site complexity, size, location of gas, etc. As such, installation on a per kilowatt basis can vary significantly from period-to-period. In addition, some customers handle their own installation for which we have little to no installation cost.

Installation costs on product accepted decreased approximately $186 per kilowatt, or 31.8%, for the nine months ended September 30, 2022 as compared to the nine months ended September 30, 2021. This decrease in cost is primarily driven by the change in the mix of sites requiring Bloom installation. Each customer site is different and installation costs can vary due to a number of factors, including site complexity, size, location of gas, etc. As such, installation on a per kilowatt basis can vary significantly from period-to-period. In addition, some customers handle their own installation for which we have little to no installation cost.

Results of Operations

A discussion regarding the comparison of our financial condition and results of operations for the three and nine months ended September 30, 2022 and 2021 is presented below.

Revenue

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
	(dollars in thousands)				(dollars in thousands)			
Product	$ 213,243	$ 128,550	$ 84,693	65.9 %	$ 520,415	$ 413,347	$ 107,068	25.9 %
Installation	22,682	22,172	510	2.3 %	48,964	53,710	(4,746)	(8.8)%
Service	37,347	39,251	(1,904)	(4.9)%	111,012	111,375	(363)	(0.3)%
Electricity	19,002	17,255	1,747	10.1 %	56,158	51,273	4,885	9.5 %
Total revenue	$ 292,274	$ 207,228	$ 85,046	41.0 %	$ 736,549	$ 629,705	$ 106,844	17.0 %

Total Revenue

Total revenue increased by $85.0 million, or 41.0%, for the three months ended September 30, 2022 as compared to the prior year period. This increase was driven by a $84.7 million increase in product revenue, a $1.7 million increase in electricity revenue, a $0.5 million increase in installation revenue, offset by a $1.9 million decrease in service revenue.

Total revenue increased by $106.8 million, or 17.0%, for the nine months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by a $107.1 million increase in product revenue and a $4.9 million increase in electricity revenue, offset by a $4.7 million decrease in installation revenue and a $0.4 million decrease in service revenue.

Product Revenue

Product revenue increased by $84.7 million, or 65.9%, for the three months ended September 30, 2022 as compared to the prior year period. The product revenue increase was driven primarily by a 64.6% increase in product acceptances resulting from higher demand in existing markets and revenue recognized from the PPA 3a Upgrade of $12.7 million.

Product revenue increased by $107.1 million, or 25.9%, for the nine months ended September 30, 2022 as compared to the prior year period. The product revenue increase was driven primarily by a 24.7% increase in product acceptances resulting from higher demand in existing markets and revenue recognized from the PPA IIIa Upgrade of $49.6 million. We expect our product revenue to grow in the future as we expand our addressable markets.

Installation Revenue

Installation revenue increased by $0.5 million, or 2.3%, for the three months ended September 30, 2022 as compared to the prior year period. This increase in installation revenue was driven by the revenue recognized from the PPA IIIa Upgrade of $2.1 million and the change in mix of product acceptances requiring installations by us, as more sites had installation costs in the three months ended September 30, 2022.

Installation revenue decreased by $4.7 million, or 8.8%, for the nine months ended September 30, 2022 as compared to the prior year period. This decrease in installation revenue was driven by the change in mix of product acceptances requiring installations by us, as fewer sites had installation costs in the nine months ended September 30, 2022, offset by the revenue recognized from the PPA IIIa Upgrade of $3.2 million.

Service Revenue

Service revenue decreased by $1.9 million, or 4.9%, for the three months ended September 30, 2022 as compared to the prior year period. This decrease was primarily due to a one-off revenue increase of $2.7 million in the three months ended September 30, 2021 and the impact of product performance guarantees, partially offset by the 64.6% increase in acceptances plus the maintenance contract renewals associated with the increase in our fleet of Energy Servers.

