UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2023

OR

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

For the transition period from _________ to _________

Commission file number 001-39546

Proterra Inc
(Exact name of registrant as specified in its charter)

Delaware	**90-2099565**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1815 Rollins Road **Burlingame, California**	**94010**
(Address of Principal Executive Offices)	(Zip Code)

(864) 438-0000
Registrant's telephone number, including area code

N/A

(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value per share	PTRA	The Nasdaq Stock Market LLC

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

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 Act). Yes ☐ No ☒

The registrant had outstanding 227.8 million shares of common stock as of August 4, 2023.

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Explanatory Note – Certain Defined Terms

Unless otherwise stated in this Quarterly Report on Form 10-Q (the “Quarterly Report”) or the context otherwise requires, references to:

- “ArcLight” means ArcLight Clean Transition Corp., a Cayman Islands exempted company, prior to the consummation of the Domestication;
- “Business Combination” means the Domestication, the Merger and the other transactions contemplated by the Merger Agreement, collectively, including the PIPE Financing;
- “Closing” means the closing of the Business Combination;
- “Closing Date” means June 14, 2021;
- “common stock” means the common stock, par value $0.0001 per share, of Proterra;
- “Convertible Notes” means the Secured Convertible Promissory Notes that Legacy Proterra issued in August 2020, as amended and restated on March 31, 2023;
- “Domestication” means the transfer by way of continuation and deregistration of ArcLight from the Cayman Islands and the continuation and domestication of ArcLight as a corporation incorporated in the State of Delaware;
- “initial public offering” means ArcLight’s initial public offering that was consummated on September 25, 2020;
- “Legacy Proterra” means Proterra Inc (now known as Proterra Operating Company, Inc.), a Delaware corporation, prior to the consummation of the Business Combination;
- “Merger” means the merger of Phoenix Merger Sub with and into Legacy Proterra pursuant to the Merger Agreement, with Legacy Proterra as the surviving company in the Merger and, after giving effect to such Merger, Legacy Proterra becoming a wholly-owned subsidiary of Proterra;
- “Merger Agreement” means that certain Merger Agreement, dated as of January 11, 2021 (as may be amended, supplemented or otherwise modified from time to time), by and among ArcLight, Phoenix Merger Sub and Legacy Proterra;
- “Note Purchase Agreement” means the Note Purchase Agreement, dated as of August 4, 2020, by and among Legacy Proterra, the investors from time to time party thereto, the guarantors from time to time party thereto and CSI GP I LLC, as collateral agent, as amended on August 31, 2020 and further amended on March 31, 2023;
- “Phoenix Merger Sub” refers to Phoenix Merger Sub, Inc., a Delaware corporation and a wholly-owned direct subsidiary of ArcLight;
- “PIPE Financing” means the transactions contemplated by the Subscription Agreements, pursuant to which the PIPE Investors collectively subscribed for 41,500,000 shares of common stock for an aggregate purchase price of $415,000,000 in connection with the Closing;
- “PIPE Investors” means the investors who participated in the PIPE Financing and entered into the Subscription Agreements;
- “Proterra” means ArcLight upon and after Closing;
- “Proterra OpCo” means Proterra Operating Company, Inc. (formerly known as Proterra Inc prior to the consummation of the Business Combination);

- “Senior Credit Facility” means the Loan, Guaranty and Security Agreement dated as of May 8, 2019, by and among Legacy Proterra, the lenders from time to time party thereto and Bank of America, N.A., as administrative agent, as amended on August 4, 2020, June 16, 2021, and April 3, 2023; and

- “Subscription Agreements” means the subscription agreements, entered into by ArcLight and each of the PIPE Investors in connection with the PIPE Financing.

In addition, unless otherwise indicated or the context otherwise requires, references in this Quarterly Report to the “Company,” “we,” “us,” “our” and other similar terms refer to Legacy Proterra prior to the Business Combination and to Proterra and its consolidated subsidiaries after giving effect to the Business Combination.

Forward-Looking Statements

This Quarterly Report contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). This Quarterly Report contains forward-looking statements regarding, among other things, our plans, strategies and prospects, both business and financial. These statements are based on the beliefs and assumptions of our management. We also may provide forward-looking statements in oral statements or other written materials released to the public. Although we believe that our plans, intentions and expectations reflected in or suggested by these forward-looking statements are reasonable, we cannot assure you that we will achieve or realize these plans, intentions or expectations. Forward-looking statements are inherently subject to risks, uncertainties and assumptions. Generally, statements that are not historical facts, including statements concerning possible or assumed future actions, business strategies, events or results of operations, are forward-looking statements. These statements may be preceded by, followed by or include the words “believes”, “estimates”, “expects”, “projects”, “forecasts”, “objectives”, “goals”, “aims”, “continue”, “predict”, “would”, “could’, “may”, “will”, “should”, “seeks”, “plans”, “scheduled”, “anticipates” or “intends” or similar expressions. Forward-looking statements contained in this Quarterly Report may include, for example, statements about:

- the outcome of the Company’s Chapter 11 Cases in the Bankruptcy Court;
- the approval of the use of cash collateral by the Bankruptcy Court and the period over which we anticipate our existing cash and cash equivalents will be sufficient to fund our Chapter 11 Cases, operating expenses and capital expenditure requirements;
- the diversion of management’s attention and consumption of resources as a result of the Chapter 11 Cases;
- our financial and business performance, including business metrics;
- our ability to continue as a going concern;
- availability of additional capital to support business growth and our ability to maintain adequate operational and financial resources and generate sufficient cash flows;
- changes in our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects and plans;
- regulations that we are subject to, the impact of unfavorable changes to such regulations, or our ability to comply with such regulations;
- expectations regarding corporate, state, federal and international mandates/commitments;
- our success in retaining or recruiting, or changes required in, our officers, key employees or directors, and our ability to attract and retain key personnel;
- the anticipated success of our business, including our most recent business expansion with Proterra Powered and Proterra Energy, and our ability to attract the customers and business partners we expect;
- forecasts regarding long-term end-customer adoption rates and demand for our products in markets that are new and rapidly evolving and our ability to meet demand for our products;
- our ability to compete successfully against current and future competitors in light of intense and increasing competition in the commercial vehicle electrification market, including battery systems for transit buses and other commercial vehicle uses;
- our ability to improve operational efficiency, streamline supply chain and distribution logistics, reduce organizational complexity and reduce facility costs;;

- the availability of government economic incentives and government funding for commercial vehicle electrification, including public transit upon which our transit business is significantly dependent, and other commercial uses for our battery systems;
- willingness of corporate and other public transportation providers and other commercial vehicle end users to adopt and fund the purchase of electric vehicles for mass transit and other commercial uses;
- availability of a limited number of suppliers for our products and services and their desire and/or ability to satisfy our supply demands, and our dependence on our business suppliers, particularly as we build out new facilities;
- material losses and costs from product warranty claims, recalls, or remediation of electric transit buses or our battery systems for real or perceived deficiencies or from customer satisfaction campaigns;
- increases in costs, disruption of supply, or shortage of materials, particularly lithium-ion cells and wiring harnesses, and drivetrain components;
- our dependence on a small number of customers that fluctuate from year to year, and ability to add new customers or expand sales to our existing customers;
- rapid evolution of our industry and technology, and related unforeseen changes, including developments in alternative technologies and powertrains or improvements in the internal combustion engine that could adversely affect the demand for our electric transit buses;
- development, maintenance and growth of strategic relationships in the Proterra Powered or Proterra Energy business, identification of new strategic relationship opportunities, or formation strategic relationships;
- accident or safety incidents involving our buses, battery systems, electric drivetrains, high-voltage systems or charging solutions;
- product liability claims, which could harm our financial condition and liquidity if we are not able to successfully defend or insure against such claims;
- changes to U.S. trade policies, including new tariffs or the renegotiation or termination of existing trade agreements or treaties;
- various environmental and safety laws and regulations that could impose substantial costs upon us and negatively impact our ability to operate our manufacturing facilities; outages and disruptions of our services if we fail to maintain adequate security and supporting infrastructure as we scale our information technology systems;
- ability to protect our intellectual property and defend intellectual property rights claims made by third parties;
- developments and projections relating to our competitors and industry;
- the potential for our business development efforts to maximize the potential value of our portfolio and our related plans and strategy;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our ability to develop and maintain effective internal controls and procedures and remediate the material weaknesses we have identified in our internal controls;
- our expectations with respect to tax treatment, including with respect to tax incentives and credits;

- cyber-attacks and security vulnerabilities; and
- the continuing impacts of the macroeconomic conditions, such as rising inflation and interest rates, uncertain credit and global financial markets, including recent and potential bank failures, and supply chain disruptions, and geopolitical events, such as the conflict between Russia and Ukraine and related sanctions, on the foregoing.

These forward-looking statements are based on information available as of the date of this Quarterly Report, and current expectations, forecasts and assumptions, and involve a number of judgments, risks and uncertainties. Important factors could cause actual results to differ materially from those indicated or implied by forward-looking statements such as those contained in documents we have filed with the Securities and Exchange Commission (the “SEC”). Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date, and we do not undertake any obligation to update forward-looking statements to reflect events or circumstances after the date they were made, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, investments or similar transactions.

As a result of a number of known and unknown risks and uncertainties, our actual results or performance may be materially different from those expressed or implied by these forward-looking statements. For a discussion of the risks involved in our business and investing in our common stock, see Part II, Item 1A. titled “Risk Factors.”

Should one or more of these risks or uncertainties materialize, or should any of the underlying assumptions prove incorrect, actual results may vary in material respects from those expressed or implied by these forward-looking statements. You should not place undue reliance on these forward-looking statements.

Summary of Risk Factors

The below summary of risk factors provides an overview of many of the risks we are exposed to in the normal course of our business activities. As a result, the following summary of risks does not contain all of the information that may be important to you, and you should read the summary of risks together with the more detailed discussion of risks set forth in Part II, Item 1A under the heading “Risk Factors,” and elsewhere in this Quarterly Report. Additional risks, beyond those summarized below or discussed elsewhere in this Quarterly Report, may apply to our activities or operations as currently conducted or as we may conduct them in the future or in the markets in which we operate or may in the future operate. Consistent with the foregoing, we are exposed to a variety of risks, including risks associated with the following:

- We are subject to the risks and uncertainties associated with Chapter 11 proceedings, including the approval by the Bankruptcy Court of our use of cash collateral, and operating under Bankruptcy Court protection for a long period of time may harm our business.
- We may not be able to obtain confirmation of a Chapter 11 plan of reorganization or complete any Bankruptcy Court-approved sales of our Company or assets, or we may not be able to realize adequate consideration for such sales.
- We may be subject to claims that will not be discharged in the Chapter 11 proceedings, which could have a material adverse effect on our financial conditions and results of operations.
- We may experience increased levels of employee attrition as a result of the Chapter 11 proceedings.
- Our post-bankruptcy capital structure is yet to be determined, and any changes to our capital structure may have a material adverse effect on existing debt and security holders, including holders of our common stock.
- The Chapter 11 proceedings may cause our common stock to decrease in value materially or may render our common stock worthless. Trading in shares of our common stock during the pendency of the Chapter 11 proceedings is highly speculative and an investor could lose all or part of your investment.
- There is substantial doubt about our ability to continue as a going concern for a period of 12 months from the date of this Quarterly Report on Form 10-Q, and our independent registered public accounting firm's audit report included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 included an explanatory paragraph expressing substantial doubt about our ability to continue as a going concern, indicating the possibility we may not be able to operate in the future.
- We will require additional capital to support our business activities and business growth, which may be dilutive to our stockholders, contain restrictions or covenants which may restrict and impact our business and financing activities, and such capital might not be available on a timely basis, or on terms acceptable to us, if at all.
- If our estimates or judgments relating to our critical accounting policies prove to be incorrect or financial reporting standards or interpretations change, our operating results could be adversely affected.
- We have identified material weaknesses in our internal control over financial reporting and may identify additional material weaknesses in the future.
- We have a history of net losses, have experienced rapid growth and anticipate increasing our operating expenses in the future, and may not achieve or sustain positive gross margin or profitability in the future.
- Our operating results have and may fluctuate from quarter to quarter, which makes our future results difficult to predict.

- Because many of the markets in which we compete are new and rapidly evolving, including consolidation of industry players, it is difficult to forecast long-term end-customer adoption rates and demand for our products, and our ability to meet demand for our products.

- Our business is significantly dependent on government funding and economic incentives for public transit and commercial electric vehicles, and the unavailability, reduction, or elimination of government economic incentives would have an adverse effect on our business, prospects, financial condition, and operating results.

- Our business is dependent on the continued adoption of electrification in the commercial vehicle market and the continued development of infrastructure to support increased electrification by governments, utilities and end users.

- We face intense and increasing competition in the transit bus market and may not be able to compete successfully against current and future competitors, which could adversely affect our business, revenue growth, and market share.

- We have been and may continue to be impacted by macroeconomic conditions such as the rising inflation and interest rates, uncertain credit and global financial markets, including the recent and potential bank failures, and supply chain disruption and geopolitical events, such as the conflict between Russia and Ukraine and related sanctions.

- The growth of our business is dependent upon the willingness of corporate and other public transportation providers to adopt and fund the purchase of electric vehicles.

- Our dependence on a limited number of suppliers for certain product inputs introduces significant risk that could have adverse effects on our financial condition and operating results.

- We have a long sales, production, and technology development cycle for new public transit customers, which may create fluctuations in whether and when revenue is recognized and may have an adverse effect on our business.

- We could incur material losses and costs from product warranty claims, recalls, or remediation of electric transit buses for real or perceived deficiencies or from customer satisfaction campaigns.

- Our revenue has in the past depended, and will likely continue to depend, on a small number of customers that fluctuate from year to year, and failure to add new customers or expand sales to our existing customers could have an adverse effect on our operating results for a particular period.

- Our business is subject to substantial regulations and compliance programs, which are evolving, and unfavorable changes or failure by us to comply with these regulations and compliance programs could have an adverse effect on our business.

- Our business could be adversely affected from an accident or safety incident involving our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses or defaults in the materials or workmanship of our composite bus bodies or other components.

Part I. Financial Information

Item 1. Financial Statements

PROTERRA INC
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	June 30, 2023 (Unaudited)	December 31, 2022 *
Assets:		
Cash and cash equivalents	$ 64,201	$ 73,695
Accounts receivable, net	81,907	130,337
Short-term investments	156,615	224,359
Inventory	292,247	169,567
Prepaid expenses and other current assets	34,202	50,893
Deferred cost of goods sold	3,332	4,304
Restricted cash, current	12,565	12,565
Total current assets	645,069	665,720
Property, plant, and equipment, net	110,706	107,552
Operating lease right-of-use assets	16,986	20,274
Long-term inventory prepayment	10,000	10,000
Other assets	39,420	36,913
Total assets	$ 822,181	$ 840,459
Liabilities and Stockholders' Equity:		
Accounts payable	$ 139,315	$ 57,822
Accrued liabilities	23,573	33,551
Deferred revenue, current	34,930	30,017
Operating lease liabilities, current	5,032	6,876
Debt, current	180,629	122,692
Derivative liability	81,300	—
Total current liabilities	464,779	250,958
Deferred revenue, non-current	52,945	37,381
Operating lease liabilities, non-current	16,430	18,098
Other long-term liabilities	22,532	17,164
Total liabilities	556,686	323,601
Commitments and contingencies (Note 6)		
Stockholders' equity:		
Common stock, $0.0001 par value; 1,000,000 shares authorized and 227,770 shares issued and outstanding as of June 30, 2023 (unaudited); 500,000 shares authorized and 226,265 shares issued and outstanding as of December 31, 2022	22	22
Preferred stock, $0.0001 par value; 10,000 shares authorized and zero shares issued and outstanding as of June 30, 2023 (unaudited); 10,000 shares authorized, zero shares issued and outstanding as of December 31, 2022	—	—
Additional paid-in capital	1,636,650	1,613,556
Accumulated deficit	(1,371,146)	(1,096,175)
Accumulated other comprehensive loss	(31)	(545)
Total stockholders' equity	265,495	516,858
Total liabilities and stockholders' equity	$ 822,181	$ 840,459

*: Derived from audited Consolidated Financial Statements.

See accompanying notes to unaudited condensed consolidated financial statements.

PROTERRA INC

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (UNAUDITED)
(in thousands, except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Product revenue	$ 77,103	$ 70,256	$ 147,099	$ 124,427
Parts and other service revenue	8,611	4,308	18,144	8,718
Total revenue	85,714	74,564	165,243	133,145
Product cost of goods sold	92,390	69,109	171,441	126,335
Parts and other service cost of goods sold	5,711	4,900	12,747	9,258
Total cost of goods sold	98,101	74,009	184,188	135,593
Gross profit (loss)	(12,387)	555	(18,945)	(2,448)
Research and development	14,922	14,904	33,446	26,706
Selling, general and administrative	35,562	31,705	71,448	60,092
Total operating expenses	50,484	46,609	104,894	86,798
Loss from operations	(62,871)	(46,054)	(123,839)	(89,246)
Interest expense, net	3,938	6,951	11,192	13,830
(Gain) loss on debt extinguishment	—	(10,201)	177,939	(10,201)
Gain on valuation of derivative liability	(33,578)	—	(33,578)	—
Other expense (income), net	(2,237)	(983)	(4,421)	(976)
Loss before income taxes	(30,994)	(41,821)	(274,971)	(91,899)
Provision for income taxes	—	—	—	—
Net loss	$ (30,994)	$ (41,821)	$ (274,971)	$ (91,899)
Net loss per share of common stock:				
Basic	$ (0.14)	$ (0.19)	$ (1.21)	$ (0.41)
Diluted	$ (0.14)	$ (0.38)	$ (1.21)	$ (0.56)
Weighted average shares used in per share computation:				
Basic	227,282	223,745	226,848	223,015
Diluted	227,282	248,876	226,848	247,870

See accompanying notes to unaudited condensed consolidated financial statements.

PROTERRA INC
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS (UNAUDITED)
(in thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Net loss	$ (30,994)	$ (41,821)	$ (274,971)	$ (91,899)
Other comprehensive income (loss), net of taxes:				
Available-for-sales securities:				
Unrealized gain (loss) on available-for-sale securities	(94)	(465)	514	(2,106)
Other comprehensive income (loss), net of taxes	(94)	(465)	514	(2,106)
Total comprehensive loss, net of taxes	$ (31,088)	$ (42,286)	$ (274,457)	$ (94,005)

See accompanying notes to unaudited condensed consolidated financial statements.

PROTERRA INC
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (UNAUDITED)
(in thousands)

Six Months Ended June 30, 2023	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total
Balance, December 31, 2022	226,265	$ 22	$ 1,613,556	$ (1,096,175)	$ (545)	$ 516,858
Issuance of stock upon exercise of options and RSU release	588	—	113	—	—	113
Stock-based compensation	—	—	4,314	—	—	4,314
Debt extinguishment fair value adjustment	—	—	(7,200)	—	—	(7,200)
Net loss	—	—	—	(243,977)	—	(243,977)
Other comprehensive income, net of taxes	—	—	—	—	608	608
Balance, March 31, 2023	226,853	22	1,610,783	(1,340,152)	63	270,716
Issuance of stock upon RSU release	331	—	—	—	—	—
Stock issuance for employee stock purchase plan	586	—	662	—	—	662
Reclassification of liability upon charter amendment	—	—	20,800	—	—	20,800
Stock-based compensation	—	—	4,405	—	—	4,405
Net loss	—	—	—	(30,994)	—	(30,994)
Other comprehensive loss, net of taxes	—	—	—	—	(94)	(94)
Balance, June 30, 2023	227,770	$ 22	$ 1,636,650	$ (1,371,146)	$ (31)	$ 265,495

Six Months Ended June 30, 2022	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total
Balance, December 31, 2021	221,960	$ 22	$ 1,578,943	$ (858,225)	$ (588)	$ 720,152
Issuance of stock upon exercise of options and RSU release	743	—	1,833	—	—	1,833
Stock issuance for employee stock purchase plan	—	—	—	—	—	—
Stock-based compensation	—	—	4,642	—	—	4,642
Net loss	—	—	—	(50,078)	—	(50,078)
Other comprehensive loss, net of taxes	—	—	—	—	(1,641)	(1,641)
Balance, March 31, 2022	222,703	22	1,585,418	(908,303)	(2,229)	674,908
Issuance of stock upon exercise of options and RSU release	1,951	—	6,011	—	—	6,011
Stock issuance for employee stock purchase plan	325	—	1,502	—	—	1,502
Stock-based compensation	—	—	6,315	—	—	6,315
Net loss	—	—	—	(41,821)	—	(41,821)
Other comprehensive loss, net of taxes	—	—	—	—	(465)	(465)
Balance, June 30, 2022	224,979	$ 22	$ 1,599,246	$ (950,124)	$ (2,694)	$ 646,450

See accompanying notes to unaudited condensed consolidated financial statements.

PROTERRA INC

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

	Six Months Ended June 30,	
	2023	2022
Cash flows from operating activities:		
Net loss	$ (274,971)	$ (91,899)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization	9,594	6,672
Stock-based compensation	8,719	10,957
Amortization of debt discount and issuance costs	3,752	6,833
Accretion of debt PIK interest	4,912	3,665
(Gain) loss on debt extinguishment	177,939	(10,007)
Gain on valuation of derivative liability	(33,578)	—
Others	(2,810)	53
Changes in operating assets and liabilities:		
Accounts receivable	48,431	(1,026)
Inventory	(122,680)	(33,979)
Prepaid expenses and other current assets	16,690	(1,792)
Deferred cost of goods sold	973	(2,139)
Operating lease right-of-use assets and liabilities	(224)	372
Other assets	(2,547)	(11,830)
Accounts payable and accrued liabilities	71,419	3,259
Deferred revenue, current and non-current	20,476	3,966
Other non-current liabilities	4,963	197
Net cash used in operating activities	(68,942)	(116,698)
Cash flows from investing activities:		
Purchase of investments	(154,598)	(297,672)
Proceeds from maturities of investments	226,000	316,000
Purchase of property and equipment	(9,375)	(27,577)
Net cash provided by (used in) investing activities	62,027	(9,249)
Cash flows from financing activities:		
Repayment of government grants	—	(700)
Proceeds from exercise of stock options	113	7,844
Proceeds from employee stock purchase plan	662	1,502
Other financing activities	(3,354)	(16)
Net cash provided by (used in) financing activities	(2,579)	8,630
Net decrease in cash and cash equivalents, and restricted cash	(9,494)	(117,317)
Cash and cash equivalents, and restricted cash at the beginning of period	86,260	182,604
Cash and cash equivalents, and restricted cash at the end of period	$ 76,766	$ 65,287
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 4,352	$ 4,155
Cash paid for income taxes	—	—
Non-cash investing and financing activity:		
Accrued capital expenditures in accounts payable and accrued liabilities	$ 7,118	$ 4,545
Non-cash transfer of assets to inventory	—	515
Reclassification of derivative liability upon charter amendment	$ 20,800	$ —

See accompanying notes to unaudited condensed consolidated financial statements.

NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

Organization and Description of Business

Proterra Inc ("Proterra" or the "Company") is a leading developer and producer of zero-emission electric vehicle and EV technology solutions for commercial application. Proterra designs, develops, manufactures, and sells electric transit buses as an original equipment manufacturer for North American public transit agencies, airports, universities, and other commercial transit fleets. It also designs, develops, manufactures, sells, and integrates proprietary battery systems and electrification solutions for global commercial vehicle manufacturers. Additionally, Proterra provides fleet-scale, high-power charging solutions for its customers. Proterra is headquartered in Burlingame, California, and has manufacturing and product development facilities in Burlingame and City of Industry, California, and Greenville and Greer, South Carolina. The Company has consolidated bus production in Greenville, South Carolina and is in the process of consolidating battery production in Greer, South Carolina.

Proterra Operating Company, Inc. ("Proterra OpCo" and formerly known as Proterra Inc prior to the consummation of the Business Combination ("Legacy Proterra")) was originally formed in June 2004 as a Colorado limited liability company and converted to a Delaware corporation in February 2010. On June 14, 2021, Legacy Proterra consummated the transactions contemplated by the Merger Agreement, by and among ArcLight Clean Transition Corp. ("ArcLight"), (and, after the Domestication, Proterra), Phoenix Merger Sub, and Legacy Proterra, whereby Phoenix Merger Sub merged with and into Legacy Proterra, and Legacy Proterra being the surviving corporation and a wholly owned subsidiary of Proterra. Legacy Proterra changed its name to "Proterra Operating Company, Inc." and continues as a Delaware Corporation and wholly-owned subsidiary of Proterra. Unless otherwise specified or unless the context otherwise requires, references in these notes to the "Company," "we," "us," or "our" refer to Legacy Proterra prior to the Business Combination and to Proterra following the Business Combination.