Service revenue decreased by $0.4 million, or 0.3%, for the nine months ended September 30, 2022 as compared to the prior year period. This decrease was primarily due to a one-off revenue increase of $2.7 million in the three months ended September 30, 2021 and the impact of product performance guarantees, partially offset by the 24.7% increase in acceptances plus the maintenance contract renewals associated with the increase in our fleet of Energy Servers. We expect our service revenue to grow in the future.

Electricity Revenue

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

Electricity revenue increased by $1.7 million, or 10.1%, for the three months ended September 30, 2022 as compared to the prior year period due to the increase in installed units as a result of the increase in Managed Services transactions recorded in the second half of fiscal year 2021.

Electricity revenue increased by $4.9 million, or 9.5%, for the nine months ended September 30, 2022 as compared to the prior year period due to the increase in installed units as a result of the increase in Managed Services transactions recorded in the second half of fiscal year 2021.

Cost of Revenue

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
	(dollars in thousands)				(dollars in thousands)			
Product	$ 158,176	$ 93,704	$ 64,472	68.8 %	$ 393,337	$ 289,889	$ 103,448	35.7 %
Installation	28,333	25,616	2,717	10.6 %	57,836	66,756	(8,920)	(13.4)%
Service	41,792	39,586	2,206	5.6 %	124,646	111,269	13,377	12.0 %
Electricity	13,029	11,439	1,590	13.9 %	83,819	32,913	50,906	154.7 %
Total cost of revenue	$ 241,330	$ 170,345	$ 70,985	41.7 %	$ 659,638	$ 500,827	$ 158,811	31.7 %

Total Cost of Revenue

Total cost of revenue increased by $71.0 million, or 41.7%, for the three months ended September 30, 2022 as compared to the prior year period primarily driven by a $64.5 million increase in cost of product revenue, a $2.7 million increase in costs of installation revenue, a $2.2 million increase in cost of service revenue, and a $1.6 million increase in cost of electricity revenue. The increase was primarily driven by the increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which are expected to be brought online in future periods. This increase was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Total cost of revenue increased by $158.8 million, or 31.7%, for the nine months ended September 30, 2022 as compared to the prior year period primarily driven by a $103.4 million increase in cost of product revenue, a $50.9 million increase in cost of electricity revenue, a $13.4 million increase in cost of service revenue, offset by a $8.9 million decrease in costs of installation revenue. The increase was primarily driven by the write-off of old Energy Servers of $44.8 million as a result of the PPA IIIa Upgrade, increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which are expected to be brought online in future periods. This increase was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Cost of Product Revenue

Cost of product revenue increased by $64.5 million, or 68.8%, for the three months ended September 30, 2022 as compared to the prior year period. The cost of product revenue increase was in line with the increase in product revenue and was driven primarily by a 64.6% increase in product acceptances, the sale of new Energy Servers of $5.7 million as a result of the PPA IIIa Upgrade, increased freight charges and other supply chain-related pricing pressures and costs incurred in support of upcoming capacity expansion efforts. This increase was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Cost of product revenue increased by $103.4 million, or 35.7%, for the nine months ended September 30, 2022 as compared to the prior year period. The cost of product revenue increase was driven primarily by a 24.7% increase in product acceptances, the sale of new Energy Servers of $21.6 million as a result of the PPA IIIa Upgrade, increased freight charges and other supply chain-related pricing pressures and costs incurred in support of upcoming capacity expansion efforts. This increase was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Cost of Installation Revenue

Cost of installation revenue increased by $2.7 million, or 10.6%, for the three months ended September 30, 2022 as compared to the prior year period. This increase was driven by the change in mix of product acceptances requiring Bloom Energy installations, as more sites had installation costs in the three months ended September 30, 2022.

Cost of installation revenue decreased by $8.9 million, or 13.4%, for the nine months ended September 30, 2022 as compared to the prior year period. This decrease was driven by the change in mix of product acceptances requiring Bloom Energy installations, as fewer sites had installation costs in the nine months ended September 30, 2022.