Voluntary Filing under Chapter 11

On August 7, 2023 (the "Petition Date"), Proterra Inc and its subsidiary, Proterra Operating Company, Inc. (collectively, the "Debtors"), filed voluntary petitions (the "Bankruptcy Petitions") for reorganization under Chapter 11 of the United States Bankruptcy Code (the "Bankruptcy Code") in the United States Bankruptcy Court for the District of Delaware (such court, the "Bankruptcy Court" and such cases, the "Chapter 11 Cases"). The Cases are, pending an order authorizing joint administration by the Bankruptcy Court, currently administered under the captions *In re Proterra Inc*, Case No. 23-11120 (BLS) (Bankr. D. Del. 2023) and *In re Proterra Operating Company, Inc.*, Case No. 23-11121 (BLS) (Bankr. D. Del. 2023), for the Company and Proterra Operating Company, Inc. respectively. The Debtors will continue to operate their businesses as "debtors-in-possession" under the jurisdiction of the Bankruptcy Court and in accordance with the applicable provisions of the Bankruptcy Code and orders of the Bankruptcy Court. To ensure their ability to continue operating in the ordinary course of business, the Debtors are seeking from the Bankruptcy Court a variety of "first-day" relief", including, among other things, authority to use cash collateral, pay employee wages and benefits, pay vendors and suppliers in the ordinary course for all goods and services provided after the Petition Date and continue customer programs. As of August 8, 2023, the motions filed by the Debtors seeking this "first-day" relief are pending approval by the Bankruptcy Court on an interim or final basis, as applicable. See additional considerations within Note 11, Subsequent Events.

Liquidity and Going Concern

Under ASC Subtopic 205-40, *Presentation of Financial Statements—Going Concern* ("ASC 205-40"), the Company has the responsibility to evaluate whether conditions and/or events raise substantial doubt about the Company's ability to meet our future obligations as they become due within one year of the financial statements being issued in this Quarterly Report on Form 10-Q. These financial statements have been prepared by management in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") and this basis assumes that the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. These financial statements do not include any adjustments that may result from the outcome of this uncertainty.

The Company has incurred net losses and negative cash flows from operations since inception. As of June 30, 2023, the Company has an accumulated deficit of $1.4 billion, and cash and cash equivalents and short-term investments of $220.8 million. The Company has funded operations primarily through a combination of equity and debt financing. There was no outstanding balance under the Senior Credit Facility as of June 30, 2023. There was an aggregate of $20.1 million of letters of credit outstanding under the Senior Credit Facility as of June 30, 2023. As of June 30, 2023, the aggregate principal amount of Convertible Notes outstanding was $175.9 million inclusive of PIK interest of $22.4 million.

The Company filed the Chapter 11 Cases on August 7, 2023 which constituted an event of default that accelerated the Company's obligations under the following debt instruments:

- The Senior Credit Facility, which, as of June 30, 2023, has no outstanding balance and $20.1 million of letters of credit outstanding; and

- The $175.9 million aggregate principal amount of Convertible Notes outstanding as of June 30, 2023.

The debt instruments set forth above provide that as a result of the Bankruptcy Petitions, the principal and interest due thereunder shall be immediately due and payable. Any efforts to enforce such payment obligations under the debt instruments set forth above are automatically stayed as a result of the Bankruptcy Petitions, and the creditors' rights of enforcement in respect of the debt instruments set forth above are subject to the applicable provisions of the Bankruptcy Code.

In addition, beginning on the Petition Date, the Company's ability to continue as a going concern is contingent upon, among other things, its ability to, subject to the Bankruptcy Court's approval, implement a Chapter 11 plan, emerge from the Chapter 11 proceedings and generate sufficient liquidity to meet its contractual obligations and operating needs. As a result of the risks and uncertainties related to, among other things, (i) the Company's ability to obtain requisite support for a Chapter 11 plan from various stakeholders, and (ii) the disruptive effects of the Chapter 11 proceedings on our business making it potentially more difficult to maintain business, financing and operational relationships. The outcome of the Chapter 11 Cases is subject to a high degree of uncertainty and is dependent upon factors that are outside of the Company's control, including actions of the Bankruptcy Court and the company's creditors. There can be no assurance that the Company will be successful in conducting a sale, executing a transaction, or able to consummate a Chapter 11 plan with respect to the Chapter 11 Cases. As a result of risks and uncertainties related to events of default under our debt obligations, the delisting of our common stock and the effects of disruption from the Chapter 11 Cases making it more difficult to maintain business, financing and operational relationships, together with the Company's recurring losses from operations and accumulated deficit, substantial doubt exists regarding our ability to continue as a going concern for the next 12 months. See Note 11, Subsequent Events for additional details on the Chapter 11 Cases.

The Company's condensed consolidated financial statements as of June 30, 2023 do not include any adjustments related to the filing of the Chapter 11 Cases.

Basis of Presentation

The unaudited condensed consolidated financial statements and accompanying notes have been prepared in accordance with U.S. GAAP and the rules and regulations of the U.S. Securities and Exchange Commission (the "SEC").

Certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. Accordingly, these condensed consolidated financial statements should be read in conjunction with the audited financial statements for the year ended December 31, 2022 and the related notes incorporated by reference in the Company's Annual Report (the "Annual Report") on Form 10-K, filed with SEC on March 17, 2023 and amended on May 1, 2023, which provides a more complete discussion of the Company's accounting policies and certain other information. The information as of December 31, 2022 was derived from the Company's audited financial statements. The condensed consolidated financial statements were prepared on the same basis as the audited financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments necessary for a fair presentation of the Company's financial position as of June 30, 2023 and the results of operations and cash flows for the six months ended June 30, 2023 and 2022. The results of operations for the six months ended June 30, 2023 are not necessarily indicative of the results that may be expected for the year ending December 31, 2023.

Use of Estimates

In preparing the condensed consolidated financial statements and related disclosures in conformity with U.S. GAAP and pursuant to the rules and regulations of the SEC, the Company must make estimates and judgments that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results may differ materially from these estimates.

Significant Accounting Policies

There have been no changes to the Company's significant accounting policies described in the Annual Report, except for the accounting policies related to the Convertible Notes and derivative liability described in Note 4, Debt, adopted during the three months ended March 31, 2023, that have had a material impact on the Company's condensed consolidated financial statements and related notes.

Segments

The Company operates in the United States and has sales to the European Union, Canada, United Kingdom, Australia, Japan and Türkiye. Revenue disaggregated by geography, based on the addresses of the Company's customers, consists of the following (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
United States	$ 67,682	$ 61,673	$ 133,105	$ 113,640
Rest of World	18,032	12,891	32,138	19,505
	$ 85,714	$ 74,564	$ 165,243	$ 133,145

The Company's chief operating decision maker is its Chief Executive Officer (CEO) who reviews financial information presented on a consolidated basis for purposes of making decision on allocating resources and assessing financial performance. Accordingly, the Company has determined that it has a single reportable segment.

Accounts Receivable and Allowance for Credit Losses

Accounts receivable are recorded at the invoiced amount and do not bear interest. The Company determines the allowance for credit losses based on historical write-off experience, an analysis of the aging of outstanding receivables, customer payment patterns and expectations of changes in macroeconomic conditions that may affect the collectability of outstanding receivables. The allowance for credit losses was not material as of June 30, 2023 and December 31, 2022.

Credit Risk and Concentration

The Company's financial instruments that are potentially subject to concentrations of credit risk consist primarily of cash, cash equivalents, restricted cash, short-term investments, and accounts receivable. Cash and cash equivalents and short-term investments are maintained primarily at one financial institution as of June 30, 2023, and deposits exceed federally insured limits. Risks associated with cash and cash equivalents, and short-term investments are mitigated by banking with creditworthy financial institutions. The Company has not experienced any losses on its deposits of cash and cash equivalents or its short-term investments.

Cash equivalents and short-term investments consist of short-term money market funds, corporate debt securities, and debt securities issued by the U.S. Treasury, which are deposited with reputable financial institutions. The Company's cash management and investment policy limits investment instruments to securities with short-term credit ratings at the timing of purchase of P-2 and A-2 or better from Moody's Investors Service and Standard & Poor’s Financial Services, LLC, respectively, with the objective to preserve capital and to maintain liquidity until the funds can be used in business operations.

Accounts receivable are typically unsecured and are generally derived from revenue earned from transit agencies, universities and airports in North America and global commercial vehicle manufacturers in North America, the European Union, the United Kingdom, Australia, Japan and Türkiye. The Company periodically evaluates the collectability of its accounts receivable and provides an allowance for potential credit losses as necessary.

Given the large order value for customers and the relatively low number of customers, revenue and accounts receivable have typically been concentrated with a limited number of customers.

	Revenue				Accounts Receivable	
	Three Months Ended June 30,		Six Months Ended June 30,		June 30,	December 31,
	2023	2022	2023	2022	2023	2022
Number of customers accounted for 10% or more	2	2	2	2	2	2
Total % for customers accounted for 10% or more	43%	25%	32%	26%	45%	48%

Single source suppliers provide the Company with a number of components that are required for manufacturing of its current products. For example, we sole source our composite bus bodies from TPI Composites Inc. In other instances, although there may be multiple suppliers available, many of the components are purchased from one single source. If these single source suppliers fail to meet the Company’s requirements on a timely basis at competitive prices or are unable to provide components for any reason, the Company could suffer manufacturing delays, a possible loss of revenue, or incur higher cost of sales, any of which could adversely impact the Company’s operating results.

Impairment of Long-Lived Assets

The Company evaluates the recoverability of property, plant, and equipment and right-of-use assets for possible impairment whenever events or circumstances indicate that the carrying amount of such assets may not be recoverable. Recoverability of these assets is measured by a comparison of the carrying amounts to the future undiscounted cash flows the assets are expected to generate. If such review indicates that the carrying amount of long-lived assets is not recoverable, the carrying amount of such assets is reduced to fair value.

In addition to the recoverability assessment, the Company periodically reviews the remaining estimated useful lives of property, plant, and equipment. If the estimated useful life assumption for any asset is reduced, the remaining net book value is depreciated over the revised estimated useful life.

The Company reviews long-lived assets for impairment at the lowest level for which separate cash flows can be identified. No impairment charge was recognized in the three and six months ended June 30, 2023 and 2022, respectively.

Deferred Revenue

Deferred revenue consists of billings or payments received in advance of revenue recognition that are recognized as revenue once the revenue recognition criteria are met. In some instances, progress billings are issued upon meeting certain milestones stated in the contracts. Accordingly, the deferred revenue balance does not represent the total contract value of non-cancelable arrangements. Invoices are typically due within 30 to 40 days.

The changes in deferred revenue consisted of the following (in thousands):

Deferred revenue as of December 31, 2022	$	67,398
Revenue recognized from beginning balance during the six months ended June 30, 2023		(14,843)

Deferred revenue added during the six months ended June 30, 2023		35,320
Deferred revenue as of June 30, 2023	$	87,875

The current portion of deferred revenue represents the amount that is expected to be recognized as revenue within one year from the balance sheet date.

Revenue Recognition

The Company derives revenue primarily from the sale of vehicles and charging systems, the installation of charging systems, the sale of battery systems and powertrain components to other vehicle manufacturers, as well as the sale of spare parts and other services provided to customers. Product revenue consists of revenue earned from vehicles and charging systems, battery systems and powertrain components, installation of charging systems, and revenue from leased vehicles, charging systems, and batteries under operating leases. Parts and other service revenue includes revenue earned from spare parts, the design and development of battery systems and powertrain systems for other vehicle manufacturers, and extended warranties.

The Company recognizes revenue when or as it satisfies a performance obligation by transferring control of a product or service to a customer. Revenue from product sales is recognized when control of the underlying performance obligations is transferred to the customer. Revenue from sales of vehicles is typically recognized upon delivery when the Company can objectively demonstrate that the criteria specified in the contractual acceptance provisions are achieved prior to delivery. In cases, where the Company cannot objectively demonstrate that the criteria specified in the contractual acceptance provisions have been achieved prior delivery, revenue is recognized upon acceptance by the customer. Revenue from sales of charging systems is recognized at a point in time, generally upon delivery or commissioning when control of the underlying performance obligations are transferred to the customer. Under certain contract arrangements, the control of the performance obligations related to the charging systems is transferred over time, and the associated revenue is recognized over the installation period using an input measure based on costs incurred to date relative to total estimated costs to completion. Spare parts revenue is recognized upon shipment. Extended warranty revenue is recognized over the life of the extended warranty using the time elapsed method. Development service contracts typically include the delivery of prototype products to customers. The performance obligation associated with the development of prototype products as well as battery systems and powertrain components to other vehicle manufacturers, is satisfied at a point in time, typically upon shipping.

Revenue derived from performance obligations satisfied over time from charging systems and installation was $1.6 million and zero for the three months ended June 30, 2023 and 2022, respectively, and $2.8 million and $2.1 million for the six months ended June 30, 2023 and 2022, respectively. Leasing revenue and extended warranty revenue recognized over time was immaterial for the three and six months ended June 30, 2023 and 2022, respectively.

As of June 30, 2023 and December 31, 2022, the contract assets balance was $13.4 million and $26.1 million, respectively, and are recorded in the prepaid expenses and other current assets on the consolidated balance sheets. The contract assets are expected to be billed within the next twelve months.

As of June 30, 2023, the amount of remaining performance obligations that have not been recognized as revenue was $513.8 million, of which 84% were expected to be recognized as revenue over the next 12 months and the remainder thereafter. This amount excludes the value of remaining performance obligations for contracts with an original expected length of one year or less.

Our business has the following commercial offerings each addressing a critical component of commercial vehicle electrification.

- ***Proterra Transit*** designs, develops, manufactures, and sells electric transit buses as an original equipment manufacturer ("OEM") for North American public transit agencies, airports, universities, and other commercial transit fleets.

- ***Proterra Powered & Energy*** includes Proterra Powered, which designs, develops, manufactures, sells, and integrates proprietary battery systems and electrification solutions into vehicles for global commercial vehicle OEMs, and Proterra Energy, which offers turnkey fleet-scale, high-power charging solutions and software services, ranging from fleet and energy management software-as-a-service, to fleet planning, hardware, infrastructure, installation, utility engagement, and charging optimization.

Revenue of these commercial offerings are as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Proterra Transit	$ 21,113	$ 50,819	$ 65,975	$ 86,200
Proterra Powered & Energy	64,601	23,745	99,268	46,945
Total	$ 85,714	$ 74,564	$ 165,243	$ 133,145

Product Warranties

Warranty expense is recorded as a component of cost of goods sold. Accrued warranty activity consisted of the following (in thousands):

	Six Months Ended June 30, 2023
Warranty reserve- beginning of period	$ 25,513
Warranty costs incurred	(1,361)
Net changes in liability for pre-existing warranties, including expirations	(3,000)
Provision for warranty	9,017
Warranty reserve- end of period	$ 30,169

Adopted Accounting Guidance and Accounting Pronouncements Not Yet Effective

There have been no recent accounting pronouncements, changes in accounting pronouncements or recently adopted accounting guidance during the six months ended June 30, 2023 that are of significance or potential significance to the Company.

2. Fair Value of Financial Instruments

The Company measures certain financial assets and liabilities at fair value. Fair value is determined based on the exit price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is estimated by applying the following hierarchy:

Level 1 – Quoted prices in active markets for identical assets or liabilities;

Level 2 – Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and

Level 3 – Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

Financial assets and liabilities measured at fair value on a recurring basis using the above input categories were as follows (in thousands):

	Pricing Category	Fair Value at June 30, 2023	Fair Value at December 31, 2022
Assets:			
Cash equivalents and marketable securities:			
Money market funds	Level 1	$ 36,648	$ 14,941
Short-term investments:			
U.S. Treasury securities	Level 1	156,615	224,359
Total		$ 193,263	$ 239,300
Liabilities:			
Other non-current liabilities			
Derivative liability	Level 3	$ 81,300	$ —
Total		$ 81,300	$ —

The Company's short-term investments were comprised of U.S. Treasury securities, and classified as available-for-sale at the time of purchase because it is intended that these investments are available for current operations. Investments are reported at fair value and are subject to periodic impairment review. Unrealized gains and losses related to changes in the fair value of these securities are recognized in accumulated other comprehensive loss. The ultimate value realized on these securities is subject to market price volatility until they are sold. Realized gains or losses from short-term investments are recorded in other expense (income), net.

As of June 30, 2023, the Company has $26.6 million of long-term investments recorded in other assets in the condensed consolidated balance sheets, comprised of minority ownership of equity investments in privately held entities. The long-term investment balances include $25.0 million strategic equity investment made in the third quarter of 2022 in an entity that the Company expects to produce lithium iron phosphate (LFP) battery cells in the United States in the coming years which is expected to provide the Company with development opportunities for battery packs with another cell chemistry to address additional segments of the commercial vehicle market. These investments do not have a readily determinable fair value and are accounted for under a measurement alternative at cost, less impairment, adjusted for observable price changes. No impairment charges or observable price changes were recognized in the six months ended June 30, 2023 and 2022. There are no unrealized gains or losses associated with these investments as of June 30, 2023.

The following is a summary of cash equivalents and marketable securities as of June 30, 2023 (in thousands):

	Amortized Cost	Unrealized Gain	Estimated Fair Value
Cash equivalents:			
Money market funds	$ 36,648	$ —	$ 36,648
Short-term investments:			
U.S. Treasury securities	156,646	(31)	156,615
Total	$ 193,294	$ (31)	$ 193,263

As of June 30, 2023, the contractual maturities of the short-term investments were less than one year.

The following is a summary of cash equivalents and marketable securities as of December 31, 2022 (in thousands):

	Amortized Cost	Unrealized Loss	Estimated Fair Value
Cash equivalents:			
Money market funds	$ 14,941	$ —	$ 14,941
Short-term investments:			
U.S. Treasury securities	224,904	(545)	224,359
Total	$ 239,845	$ (545)	$ 239,300

As of December 31, 2022, the contractual maturities of the short-term investments were less than one year.

The fair value of derivative liability under the Convertible Notes was measured as the difference between the estimated value of the Convertible Notes with and without the embedded features. See Note 4, Debt, for additional information on the Convertible Notes. The combined value of the Convertible Notes was $267.4 million as of June 30, 2023.

A summary of the changes of the derivative liability is as follows (in thousands):

	Derivative liability
Fair value at issuance as of March 31, 2023	$ 135,678
Change in fair value	(33,578)
Reclassification of liability upon charter amendment	(20,800)
Fair value as of June 30, 2023	$ 81,300

The change in fair value of derivative liability is recorded in the statements of operations. On June 23, 2023, the Company received stockholder approval to increase the number of authorized shares and subsequently filed a certificate of amendment with the State of Delaware. Upon amending the certificate of incorporation, certain embedded conversion features associated with the Convertible Notes no longer qualify for derivative accounting because the Company has sufficient number of authorized shares to issue upon conversion of the Convertible Notes. The carrying amount of the derivative liability of $20.8 million associated with those conversion features, which is the fair value as of June 23, 2023, was reclassified to stockholders' equity in accordance with Topic 815, Derivatives and Hedging. The fair value change in derivative liability was caused by changes of stock price and certain underlying assumptions related to the likelihood of conversion.

The value was determined utilizing a Monte Carlo simulation pricing model and also utilized a discounted cash flow model prior to obtaining the shareholder approval to the Nasdaq Proposal discussed in Note 4, Debt, based on certain significant inputs not observable in the market, and thus represents a level 3 measure. The key inputs to the valuation models include equity volatility, likelihood and expected term until a liquidity event, risk-free interest rate and estimated yield for the Convertible Notes.

3. Balance Sheet Components

Cash and cash equivalents consisted of the following (in thousands):

	June 30, 2023	December 31, 2022
Cash	$ 27,553	$ 58,754
Cash equivalents	36,648	14,941
Total cash and cash equivalents	$ 64,201	$ 73,695

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the balance sheets to the total of such amounts shown on the statements of cash flows. The restricted cash is primarily collateral for performance bonds issued to certain customers. The collateral is provided in the form of a cash deposit to either support the bond directly or to collateralize a letter of credit that supports the performance bonds.

	June 30, 2023	December 31, 2022
Cash and cash equivalents	$ 64,201	$ 73,695
Restricted cash, current portion	12,565	12,565
Total cash and cash equivalents, and restricted cash	$ 76,766	$ 86,260

Inventories consisted of the following (in thousands):

	June 30, 2023	December 31, 2022
Raw materials	$ 240,558	$ 127,199
Work in progress	30,049	21,153
Finished goods	12,439	13,518
Service parts	9,201	7,697
Total inventories	$ 292,247	$ 169,567

Increases in Raw materials as of June 30, 2023 is primarily related to the timing of receipts of lithium-ion cells for our battery packs and increase of work in progress and finished goods mainly due to timing of bus deliveries. For the three months ended June 30, 2023, $6.8 million of expenses were recorded related to the write down of inventories for excess or obsolete inventories and lower of cost or market adjustment. The reserve expenses were immaterial for each of the three and six months ended June 30, 2022, and the three months ended March 31, 2023.

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

	June 30, 2023	December 31, 2022
Computer hardware	$ 6,063	$ 5,465
Computer software	16,056	11,012
Internally used vehicles and charging systems	11,738	15,177
Leased vehicles and batteries	5,142	5,142
Leasehold improvements	30,938	10,716
Machinery and equipment	53,999	28,942
Office furniture and equipment	3,408	2,523
Tooling	24,316	22,430
Finance lease right-of-use assets	878	179
Construction in progress	30,399	72,505
	182,937	174,091
Less: Accumulated depreciation and amortization	(72,231)	(66,539)
Total	$ 110,706	$ 107,552

Construction in progress was comprised of various assets that are not available for their intended use as of the balance sheet date, and mainly related to the equipment and facility build out at the battery manufacturing facility (Powered 1) in Greer, South Carolina.

For the three and six months ended June 30, 2023, depreciation and amortization expense were $4.9 million and $9.6 million, respectively. For the three and six months ended June 30, 2022, depreciation and amortization expense were $3.3 million and $6.7 million, respectively.

Accrued liabilities consisted of the following (in thousands):

	June 30, 2023	December 31, 2022
Accrued payroll and related expenses	$ 9,861	$ 8,647
Accrued sales and use tax	339	1,784
Warranty reserve	8,098	8,406
Accrued supplier liability	1,170	7,699
Insurance related	890	4,445
Other accrued expenses	3,215	2,570
Total	$ 23,573	$ 33,551

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

	June 30, 2023	December 31, 2022
Warranty reserve	$ 22,071	$ 17,107
Finance lease liabilities, non-current	461	57
Total	$ 22,532	$ 17,164

4. Debt

Debt, net of debt discount and issuance costs, consisted of the following (in thousands):

	June 30, 2023	December 31, 2022
Senior Credit Facility	$ —	$ —
Convertible Notes	180,629	122,692
Total debt	$ 180,629	$ 122,692
Less debt, current	180,629	122,692
Debt, non-current	$ —	$ —

Senior Credit Facility

In May 2019, the Company entered into the Senior Credit Facility with borrowing capacity up to $75.0 million. The commitment under the Senior Credit Facility is available to the Company on a revolving basis through the earlier of May 9, 2024 or 91 days prior to the stated maturity of any subordinated debt in aggregate amount of $7.5 million or more. The maximum availability under the Senior Credit Facility is based on certain specified percentage of eligible accounts receivable and inventory, subject to certain reserves, to be determined in accordance with the Senior Credit Facility. The Senior Credit Facility includes a $25.0 million letter of credit sub-line as of June 30, 2023. Subject to certain conditions, the commitment may be increased by $50.0 million upon approval by the lender, and at the Company’s option, the commitment can be reduced to $25.0 million or terminated upon at least 15 days’ written notice.

The Senior Credit Facility is secured by a security interest in substantially all of the Company’s assets except for intellectual property and certain other excluded assets.

Borrowings under the Senior Credit Facility bore interest at per annum rates equal to, at the Company’s option, either (i) the base rate plus an applicable margin for base rate loan, or (ii) the London Interbank Offered Rate (“LIBOR”) plus an applicable margin for LIBOR loan. The base rate is calculated as the greater of (a) the Lender prime rate, (b) the federal funds rate plus 0.5%, and (c) one-month LIBOR plus 1.0%. The applicable margin is calculated based on a pricing grid linked to quarterly average excess availability (as a percentage of borrowing capacity). For base rate loans, the applicable margin ranges from 0.0% to 1.5%, and for LIBOR loans, it ranges from 1.5% to 3.0%. The Senior Credit Facility contains certain customary non-financial covenants. In addition, the Senior Credit Facility requires the Company to maintain a fixed charge coverage ratio of at least 1.00:1.00 during such times as a covenant trigger event shall exist.

On April 3, 2023, the Company entered into the Third Amendment to the Senior Credit Facility to replace the references of LIBOR in the loan document with Term SOFR, a rate based on the secured overnight financing rate as administered by the Federal Reserve Bank of New York.

There was no outstanding balance for borrowings under the Senior Credit Facility as of June 30, 2023 and December 31, 2022. There was an aggregate of $20.1 million in letters of credit outstanding under the Senior Credit Facility as of June 30, 2023.

Small Business Administration Loan

In May 2020, the Company received Small Business Administration (the “SBA”) loan proceeds of $10.0 million from Town Center Bank pursuant to the Paycheck Protection Program (the “PPP loan”) under the “Coronavirus Aid, Relief and Economic Security (CARES) Act”. The PPP loan was in the form of a note with an original maturity in May 2022, and was extended to May 2025 based on the SBA’s interim final rule. The interest rate was 1.0% per annum.