Cost of Service Revenue

Cost of service revenue increased by $2.2 million, or 5.6%, for the three months ended September 30, 2022 as compared to the prior year period. This increase was primarily due to the deployment of field replacement units, partially offset by cost reductions and our actions to proactively manage fleet optimizations.

Cost of service revenue increased by $13.4 million, or 12.0%, for the nine months ended September 30, 2022 as compared to the prior year period. This increase was primarily due to the deployment of field replacement units, partially offset by cost reductions and our actions to proactively manage fleet optimizations.

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 $1.6 million, or 13.9%, for the three months ended September 30, 2022 as compared to the prior year period, primarily due to the increase in installed units driven by Managed Services transactions recorded in the second half of fiscal year 2021.

Cost of electricity revenue increased by $50.9 million, or 154.7%, for the nine months ended September 30, 2022 as compared to the prior year period, primarily due to the write-off of old Energy Servers of $44.8 million as a result of the PPA IIIa Upgrade and an increase in installed units driven by Managed Services transactions recorded in the second half of fiscal year 2021.

Gross Profit (Loss) and Gross Margin

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2022	2021	Change	2022	2021	Change
	(dollars in thousands)					
Gross profit (loss):						
Product	$ 55,067	$ 34,846	$ 20,221	$ 127,078	$ 123,458	$ 3,620
Installation	(5,651)	(3,444)	(2,207)	(8,872)	(13,046)	4,174
Service	(4,445)	(335)	(4,110)	(13,634)	106	(13,740)
Electricity	5,973	5,816	157	(27,661)	18,360	(46,021)
Total gross profit (loss)	$ 50,944	$ 36,883	$ 14,061	$ 76,911	$ 128,878	$ (51,967)
Gross margin:						
Product	26 %	27 %		24 %	30 %	
Installation	(25)%	(16)%		(18)%	(24)%	
Service	(12)%	(1)%		(12)%	— %	
Electricity	31 %	34 %		(49)%	36 %	
Total gross margin	17 %	18 %		10 %	20 %	

Total Gross Profit

Gross profit improved by $14.1 million in the three months ended September 30, 2022 as compared to the prior year period which was primarily driven by the $20.2 million increase in product gross profit, driven by an 64.6% increase in acceptances and our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Gross profit decreased by $52.0 million in the nine months ended September 30, 2022 as compared to the prior year period which was primarily driven by the $46.0 million decrease in electricity gross profit primarily due to the write-off of old Energy Servers of $44.8 million as a result of the PPA IIIa Upgrade; the $13.7 million decrease in service gross profit due to a 24.7% increase in acceptances plus the maintenance contract renewals associated with the increase in our fleet of Energy Servers. This decrease was partially offset by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities.

Product Gross Profit

Product gross profit increased by $20.2 million in the three months ended September 30, 2022 as compared to the prior year period. The increase is primarily driven by an 64.6% increase in product acceptances, revenue recognized from the PPA IIIa Upgrade of $12.7 million and our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities, partially offset by increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which are expected to be brought online in future periods.

Product gross profit increased by $3.6 million in the nine months ended September 30, 2022 as compared to the prior year period. The increase is primarily driven by a 24.7% increase in product acceptances, revenue recognized from the PPA IIIa Upgrade of $49.6 million and our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through increased volume, improved processes and automation at our manufacturing facilities. This increase was partially offset by increased freight charges and other supply chain-related pricing pressures and costs incurred to support capacity expansion efforts which will be brought online in future periods.

Installation Gross Loss

Installation gross loss worsened by $2.2 million in the three months ended September 30, 2022 as compared to the prior year period driven by the change in site mix and other site related factors such as site complexity, size, local ordinance requirements and location of the utility interconnect.

Installation gross loss improved by $4.2 million in the nine months ended September 30, 2022 as compared to the prior year period driven by the change in site mix and other site related factors such as site complexity, size, local ordinance requirements and location of the utility interconnect.

Service Gross (Loss) Profit

Service gross loss worsened by $4.1 million in the three months ended September 30, 2022 as compared to the prior year period. This was primarily due to deployments of field replacement units and the impact of product performance guarantees offset by cost reductions and our actions to proactively manage fleet optimizations.