In May 2022, the SBA approved the Company’s PPP loan forgiveness application, and the PPP loan of $10.0 million was forgiven in full and the previously paid interest of approximately $0.2 million was refunded. A total of $10.2 million was recorded as gain on debt extinguishment in the Company’s consolidated statements of operations.

Convertible Notes

In August 2020, Legacy Proterra issued $200.0 million aggregate principal amount of Convertible Notes with an initial maturity date on August 4, 2025. The Convertible Notes had a cash interest of 5.0% per annum payable at each quarter end and a paid-in-kind (“PIK”) interest of 4.5% per annum payable by increasing the principal balance at each quarter end.

Each of the Convertible Notes rank equally without preference or priority of any kind over one another, but senior in all rights, privileges and preferences to all shares of the Company’s capital stock and all other securities of the Company that are convertible into or exercisable for the Company’s capital stock directly or indirectly. The Convertible Notes are secured by substantially all of the assets of Legacy Proterra, including its intellectual property.

Prior to the maturity date or prior to the payment or conversion of the entire balance of the Convertible Notes, in the event of a liquidation or sale of the Company, the Company shall pay to the holders of Convertible Notes the greater of (i) 150% of the principal balance of the Convertible Notes or (ii) the consideration that the holders would have received had the holders elected to convert the Convertible Notes into common stock immediately prior to such liquidation event. The Company may not make prepayment unless approved by the required holders of the Convertible Notes.

The Convertible Notes do not entitle the holders to any voting rights or other rights as a stockholder of the Company, unless and until the Convertible Notes are actually converted into shares of the Company’s capital stock in accordance with their terms.

The Note Purchase Agreement contains certain customary non-financial covenants. In addition, the Note Purchase Agreement requires the Company to maintain liquidity at quarter end (“Minimum Liquidity Covenant”) of not less than the greater of (i) $75.0 million and (ii) four times of Cash Burn for the three-month period then ended. See below for details regarding modifications to the Minimum Liquidity Covenant.

In connection with the issuance of the Convertible Notes, the Company issued warrants to the holders of Convertible Notes to purchase 4.6 million shares of Company capital stock at an exercise price of $0.02 per share. The warrants were freestanding financial instruments and, prior to the Closing, were classified as a liability due to the possibility that they could become exercisable into Legacy Proterra convertible preferred stock. Upon the consummation of the Merger, the stock issuable upon exercise of the warrants is Proterra common stock, with no possibility to convert to Legacy Proterra convertible preferred stock. As a result, the carrying amount of the warrant liability was reclassified to stockholders’ equity. The warrant liability of $29.0 million was initially measured at fair value on its issuance date and recorded as a debt discount and amortized during the term of the Convertible Notes to interest expense using the effective-interest method. The warrant liability was remeasured on a recurring basis at each reporting period date, with the change in fair value reported in the statement of operations. Upon any exercise of the warrants to common stock, the carrying amount of the warrant liability was reclassified to stockholders' equity. In the fourth quarter of 2021, all remaining outstanding warrants were exercised.

Prior to the Closing, the embedded features of the Convertible Notes were composed of conversion options that had the economic characteristics of a contingent early redemption feature settled in a variable number of shares of Company stock. These conversion options were bifurcated and accounted for separately from the host debt instrument. The derivative liability of $68.5 million was initially measured at fair value on the issuance date of the Convertible Notes and recorded as debt discount and was amortized during the term of the Convertible Notes to interest expense using the effective-interest method. The derivative liability was remeasured on a recurring basis at each reporting period date, with the change in fair value reported in the statement of operations. Upon the consummation of the Merger, the embedded conversion features associated with the Convertible Notes no longer qualified for derivative accounting since the conversion price became fixed. The carrying amount of the embedded derivative, the fair value as of the Closing Date, was reclassified to stockholders' equity in accordance with Topic 815, Derivatives and Hedging.

Issuance costs of $5.1 million were also recorded as debt discount and are amortized during the term of the Convertible Notes to interest expense using the effective interest method.

On June 14, 2021, certain Convertible Note holders with an original aggregate principal amount of $46.5 million elected to convert their Convertible Notes at the Closing. An aggregate of $48.8 million principal and interest was reclassified to additional paid-in capital, and $21.0 million of remaining related debt issuance costs were expensed to interest expense.

The outstanding Convertible Notes including accrued interest will be automatically converted to common stock at $6.5712 per share pursuant to the mandatory conversion provisions, if and when the volume-weighted average price ("VWAP") of the common stock exceeds $9.86 over 20 consecutive days subsequent to January 13, 2022.

The Company was not in compliance with the Minimum Liquidity Covenant as of December 31, 2022. The Company received a waiver of the Minimum Liquidity Covenant in February 2023 which provided for retroactive effect, so that no such event of default occurred in the year ended December 31, 2022.

The Company's inability to deliver audited financial statements certified by the Company's independent registered public accounting firm without qualification (or similar notation) as to going concern with respect to the 2022 Financials would have been an event of default under both the Senior Credit Facility and the Convertible Notes. On March 14, 2023, the Company obtained a limited advance waiver from the holders of the Convertible Notes with respect to the Going Concern Covenant until March 31, 2023. On March 31, 2023, the Company received a waiver for the Senior Credit Facility to consent to the delivery of the 2022 Financials with a going concern qualification and waived the cross default of the corresponding covenant under the Convertible Notes in connection with the 2022 Financials.

As a result, the Company was in compliance with the covenants contained in the Senior Credit Facility and Convertible Facility as of March 31, 2023.

Amendment to the Notes Purchase Agreement and Convertible Notes

On March 31, 2023, the Company entered into an amendment to the Notes Purchase Agreement and Convertible Notes, which includes amendments to the interest rate, maturity date, mandatory and optional conversion rights, limitations on the issuance of shares of the Company's common stock upon conversion and the

Company's obligation to seek stockholder approvals as described below, minimum liquidity requirements and certain other covenants described in further detail below (together, the "Convertible Notes Amendments").

The Convertible Notes Amendments provide for (i) a waiver of the Minimum Liquidity Covenant through May 31, 2024, requiring instead a minimum Liquidity of $125.0 million as of the last day of each quarter from March 31, 2023 through and including May 31, 2024, and (ii) a waiver of the requirement that the Company's financial statements be certified by the Company's auditor without qualification (or similar notation) as to going concern for the Company's consolidated financial statements for fiscal years 2022 and 2023. After May 31, 2024, the Convertible Notes require the Company to maintain Liquidity at each quarter end of not less than the greater of (i) $75.0 million and (ii) four times of Cash Burn for the three-month period then ended. In addition, the Convertible Notes contain an additional holding company covenant limiting the Company's ability to engage in business, operations and activities other than as set forth in the Convertible Notes.

The Convertible Notes Amendments extend the maturity date of the Convertible Notes to August 4, 2028, except with respect to $3.5 million original principal amount, which have since also been extended as described below. The annual interest rate was increased to 12.0% per annum, consisting of 5.0% in cash and 7.0% PIK interest with the PIK default rate proportionally increased to 9.0%. The increased PIK interest on the Convertible Notes is to be accrued from March 17, 2023.

In addition, the Convertible Notes Amendments amended the mandatory conversion provision in the existing Convertible Notes to provide for mandatory conversion only on or after March 31, 2024, if the daily VWAP of the Company's common stock equals or exceeds (a) $15.00 after March 31, 2024 to but not including March 31, 2025, or (b) $12.00 after March 31, 2025, in each case, over a period of 20 consecutive trading days and providing that if the mandatory conversion trigger is met, to convert at a conversion price equal to (i) $4.00 until 1/3 of the aggregate balance of such Convertible Note (including all PIK interest and cash interest accrued but not paid) is converted, (ii) thereafter, $5.00 until 1/3 of the aggregate balance of the such Convertible Note is converted, and (iii) thereafter, $6.00. The conversion prices will be equitably adjusted to reflect any stock dividends, stock splits, reverse stock splits, recapitalizations or other similar events.

In addition, following the Convertible Notes Amendments, holders of the Convertible Notes have an additional option, at any time on or after March 31, 2024 until maturity of the Convertible Notes, to convert at a conversion price equal to (i) $4.00 until 1/3 of the aggregate balance of the such Convertible Note is converted, (ii) thereafter, $5.00 until 1/3 of the aggregate balance of the such Convertible Note is converted, and (iii) thereafter, $6.00, which conversion right shall be exercisable in whole or in part from time to time; provided, however, that if the Company consummates a Qualified Financing (as defined below), the holder, at its option, at any time or from time to time on or after March 31, 2024, may convert its Convertible Notes at a conversion price equal to 75% of the lowest per share cash purchase price of the common stock or preferred stock sold by Proterra in any Qualified Financing, subject to a $1.016 floor conversion price. "Qualified Financing" means, as of any date of determination, a bona fide equity financing, if any, on or after March 31, 2023, in which the Company or Proterra OpCo sells equity or equity-linked securities in a capital-raising transaction (which may include a public offering of the Company's equity securities).

Subject to certain exceptions, the Convertible Notes also restrict the Company's ability to, among other things: dispose of or sell the Company's assets; make material changes in the Company's business or management, or accounting and reporting practices; acquire, consolidate, or merge with other entities; incur additional indebtedness; create liens on the Company's assets; pay dividends; make investments; enter transactions with affiliates; and pre-pay other indebtedness.

The Convertible Notes also contain customary events of default, including, among others, the failure to make any payment of principal (or any other payment) when due under the Convertible Notes within five business days of the applicable due date, the breach of the Minimum Liquidity Covenant or any of the negative covenants, and the commencement of an insolvency proceeding. A default under the Company's Convertible Notes would result in a cross-default under the Senior Credit Facility.

The Convertible Notes provide that no "person" or "group" (within the meaning of Section 13(d) of the Exchange Act) will be entitled to receive any of the Company's common stock otherwise deliverable upon conversion of the Convertible Notes to the extent that such receipt would cause such person or group to become, directly or indirectly, a “beneficial owner” as defined in Rule 13d-3 under the Exchange Act of more than 40% of the Company’s common stock outstanding at such time (the “Beneficial Ownership Limitation”), and no conversion of the Convertible Notes shall take place to the extent (but only to the extent) that such receipt (or conversion) would cause any Note holder or its affiliates to beneficially own shares of the Company’s common stock in excess of the Beneficial Ownership Limitation.

The Convertible Notes also provide for certain limitations on the conversion rights of the holders of the Convertible Notes, including caps on the number of shares of common stock deliverable upon conversion subject to obtaining stockholder approval, as described below. The Company has agreed to use its best efforts to obtain stockholder approval of (i) the issuance of more than 19.99% of the Company’s outstanding common stock in accordance with Nasdaq listing standards (the “Nasdaq Proposal”) and (ii) an amendment to the Company’s certificate of incorporation to increase the number of authorized shares of common stock.

Prior to the receipt of stockholder approval of the Nasdaq Proposal, the maximum number of shares of common stock that may be issued upon conversions of the Convertible Notes will be 45,257,360 shares. If stockholder approval of the Nasdaq Proposal is obtained, until and unless the Company receives stockholder approval of an amendment to the Company’s certificate of incorporation to increase the number of authorized shares of the Company’s common stock, the maximum number of shares of common stock that may be issued upon conversions of the Convertible Notes will be 177,782,000 shares. If the Company receives both stockholder approvals, the number of shares of the Company’s common stock that may be issued upon conversion of the Convertible Notes will be limited by the number of authorized and available shares, subject to the Beneficial Ownership Limitation described above.

The Company was obligated to use best efforts to seek the above stockholder approvals as promptly as practicable and no later than the Company’s 2023 annual meeting of stockholders; provided that if such stockholder approvals are not received at the Company’s 2023 annual meeting of stockholders, the Company is obligated to call a special meeting of stockholders every 6 months until such stockholder approvals are received.

For any additional shares exceeding the 45,257,360 or 177,782,000 share limits set forth above, the Convertible Notes holders had the right to elect either (x) to rescind the conversion with respect to (and only with respect to) the portion of the balance of the Convertible Notes that relates to the number of shares of the Company’s common stock exceeding the applicable limitations (the “Excess Shares”), or (y) for the Company to pay to such Convertible Note holder an amount equal to the product of (A) the number of Excess Shares, multiplied by (B) the simple average of the daily VWAP of the common stock for the 20 consecutive trading days ending on and including the trading day immediately preceding the applicable conversion date.