Service gross loss worsened by $13.7 million in the nine months ended September 30, 2022 as compared to the prior year period. This was primarily due to deployments of field replacement units and the impact of product performance guarantees offset by cost reductions and our actions to proactively manage fleet optimizations.

Electricity Gross (Loss) Profit

Electricity gross profit increased by $0.2 million in the three months ended September 30, 2022 as compared to the prior year period mainly due to the increase in Managed Services transactions recorded in the second half of fiscal year 2021.

Electricity gross profit decreased by $46.0 million in the nine months ended September 30, 2022 as compared to the prior year period mainly due to the write-off of old Energy Servers from the PPA IIIa Upgrade of $44.8 million partially offset by the increase in Managed Services transactions recorded in the second half of fiscal year 2021.

Operating Expenses

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
	(dollars in thousands)				(dollars in thousands)			
Research and development	$ 36,146	$ 27,634	$ 8,512	30.8 %	$ 112,286	$ 76,602	$ 35,684	46.6 %
Sales and marketing	23,275	20,124	3,151	15.7 %	65,084	62,803	2,281	3.6 %
General and administrative	44,115	33,014	11,101	33.6 %	119,965	90,470	29,495	32.6 %
Total operating expenses	$ 103,536	$ 80,772	$ 22,764	28.2 %	$ 297,335	$ 229,875	$ 67,460	29.3 %

Total Operating Expenses

Total operating expenses increased by $22.8 million in the three months ended September 30, 2022 as compared to the prior year period. This increase was primarily attributable to our continued investment in R&D capabilities to support our technology roadmap, our investment in business development, and an increase in General and Administrative outside services.

Total operating expenses increased by $67.5 million in the nine months ended September 30, 2022 as compared to the prior year period. This increase was primarily attributable to our continued investment in R&D capabilities to support our technology roadmap, our investment in business development, and an increase in General and Administrative outside services.

Research and Development

Research and development expenses increased by $8.5 million in the three months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits of $4.7 million to expand our employee base in order to support our technology roadmap and cost reduction initiatives, including our hydrogen, electrolyzer, marine and biogas solutions.

Research and development expenses increased by $35.7 million in the nine months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits of $13.3 million to expand our employee base in order to support our technology roadmap, including our hydrogen, electrolyzer, marine and biogas solutions.

Sales and Marketing

Sales and marketing expenses increased by $3.2 million in the three months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits of $4.3 million to expand our U.S. and international sales force, increased investment in brand and product management, partially offset by a decrease in outside services.

Sales and marketing expenses increased by $2.3 million in the nine months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits of $8.8 million to expand our U.S. and international sales force, increased investment in brand and product management, partially offset by a decrease in outside services.

General and Administrative

General and administrative expenses increased by $11.1 million in the three months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits of $4.0 million and outside services and an increase in factoring of receivables.

General and administrative expenses increased by $29.5 million in the nine months ended September 30, 2022 as compared to the prior year period. This increase was primarily driven by increases in employee compensation and benefits of $10.6 million, outside services and an increase in factoring of receivables.

Stock-Based Compensation

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
	(dollars in thousands)				(dollars in thousands)			
Cost of revenue	$ 4,982	$ 2,945	$ 2,037	69.2 %	$ 13,609	$ 9,749	$ 3,860	39.6 %
Research and development	4,818	5,678	(860)	(15.1)%	25,113	15,876	9,237	58.2 %
Sales and marketing	3,948	4,391	(443)	(10.1)%	13,528	12,486	1,042	8.3 %
General and administrative	10,283	7,952	2,331	29.3 %	30,688	19,198	11,490	59.8 %
Total stock-based compensation	$ 24,031	$ 20,966	$ 3,065	14.6 %	$ 82,938	$ 57,309	$ 25,629	44.7 %

Total stock-based compensation for the three months ended September 30, 2022 compared to the prior year period increased by $3.1 million primarily driven by the efforts to expand our employee base across all of the Company's functions.

Total stock-based compensation for the nine months ended September 30, 2022 compared to the prior year period increased by $25.6 million primarily driven by the efforts to expand our employee base across all of the Company's functions.

Other Income and Expense

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2022	2021	Change	2022	2021	Change
			(in thousands)			
Interest income	$ 1,109	$ 72	$ 1,037	$ 1,364	$ 222	$ 1,142
Interest expense	(13,099)	(14,514)	1,415	(41,000)	(43,798)	2,798
Other income, net	4,472	2,011	2,461	254	1,948	(1,694)
Loss on extinguishment of debt	—	—	—	(4,233)	—	(4,233)
Gain (loss) on revaluation of embedded derivatives	54	(184)	238	623	(1,644)	2,267
Total	$ (7,464)	$ (12,615)	$ 5,151	$ (42,992)	$ (43,272)	$ 280

Interest Income

Interest income is derived from investment earnings on our cash balances primarily from money market funds. The increase in interest income was due to the increase in cash balances for money market funds for the three and nine months ended September 30, 2022 as compared to the prior year periods.

Interest Expense

Interest expense is from our debt held by third parties.

Interest expense for the three months ended September 30, 2022 as compared to the prior year period decreased by $1.4 million. This decrease was primarily due to lower interest expense as a result of our repayment of the 7.5% Term Loan due September 2028 and refinancing our notes at a lower interest rate.

Interest expense for the nine months ended September 30, 2022 as compared to the prior year period decreased by $2.8 million. This decrease was primarily due to lower interest expense as a result of our repayment of the 7.5% Term Loan due September 2028 and refinancing our notes at a lower interest rate.

Other Income, net

Other income, net is primarily derived from gain from SK Option revaluation, investments in joint ventures, the impact of foreign currency translation, and adjustments to fair value for derivatives.

Other income, net for the three months ended September 30, 2022 as compared to the prior year period increased by $2.5 million primarily as a result of the gain on the revaluation of the Option to purchase Class A common stock upon receipt of notice of exercise from SK ecoplant on August 10, 2022 of $7.9 million, partially offset by the loss on foreign currency translation of $3.6 million.

Other income, net for the nine months ended September 30, 2022 as compared to the prior year period decreased by $1.7 million primarily as a result of the loss on remeasurement of our equity investment in the Bloom Energy Japan joint venture, loss on foreign currency translation of $5.3 million, partially offset by the gain on the revaluation of the Option to purchase Class A common stock upon receipt of notice of exercise from SK ecoplant on August 10, 2022 of $9.0 million.

Loss on Extinguishment of Debt

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 7.5% Term Loan due September 2028 as part of the PPA IIIa Upgrade.

Gain (Loss) on Revaluation of Embedded Derivatives

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

Gain on revaluation of embedded derivatives for the three months ended September 30, 2022 as compared to the prior year period increased by $0.2 million due to the change in fair value of our embedded EPP derivatives in our sales contracts

Gain on revaluation of embedded derivatives for the nine months ended September 30, 2022 as compared to the prior year period increased by $2.3 million due to the change in fair value of our embedded EPP derivatives in our sales contracts.

Net Loss Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

	Three Months Ended September 30,		Change		Nine Months Ended September 30,		Change	
	2022	2021	Amount	%	2022	2021	Amount	%
	(dollars in thousands)							
Net loss attributable to noncontrolling interests	$ (3,315)	$ (4,309)	$ (994)	(23.1)%	$ (9,768)	$ (13,733)	$ (3,965)	(28.9)%
Net (loss) income attributable to redeemable noncontrolling interest	$ —	$ 17	$ 17	(100.0)%	$ (300)	$ (9)	$ 291	3,233.3 %

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

Net loss attributable to noncontrolling interests for the three months ended September 30, 2022 as compared to the prior year period changed by $1.0 million due to decreased losses in our PPA Entities, which are allocated to our noncontrolling interests.