Immediately prior to the Convertible Notes Amendments, the Convertible Notes, net of debt discount and issuance costs, consisted of the following (in thousands):

	March 31, 2023	December 31, 2022
Principal	$ 153,500	$ 153,500
PIK interest	19,196	17,301
Total principal	172,696	170,801
Less debt discount and issuance costs	(44,275)	(48,109)
Total Convertible Notes	$ 128,421	$ 122,692

In accordance with ASC Topic No. 470-50, Debt – Modifications and Extinguishments, the Convertible Notes Amendments were determined to be an extinguishment of the existing debt and an issuance of new debt upon the effectiveness of the Convertible Notes Amendments on March 31, 2023. The new debt is initially recorded at its fair value of $313.4 million, and a loss on debt extinguishment is calculated as the difference between the fair value of the new debt, the net carrying amount of the old debt, and other adjustments required under US GAAP. The Company recorded a loss on debt extinguishment of $177.9 million in the condensed consolidated statements of operations and the $7.2 million fair value of the mandatory conversion feature under the Convertible Notes immediately prior to the Convertible Notes Amendments were recorded to offset stockholders’ equity in accordance with Topic 815, Derivatives and Hedging. The embedded features in the Convertible Notes include conversion options that had the economic characteristics of a contingent early redemption feature settled in a variable number of shares of the Company's common stock. These conversion features were bifurcated and accounted for as a derivative liability separately from the host debt instrument. As of March 31, 2023, the fair value of derivative liability of $135.7 million was recorded as debt discount on the condensed consolidated balance sheets, which will be amortized during the term of the Convertible Notes to interest expense using the effective-interest method. The derivative liability will be remeasured on a recurring basis at each reporting period date, with the change in fair value reported in the statement of operations. The Convertible Notes Amendments were a non-cash transaction and had no impact to the financing activities in the statements of cash flows for the three and six months ended June 30, 2023.

Upon effectiveness of the Convertible Notes Amendments, the Convertible Notes, inclusive of debt premium, consisted of the following (in thousands):

	March 31, 2023
Principal	$ 153,500
PIK interest	19,371
Total principal	172,871
Plus debt premium	4,864
Total Convertible Notes	$ 177,735

On May 19, 2023, $3.5 million original principal amount of Convertible Notes was amended to extend the maturity date to August 4, 2028.

On June 23, 2023, the stockholders of the Company approved and the Company filed in Delaware an amendment to the Company's Certificate of Incorporation to increase the total number of authorized shares of common stock from 500,000,000 shares to 1,000,000,000 shares. The stockholders also approved the Nasdaq Proposal.

Upon receiving the stockholder approval, certain embedded conversion features associated with the Convertible Notes no longer qualify for derivative accounting. The carrying amount of the derivative liability of $20.8 million associated with those conversion features, which is the fair value as of June 23,2023, was reclassified to stockholders' equity in accordance with Topic 815, Derivatives and Hedging. The remaining derivative liabilities are continually remeasured on a recurring basis at each reporting period date, with the change in fair value reported in the statement of operations. See Note 2, Fair Value of Financial Instruments, for details of valuation methodology and impact of change of fair value of derivative liability.

As of June 30, 2023, the Convertible Notes, inclusive of debt premium, consisted of the following (in thousands):

	June 30, 2023
Principal	$ 153,500
PIK interest	22,388
Total principal	175,888
Plus debt premium	4,741
Total Convertible Notes	$ 180,629

The amortization expense of debt discount (premium) and issuance costs were $(0.1) million and $3.7 million for the three and six months ended June 30, 2023, respectively. The amortization expense of debt discount and issuance costs were $3.5 million and $6.8 million for the three and six months ended June 30, 2022, respectively.

As of June 30, 2023, the contractual future principal repayments of the total debt were as follows (in thousands):

2028 [(1)]	$	175,888
Total debt	$	175,888

(1) Including PIK interest added to principal balance through June 30, 2023.

The Company was in compliance with the covenants contained in the Senior Credit Facility and Convertible Facility as of June 30, 2023.

Due to the Company's potential inability to comply with the Minimum Liquidity Covenant in future periods and any resulting potential events of default under the Convertible Notes and the Senior Credit Facility, even though the Convertible Notes have a maturity date in August 2028, the related liabilities were classified as current liability on the Company's condensed consolidated balance sheets as of June 30, 2023.

5. Leases

As a Lessor

The net investment in leases were as follows (in thousands):

	June 30, 2023	December 31, 2022
Net investment in leases, current	$ 984	$ 985
Net investment in leases, non-current	9,925	9,304
Total net investment in leases	$ 10,909	$ 10,289

Interest income from accretion of net investment in lease was not material in the six months ended June 30, 2023 or 2022.

Future minimum payments receivable from operating and sales-type leases as of June 30, 2023 for each of the next five years were as follows:

	Operating leases	Sales-type leases
Remainder of 2023	$ 175	$ 435
2024	—	1,010
2025	—	1,762
2026	—	1,808
2027	—	1,808
Thereafter	—	4,896
Total minimum lease payments	$ 175	$ 11,719

As a Lessee

The Company leases its office and manufacturing related facilities in Burlingame and City of Industry, California, Greenville and Greer, South Carolina, and Rochester Hills, Michigan under operating lease agreements with various expiration dates from 2023 through 2033.

The Company had no material finance leases as of June 30, 2023.

Maturities of operating lease liabilities as of June 30, 2023 were as follows (in thousands):

Remainder of 2023	$ 4,016
2024	4,204
2025	3,487
2026	2,615
2027	2,238
Thereafter	9,858
Total undiscounted lease payment	26,418
Less: imputed interest	(4,956)
Total operating lease liabilities	$ 21,462

Operating lease expense was $1.9 million and $4.0 million for the three and six months ended June 30, 2023, respectively. Operating lease expense was $1.9 million and $3.5 million for the three and six months ended June 30, 2022, respectively.

Short-term and variable lease expenses for the six months ended June 30, 2023 and 2022 were not material.

Supplemental cash flow information related to leases were as follows (in thousands):

	Six Months Ended June 30,	
	2023	2022
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for operating leases	$ (4,170)	$ (2,916)
Lease liabilities arising from obtaining right-of-use assets:		
Operating lease	$ —	$ 4,178
Finance lease	$ 699	$ —

Operating lease right-of-use assets and liabilities consisted of the following (in thousands):

	June 30, 2023	December 31, 2022
Operating leases		
Operating lease right-of-use assets	$ 16,986	$ 20,274
Operating lease liabilities, current	5,032	6,876
Operating lease liabilities, non-current	16,430	18,098
Total operating lease liabilities	$ 21,462	$ 24,974

The weighted average remaining lease term and discount rate of operating leases were 6.5 years and 6.1%, respectively, as of June 30, 2023. The weighted average remaining lease term and discount rate of operating leases were 6.4 years and 6.2%, respectively, as of December 31, 2022.

As of June 30, 2023, the Company had no significant additional operating leases and finance leases that have not yet commenced.

6. Commitments and Contingencies

Purchase Commitments

As of June 30, 2023, the Company had outstanding inventory and other purchase commitments of $2.0 billion, excluding unestimatable variable components. Most of the commitments relate to the expected purchase of cylindrical cells to be manufactured at a yet to be built LG Energy Solution battery cell plant in the United

States, pursuant to a long-term supply agreement through 2028. The terms of the agreement require the Company to make certain prepayments that vary in size and that are made as milestones are met on the construction of the US facility. As of June 30, 2023, the Company has made a $10.0 million prepayment, which was recorded as the long-term inventory prepayment on the consolidated balance sheets. Subject to the Chapter 11 Cases, the Company expects the next prepayment to be made within the next six to twelve months. The prepayments will be recouped by the Company by offsetting a predetermined amount per unit on cells purchased from LG Energy Solution. See considerations of the Chapter 11 Cases in Note 11, Subsequent Events.

Letters of Credit

As of June 30, 2023, the Company had letters of credit outstanding totaling $20.2 million, which will expire over various dates in 2023 and 2024.

Legal Proceedings

The Company accrues contingent liabilities when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. From time to time in the normal course of business, various claims and litigation have been asserted or commenced. Due to uncertainties inherent in litigation and other claims, the Company can give no assurance that it will prevail in any such matters, which could subject the Company to significant liability or damages. Any claims or litigation could have an adverse effect on the Company's business, financial position, operating results, or cash flows in or following the period that claims or litigation are resolved.

As of June 30, 2023 and December 31, 2022, the Company was not a party to any legal proceedings that would have a material adverse effect on its business.

7. Stockholders' Equity

On June 23, 2023, the stockholders of the Company approved and the Company filed in Delaware an amendment to the Company's Certificate of Incorporation to increase the total number of authorized shares of common stock from 500,000,000 shares to 1,000,000,000 shares. As of June 30, 2023, the Company is authorized to issue 1,010,000,000 shares of capital stock, with a par value of $0.0001 per share. The authorized shares consist of 1,000,000,000 shares of common stock and 10,000,000 shares of preferred stock. As of June 30, 2023, 227,770,490 shares of common stock were issued and outstanding, and no shares of preferred stock were issued and outstanding. The holders of each share of common stock are entitled to one vote per share.

As of June 30, 2023, the Company had reserved shares of common stock for issuance as follows (in thousands):

2010 Equity Incentive Plan	14,778
2021 Equity Incentive Plan	30,472
2021 Employee Stock Purchase Plan	4,877
Warrants	1
Earnout Stock	18,009
Convertible notes	247,835
Total	315,972

8. Equity Plans and Stock-based Compensation

2010 Equity Incentive Plan

In 2010, Legacy Proterra adopted the 2010 Equity Incentive Plan (the "2010 Plan"), which provided for the grant of stock options, stock appreciation rights, restricted stock, and restricted stock units. Upon Closing, the then outstanding options under the 2010 Plan were converted into options exercisable to purchase an aggregate of 22,532,619 shares of common stock. Following the Closing, such options continue to be subject to the terms of the 2010 Plan and applicable award agreements; however, no further awards can be granted under the 2010

Plan. As of June 30, 2023, options to purchase 14,777,745 shares of common stock remained outstanding under the 2010 Plan.

2021 Equity Incentive Plan

The 2021 Plan was adopted by the ArcLight Board prior to the Closing, approved by ArcLight's shareholders on June 11, 2021, and became effective upon the Closing Date. The Equity Incentive Plan allows the Company to grant awards of stock options, restricted stock awards, stock appreciation rights, restricted stock units ("RSUs"), performance awards, and stock bonus awards to officers, employees, directors and consultants.

The Company initially reserved 10,000,000 shares of common stock, plus 387,531 reserved shares not issued under the 2010 Plan on the effective date of the 2021 Plan. The number of shares reserved for issuance under the 2021 Plan increases automatically on January 1 of each of 2022 through 2031 by the number of shares equal to the lesser of 4% of the total number of outstanding shares of all classes of common stock as of the immediately preceding December 31, or a number as may be determined by the Board. In the first quarter of 2022 and 2023, the shares of common stock reserved for issuance were increased by 8,878,388 and 9,050,606, respectively, pursuant to the 2021 Plan.

The exercise price of stock options granted must be at least equal to the fair market value of common stock on the date of grant. Incentive stock options granted to an individual who holds, directly or by attribution, more than ten percent of the total combined voting power of all classes of capital stock must have an exercise price of at least 110% of the fair market value of common stock on the date of grant. Subject to certain adjustments, no more than 30,000,000 shares may be issued pursuant to the exercise of incentive stock options granted under the 2021 Plan.

The maximum term of options granted is ten years from the date of grant, except that the maximum permitted term of incentive stock options granted to an individual who holds, directly or by attribution, more than ten percent of the total combined voting power of all classes of capital stock is five years from the date of grant.

Stock option and RSU awards generally vest annually over a four-year period.

2021 Employee Stock Purchase Plan

Proterra's 2021 Employee Stock Purchase Plan (the "ESPP"), including the authorization of the initial share reserve thereunder, was adopted by the ArcLight Board prior to the Closing, approved by ArcLight's shareholders on June 11, 2021, and became effective upon the Closing Date.

An aggregate of 1,630,000 shares of common stock were reserved and available for sale under the ESPP. The aggregate number of shares reserved for sale under the ESPP increases automatically on January 1 of each of 2022 through 2031 by a number of shares equal to the lesser of 1% of the total number of outstanding shares of common stock as of the immediately preceding December 31 or a number of shares as may be determined by the Board or the compensation committee. The aggregate number of shares issued over the term of the ESPP, subject to certain adjustments, may not exceed 16,300,000 shares. In the first quarter of 2022 and 2023, the shares of common stock reserved for issuance were increased by 2,219,597 and 2,262,651, respectively, pursuant to the ESPP.

The ESPP allows eligible employees to purchase shares of common stock at a discount through payroll deductions of up to 15% of their eligible compensation, at not less than 85% of the fair market value, as defined in the ESPP, subject to any plan limitations. A participant may purchase a maximum of 2,500 shares during each 6-month offering period and $25,000 in any one calendar year. The offering periods generally start on the first trading day on or after November 15th and May 15th of each year.