Net loss attributable to noncontrolling interests for the nine months ended September 30, 2022 as compared to the prior year period changed by $4.0 million due to decreased losses in our PPA Entities, which are allocated to our noncontrolling interests.

Changes in net (loss) income attributable to redeemable noncontrolling interest for the three and nine months ended September 30, 2022 and 2021 were immaterial.

Off-Balance Sheet Arrangements

We include in our condensed consolidated financial statements all assets and liabilities and results of operations of our PPA Entities that we have entered into and over which we have substantial control. For additional information, see Part II, Item 8, Note 11 - *Portfolio Financings* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

We have not entered into any other transactions that have generated relationships with unconsolidated entities or financial partnerships or special purpose entities. Accordingly, as of September 30, 2022 and December 31, 2021 we had no off-balance sheet arrangements.

Critical Accounting Policies and Estimates

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

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

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

Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 provides a more complete discussion of our critical accounting policies and estimates. During the nine months ended September 30, 2022, there were no significant changes to our critical accounting policies and estimates.

ITEM 3 - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There were no significant changes to our quantitative and qualitative disclosures about market risk during the nine months ended September 30, 2022. Please refer to Part II, Item 7A, *Quantitative and Qualitative Disclosures about Market Risk* included in our Annual Report on Form 10-K for our fiscal year ended December 31, 2021 for a more complete discussion of the market risks we consider.

ITEM 4 - CONTROLS AND PROCEDURES

During the three months ended September 30, 2022, there were no changes in our internal controls over financial reporting, which were identified in connection with management's evaluation required by paragraph (d) of Rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

As of September 30, 2022 based on evaluation of the effectiveness of our disclosure controls and procedures performed by our Chief Executive Officer and Chief Financial Officer (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) it was concluded that our disclosure controls and procedures were effective.

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, 2021.

Part II

ITEM 1 - LEGAL PROCEEDINGS

We are, and from time to time we may become, involved in legal proceedings or be subject to claims arising in the ordinary course of our business. For a discussion of legal proceedings, see Part II, Item 8 *Note 13 - Commitments and Contingencies* in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 and 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

There were no material changes in risk factors as disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

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

Not applicable.

ITEM 6 - EXHIBITS

			Incorporated by Reference			
Exhibit Number		**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**
3.1		Amended and Restated Bylaws of Bloom Energy Corporation (effective as of August 10, 2022)	8-K	001-38598	3.1	8/16/2022
31.1		Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities and Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith
31.2		Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities and Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith
32.1	**	Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				Filed herewith
101.INS		XBRL Instance Document- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				Filed herewith
101.SCH		Inline XBRL Taxonomy Extension Schema Document				Filed herewith
101.CAL		Inline XBRL Taxonomy Extension Calculation Linkbase Document				Filed herewith
101.DEF		Inline XBRL Taxonomy Extension Definition Linkbase Document				Filed herewith
101.LAB		Inline XBRL Taxonomy Extension Label Linkbase Document				Filed herewith
101.PRE		Inline XBRL Taxonomy Extension Presentation Linkbase Document				Filed herewith
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				

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

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

SIGNATURES

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

BLOOM ENERGY CORPORATION

Date: November 3, 2022

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

Date: November 3, 2022

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

EXHIBIT 31.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER

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

OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED,

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

I, KR Sridhar, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter period ended September 30, 2022 of Bloom Energy Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 3, 2022

By: /s/ KR Sridhar

KR Sridhar

President and Chief Executive Officer

(Principal Executive Officer)

EXHIBIT 31.2

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

I, Gregory Cameron, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the quarter period ended September 30, 2022 of Bloom Energy Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

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

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

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

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

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

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

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

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

Date: November 3, 2022

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

EXHIBIT 32.1

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

The following certifications are hereby made in connection with the Quarterly Report on Form 10-Q for the quarter period ended September 30, 2022 of Bloom Energy Corporation (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"):

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

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

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

ate: November 3, 2022

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

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

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

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

Date: November 3, 2022

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