The first offering period started in the fourth quarter of 2021. The Company calculated the fair value of the employees' purchase rights related to the ESPP using the Black-Scholes model and recorded approximately $0.6 million and $0.6 million of stock-based compensation expense for the six months ended June 30, 2023 and 2022, respectively. In the three months ended June 30, 2023 and 2022, the Company issued 586,008 and 325,106 shares of common stock under the ESPP with a purchase price of $1.13 and $4.62 per share, respectively.

A summary of the Company's stock option activity and related information was as follows:

	Options Outstanding			
	Number of Stock Options Outstanding	Weighted- Average Exercise Price	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Balance as of December 31, 2022 (1)	14,256,697	$ 4.32	5.5	$ 9,469
Granted	3,035,164	1.41		
Exercised	(57,036)	1.98		
Cancelled/forfeited/expired (2)	(1,618,145)	5.45		
Balance as of June 30, 2023 (3)	15,616,680	$ 3.65	4.9	$ —
Exercisable as of June 30, 2023 (4)	11,872,462	$ 3.96	3.1	$ —

(1) Excluding Equity Awards of 2,677,500 shares and Milestone Options of 669,375 shares. See below for further details.
(2) Excluding 502,032 shares cancelled under the Equity Awards with weighted average exercise price of $19.61 per share.
(3) Excluding Equity Awards of 2,175,468 shares and Milestone Options of 669,375 shares outstanding as of June 30, 2023.
(4) Excluding 2,008,124 shares exercisable under the Equity Awards with weighted average exercise price of $19.61 per share as of June 30, 2023.

In March 2020, in conjunction with Mr. Allen's appointment as the then President and Chief Executive Officer, the board of directors of Legacy Proterra approved a grant to Mr. Allen of stock option awards with respect to 4,685,624 shares, comprised of (1) 1,338,749 shares of a time-based award with an exercise price of $5.33 per share vesting quarterly over four years, (2) 2,677,500 shares of a time-based award consisting of four tranches with an exercise price of $11.21, $16.81, $22.41 and $28.02 per share, respectively, and vesting quarterly over four years ("Equity Awards"), and (3) 669,375 shares of milestone-based award with an exercise price of $5.33 per share vesting entirely and becoming exercisable on the first trading day following the expiration of the lockup period of the Company's initial public offering or the consummation of a change in control of the Company or upon the consummation of a merger involving a special purpose acquisition company ("Milestone Options"). The stock-based compensation expense for Milestone Options was recognized at the time the performance milestone became probable of achievement, which was at the time of Closing. Upon Closing, the 669,375 shares underlying the Milestone Options fully vested, and $2.1 million stock-based compensation expense was recognized in June 2021. As of June 30, 2023, Mr. Allen retired from the board, and his unvested shares were canceled.

Aggregate intrinsic value represents the difference between the estimated fair value of the underlying common stock and the exercise price of outstanding, in-the-money stock options. The total intrinsic value of stock options exercised was $0.1 million for the six months ended June 30, 2023. The total estimated grant date fair value of stock options vested was $4.0 million for the six months ended June 30, 2023. As of June 30, 2023, the total unrecognized stock-based compensation expense related to outstanding stock options was $8.1 million, which is expected to be recognized over a weighted-average period of 3.1 years.

The fair value of stock options granted is estimated on the date of grant using the following assumptions:

	Six Months Ended June 30,	
	2023	2022
Expected term (in years)	6.3	6.3
Risk-free interest rate	3.7 %	2.0 %
Expected volatility	67.2 %	55.1 %
Expected dividend rate	—	—

Restricted Stock Units

A summary of the Company's RSU activity and related information is as follows:

	Number of RSUs	Weighted Average Grant Date Fair Value
Balance as of December 31, 2022	5,733,227	$ 7.07
Granted	5,051,133	1.60
Released	(862,285)	6.61
Forfeited	(1,481,739)	5.58
Balance as of June 30, 2023	8,440,336	$ 4.11

The compensation expense related to the service-based RSU awards is determined using the fair market value of the Company's common stock on the date of the grant. As of June 30, 2023, the total unrecognized stock-based compensation expense related to outstanding RSUs was $28.9 million, which is expected to be recognized over a weighted-average period of 3.1 years.

Stock-based Compensation Expense

Stock-based compensation expense included in operating results was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Cost of goods sold	$ 272	$ 378	$ 577	$ 894
Research and development	1,265	1,288	2,457	2,281
Selling, general and administrative	2,868	4,649	5,685	7,782
Total stock-based compensation expense	$ 4,405	$ 6,315	$ 8,719	$ 10,957

9. Net Loss Per Share

Basic net loss per share is computed by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period, less the weighted-average unvested common stock subject to repurchase or forfeiture as they are not deemed to be issued for accounting purposes. Diluted net loss per share is computed by giving effect to all potential shares of common stock, including stock options, RSUs and warrants, to the extent they are dilutive.

The computation of basic and diluted net loss per share of common stock attributable to common stockholders was as follows (in thousands, except for per share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Numerator:				
Net loss	$ (30,994)	$ (41,821)	$ (274,971)	$ (91,899)
Effect of dilutive securities:				
Interest expense to be recognized upon conversion of Convertible Notes (1)	—	(51,623)	—	(47,797)
Numerator for diluted EPS - Net loss after the effect of dilutive securities	$ (30,994)	$ (93,444)	$ (274,971)	$ (139,696)
Denominator:				
Weighted-average shares used in computing net loss per share of common stock, basic	227,282	223,745	226,848	223,015
Convertible Notes (1)	—	25,131	—	24,855
Diluted weighted average shares	227,282	248,876	226,848	247,870
Net loss per share of common stock:				
Basic	$ (0.14)	$ (0.19)	$ (1.21)	$ (0.41)
Diluted	$ (0.14)	$ (0.38)	$ (1.21)	$ (0.56)

(1) Adjustment is under the “if-converted” method. Adjustments for the three months ended June 30, 2022 include write-off of $59.0 million unamortized debt discount of the Convertible Notes as of March 31, 2022, offset by the $7.4 million interest expense recorded in net loss of three months ended June 30, 2022. Adjustments for the six months ended June 30, 2022 include write-off of $62.3 million unamortized debt discount of the Convertible Notes as of December 31, 2021, offset by the $14.5 million interest expense recorded in net loss of six months ended June 30, 2022.

The Company applies the treasury stock method when calculating the diluted net income (loss) per share of common stock and “if-converted” method for Convertible Notes when applicable.

Prior to the Convertible Notes Amendments, the outstanding Convertible Notes including accrued interest would have been automatically converted to common stock at $6.5712 per share pursuant to the mandatory conversion provisions, if and when the VWAP exceeded $9.86 over 20 consecutive days subsequent to January 13, 2022. Following the Convertible Notes Amendments and as of June 30, 2023, the conditions for the convertible features under the Convertible Notes were not satisfied. See Note 4, Debt, for additional information on the conversion provisions of the Convertible Notes.

Since the Company was in a loss position after the effect of diluted securities, no adjustment is required to the weighted-average shares used in computing the diluted net loss per share as the inclusion of the remaining potential common stock shares outstanding would have been anti-dilutive. The potentially dilutive securities were as follows (in thousands):

	June 30, 2023
Stock options and RSUs to purchase common stock	26,902
Warrants to purchase common stock	1
Convertible notes (2)	36,598
Total	63,501

(2) Calculated based on the Convertible Notes balance inclusive PIK interest as of June 30, 2023 and the optional conversion prices as described in Note 4, Debt.

10. 401(k) Plan

The Company sponsors a 401(k) defined contribution plan covering all eligible employees and provides a matching contribution for the first 4% of their salaries. The matching contribution costs incurred were $0.9 million and $2.0 million in the three and six months ended June 30, 2023, respectively. The matching contribution costs incurred were $0.8 million and $1.5 million in the three and six months ended June 30, 2022, respectively.

11. Subsequent Events

The Chapter 11 Cases

Background to Chapter 11 Cases

As previously disclosed, the Company has incurred net losses and negative cash flows from operations since inception and has funded operations primarily through a combination of equity and debt financing. The Company's existing loan facilities include a requirement that the Company maintain minimum liquidity and deliver financial reports without a going concern qualification, which have been waived or modified as the Company pursued various strategies designed to improve liquidity and cash generated from operations, such as expense reduction and cash savings initiatives that include streamlining facilities, initiating working capital initiatives, and reducing overall selling, general and administrative expenses that include a workforce reduction announced in January 2023, the closure of the City of Industry facility by December 31, 2023 to improve operational efficiency and consolidating all battery production in our Powered 1 battery factory in the second half of 2023. Additionally, the Company explored potential options for raising additional funds through the issuance of equity, equity-linked, and/or debt securities, debt financings or other capital sources and/or strategic transactions. However, as disclosed in the Debtors' filings in the Chapter 11 Cases, the Company has not been able to secure additional financing.

Voluntary Filing under Chapter 11

As a result of the liquidity shortfall and an inability to secure additional financing, on August 7, 2023 (the "Petition Date"), Proterra Inc and its subsidiary, Proterra Operating Company, Inc. (collectively, the "Debtors"), filed voluntary petitions (the "Bankruptcy Petitions") for reorganization under Chapter 11 of the United States Bankruptcy Code (the "Bankruptcy Code") in the United States Bankruptcy Court for the District of Delaware (such court, the "Bankruptcy Court" and such cases, the "Cases"). The Cases are, pending an order authorizing joint administration by the Bankruptcy Court, currently administered under the captions *In re Proterra Inc*, Case No. 23-11120 (BLS) (Bankr. D. Del. 2023) and *In re Proterra Operating Company, Inc.*, Case No. 23-11121 (BLS) (Bankr. D. Del. 2023), for the Company and Proterra Operating Company, Inc. respectively. The Debtors will continue to operate their businesses as "debtors-in-possession" under the jurisdiction of the Bankruptcy Court and in accordance with the applicable provisions of the Bankruptcy Code and orders of the Bankruptcy Court. To ensure their ability to continue operating in the ordinary course of business, the Debtors are seeking from the Bankruptcy Court a variety of "first-day" relief", including, among other things, authority to use cash collateral, pay employee wages and benefits, pay vendors and suppliers in the ordinary course for all goods and services provided after the Petition Date and continue customer programs. As of August 8, 2023, the motions filed by the Debtors seeking this "first-day" relief are pending approval by the Bankruptcy Court on an interim or final basis, as applicable.

As previously disclosed by the Company, the filing of the Bankruptcy Petitions constituted an event of default that accelerated the Company's obligations under the following debt instruments:

- The Senior Credit Facility, which, as of June 30, 2023, has no outstanding balance and $20.1 million of letters of credit outstanding; and

- The $175.9 million aggregate principal amount of Convertible Notes outstanding as of June 30, 2023.

The debt instruments set forth above provide that as a result of the Bankruptcy Petitions, the principal and interest due thereunder shall be immediately due and payable. Any efforts to enforce such payment obligations under the debt instruments set forth above are automatically stayed as a result of the Bankruptcy Petitions, and the creditors' rights of enforcement in respect of the debt instruments set forth above are subject to the applicable provisions of the Bankruptcy Code.

In addition, the Company expects to reclassify all pre-petition debt obligations to liabilities subject to compromise on its condensed consolidated balance sheets because the filing of the Chapter 11 Cases accelerated substantially all of the Company's obligations under nearly all of its pre-petition debt instruments. Since the Petition Date occurred after June 30, 2023, these reclassifications are not reflected on the condensed consolidated balance sheets as of June 30, 2023 included herein. See Note 4, Debt for details of the Company's debt obligations.

Reorganization Accounting

Beginning on the Petition Date, the Company will apply Financial Accounting Standards Board Codification Topic 852, Reorganizations ("ASC 852") in preparing the consolidated financial statements. ASC 852 requires the financial statements, for the periods subsequent to the Petition Date and up to and including the period of emergence from Chapter 11 (the "Effective Date"), to distinguish transactions and events that are directly associated with the reorganization from the ongoing operations of the business. Accordingly, certain charges incurred during the bankruptcy proceedings, such as the write-off of unamortized debt issuance costs and premium on debt subject to compromise, legal and professional fees incurred directly as a result of the bankruptcy proceeding are recorded as Reorganization items, net in the Condensed Consolidated Statements of Operations and Comprehensive Loss. In addition, the balance sheet must distinguish between debtor pre-petition liabilities subject to compromise from pre-petition or post-petition liabilities that are not subject to compromise. Liabilities subject to compromise are pre-petition obligations that are not fully secured and have at least a possibility of not being repaid at the full claim amount.

Debtors-In-Possession

The Debtors are currently operating as debtors-in-possession in accordance with the applicable provisions of the Bankruptcy Code. The Debtors have brought and will seek Bankruptcy Court approval of motions designed primarily to mitigate the impact of the Chapter 11 Cases on the Company's operations, customers and employees. In general, as debtors-in-possession under the Bankruptcy Code, the Debtors are authorized to continue to operate as an ongoing business, but may not engage in transactions outside the ordinary course of business without the prior approval of the Bankruptcy Court. The Debtors have filed and will file motions with the Bankruptcy Court to authorize the Debtors to conduct their business activities in the ordinary course, including, among other things and subject to the terms and conditions of such orders, authorizing the Debtors to, among other things: (i) pay employees' wages and related obligations; (ii) pay prepetition claims of certain lien claimants and critical vendors; (iii) continue to operate their cash management system in a form substantially similar to pre-petition practice (iv) continue to maintain and administer certain existing customer programs; (v) pay taxes in the ordinary course; (vi) maintain their insurance program and surety bond program in the ordinary course; (vii) pay utility providers in the ordinary course; and (viii) to use cash collateral. In addition, the Debtors expect to seek Bankruptcy Court approval for an order limiting trading of the Company's equity securities to protect the Company's Net Operating Losses.

Marketing Process

In addition to the aforementioned first day motions, the Debtors expect to file a motion seeking Bankruptcy Court approval of certain procedures related to a marketing and bidding process for one or more potential sales or reorganization of all or certain assets of the Debtors, including the assets of Debtors' Proterra Transit, Proterra Powered, and Proterra Energy business lines.

Automatic Stay

Subject to certain specific exceptions under the Bankruptcy Code, the Bankruptcy Petitions automatically stayed most judicial or administrative actions against the Debtors and efforts by creditors to collect on or otherwise exercise rights or remedies with respect to pre-petition claims. Absent an order from the Bankruptcy Court, substantially all of the Debtors' pre-petition liabilities are subject to settlement under the Bankruptcy Code.

Executory Contracts

Subject to certain exceptions, under the Bankruptcy Code, the Debtors may assume, amend or reject certain executory contracts and unexpired leases subject to the approval of the Bankruptcy Court and certain other conditions. Generally, the rejection of an executory contract or unexpired lease is treated as a pre-petition breach of such executory contract or unexpired lease and, subject to certain exceptions, relieves the Debtors from performing their future obligations under such executory contract or unexpired lease but entitles the contract counterparty or lessor to a pre-petition general unsecured claim for damages caused by such deemed breach. Generally, the assumption of an executory contract or unexpired lease requires the Debtors to cure existing monetary defaults under such executory contract or unexpired lease and provide adequate assurance of future performance. Accordingly, any description of an executory contract or unexpired lease with the Debtors in this document, including where applicable a quantification of the Company's obligations under any such executory contract or unexpired lease of the Debtors, is qualified by any overriding rejection rights the Company has under the Bankruptcy Code.

Potential Claims

The Debtors will file with the Bankruptcy Court schedules and statements setting forth, among other things, the assets and liabilities of each of the Debtors, subject to the assumptions filed in connection therewith. These schedules and statements may be subject to further amendment or modification after filing. Certain holders of pre-petition claims that are not governmental units are required to file proofs of claim by the deadline for general claims, which deadline has not yet been set by the Bankruptcy Court.

Debtors will receive proofs of claim, that will be reconciled to amounts recorded in the Company's accounting records. Differences in amounts recorded and claims filed by creditors will be investigated and resolved, including through the filing of objections with the Bankruptcy Court, where appropriate. The Company may ask the Bankruptcy Court to disallow claims that the Company believes are duplicative, have been later amended or superseded, are without merit, are overstated or should be disallowed for other reasons. In addition, as a result of this process, the Company may identify additional liabilities that will need to be recorded or reclassified to liabilities subject to compromise. In light of the substantial number of claims expected to be filed, the claims resolution process may take considerable time to complete and likely will continue throughout the Chapter 11 proceedings.

NASDAQ Delisting Proceedings

As previously disclosed, on August 8, 2023, the Company received written notice from the Listing Qualifications Department of The Nasdaq Stock Market LLC ("Nasdaq") notifying the Company that, as a result of the Chapter 11 Cases and in accordance with Nasdaq Listing Rules 5101, 5110(b) and IM-5101-1, Nasdaq had determined that the Company's Common Stock, $0.0001 par value per share (the "Common Stock"), will be delisted from the Nasdaq Global Select Market. The Company does not intend to appeal this determination.

Trading of the Company's Common Stock will be suspended by Nasdaq at the opening of business on August 17, 2023.

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

You should read the following discussion and analysis of our financial condition and results of operations together with our unaudited condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report and our audited financial statements for the year ended December 31, 2022 and the related notes incorporated by reference in our Annual Report (the "Annual Report") on Form 10-K, filed with SEC on March 17, 2023 and amended on May 1, 2023. This discussion contains forward-looking statements and involves numerous risks and uncertainties. As a result of many factors, including those factors set forth in Part II, Item 1A titled "Risk Factors," our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. You should carefully read Part II, Item 1A titled "Risk Factors" to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements.

Overview

Proterra's mission is to build innovative electric vehicle and battery technologies to power a better, more sustainable world.

Commercial and industrial fleets are expected to adopt electric vehicles at increasingly higher rates over the next two decades, driven by factors including emissions targets and regulations, and lower operating costs. More than 200,000 new electric buses, medium-duty trucks, and heavy-duty trucks are expected to be sold in the industry by 2030 and approximately 650,000 by 2040 in our core markets of North America and Europe. Assuming average battery capacity per vehicle of 225 kWh for medium-duty trucks, 300 kWh for buses and 750 kWh for heavy-duty trucks, we estimate this could translate into demand for heavy-duty commercial and industrial-scale batteries of approximately 90 GWh by 2030 and approximately 300 GWh by 2040 in such markets. Our business strategy is to capitalize on this opportunity through our industry-leading commercial electrification solutions. Additionally, to improve battery production efficiency, the Company will consolidate the battery production from Burlingame, California to Powered 1 battery factory in the third quarter of 2023. These changes are part of an overall operational efficiency effort by the Company to address the challenges we have faced related to improving our margins and increasing our cash flows. This is an ongoing process and our efforts to date have not yet fully addressed these challenges partially due to the slower than expected ramp of our Powered 1 battery factory.

In the first quarter of 2023, we announced workforce restructuring plans designed to improve operational efficiency with the reduction of our workforce by up to twenty five percent, or the elimination of approximately 300 jobs, and the planned closure of our City of Industry manufacturing facility by December 31, 2023.

We have the following commercial offerings each addressing a critical component of commercial vehicle electrification.

- ***Proterra Powered & Energy.*** Proterra Powered products are our proprietary battery systems and electrification solutions for global commercial vehicle original equipment manufacturer ("OEM") customers serving the Class 3 to Class 8 vehicle segments, including delivery trucks, school buses, and coach buses, as well as construction and mining equipment, and other applications. Proterra Energy products and services offer turnkey fleet-scale, high-power charging solutions and software services, ranging from fleet and energy management software-as-a-service, to fleet planning, hardware, infrastructure, installation, utility engagement, and charging optimization. These solutions are designed to optimize energy use and costs, and to provide vehicle-to-grid functionality.

- ***Proterra Transit.*** We design, develop, manufacture, and sell electric transit buses as an OEM for North American public transit agencies, airports, universities, and other commercial transit fleets. Proterra Transit vehicles showcase and validate our electric vehicle technology platform through rigorous daily use by a large group of sophisticated customers focused on meeting the wide-ranging needs of the communities they serve.

Our industry experience, the performance of our transit buses, and compelling total cost of ownership has helped make us the leader in the U.S. electric transit bus market. With over 1,100 electric transit buses delivered since inception, our electric transit buses currently have delivered more than 45 million cumulative service miles spanning a wide spectrum of climates, conditions, altitudes and terrains. From this experience, we have been able to continue to iterate and improve our technology.

Our decade of experience supplying battery electric heavy duty transit buses has provided the opportunity to validate our products' performance, operational efficiency and maintenance costs with a demanding customer base. Proterra Powered is able to leverage Proterra Transit's expertise and showcase its strong record of range and reliability on North America's most difficult public transit routes to attract other commercial vehicle segments. We believe our success powering heavy-duty transit vehicles with optimal performance and operation compared to a diesel-powered bus, will continue to demonstrate the strength and breadth of our technology to other commercial vehicle applications. We sell our battery systems and electrification solutions using a business development team as well as a channel sales team for certain end markets. These teams work closely with our engineering team to develop cutting-edge electrification solutions tailored to our customers' vehicle requirements.

Proterra Powered has partnered with more than a dozen OEMs spanning from Class 3 to Class 8 trucks, several types of buses, and multiple off-highway categories. Through June 30, 2023, Proterra Powered has delivered battery systems and electrification solutions for more than 2,300 vehicles to our OEM partner customers.

In addition, Proterra Energy has established us as a leading commercial vehicle charging solution provider by helping fleet operators fulfill the high-power charging needs of commercial electric vehicles and optimize their energy usage, while meeting our customers' space constraints and continuous service requirements. As of June 30, 2023, we had installed more than 110 MW of charging infrastructure across North America.

Historically, we have generated the majority of our revenue from Proterra Transit's sales of electric transit buses, complemented by additional revenue from Proterra Powered's sales of battery systems and Proterra Energy's sales and installation of charging systems, as well as from the sale of spare parts and other services provided to customers. As fleet electrification continues to expand beyond buses to trucks and other commercial vehicles, we expect Proterra Powered & Proterra Energy to grow into a significantly larger portion of our overall business and generate a greater portion of revenue. In the second quarter of 2023, Proterra Powered generated a majority of our total revenue for the first time. Through June 30, 2023, our chief operating decision maker, the Chief Executive Officer, evaluates Proterra's results on a consolidated basis for purposes of making decisions on allocating resources and assessing financial performance, resulting in a single reportable segment.

Enhanced by Proterra Powered™ high performance battery systems and electrification solutions and our purpose-built transit bus vehicle designed to optimize power, weight, and efficiency, Proterra Transit has been a leader in the North American electric transit market since 2012. Our sales efforts are focused on the 400 largest public transit agencies, which range in size from approximately 50 buses to thousands of buses in their fleets. These agencies operate more than 85% of the more than 70,000 transit buses on the road in North America, according to the FTA's National Transit Database. We also focus our sales effort on airports, universities, hospitals, and corporate shuttle operators. As of June 30, 2023, there are, in aggregate, more than 25,000 buses in operation at fleets that are mandated to convert to 100% zero-emission by 2040 in North America, including fleets in the state of California and the cities of New York City, Chicago, and Seattle, among others. The fleet size of our primary public transit agency customer targets ranges between approximately 100 to more than 4,000 buses, and their electrification plans typically involve a phased approach. Our goal is to maintain our leadership in market share of the North American electric bus and commercial vehicle market as electric penetration continues to rise by both acquiring new customers and expanding our share of existing customers as transit agencies' average order rates increase to meet their zero emission targets. We believe we have a competitive advantage in winning new bus sales due to our extensive track record, with more than 1,100 vehicles delivered and more than 45 million real-world service miles spanning a wide spectrum of climates, conditions, altitudes and terrains. We believe that repeat orders of increasing scale represent a considerable growth opportunity for our electric transit buses. After initial purchase, our customers often expand their electric vehicle programs and place additional orders for electric buses and charging systems. Repeat orders lower our customer acquisition costs and increase visibility into our sales pipeline. Many of our existing customers have announced long-term goals to transition to fleets completely comprised of electric vehicles.

We have a long sales and production cycle given our customers' structured procurement processes and vehicle customization requirements, and believe that our proven ability to deliver commercial-quality battery systems, electrification and charging solutions, and electric transit buses gives us a distinct first mover advantage in end markets that are electrifying rapidly. For Proterra Powered, new vehicle development programs for commercial vehicle OEMs typically last between one and three years. As a result, volume production and revenue generation tend to trail initial contract signatures by a few years. For Proterra Transit, public transit agencies typically conduct a request for proposal process before awards are made and purchase orders are issued. Proposals are evaluated on various criteria, including but not limited to technical requirements, reliability, reputation of the manufacturer, and price. This initial sales process from first engagement to award typically ranges from 6 to 18 months. Once a proposal has been awarded, a pre-production process is completed where customer specific options are mutually agreed upon. A final purchase order follows the pre-production process. Procurement of parts and production typically follow the purchase order. Once a bus is fully manufactured, the customer performs a final inspection before accepting delivery, allowing us to recognize revenue. The length of time between a customer award and vehicle acceptance typically varies between 12 and 24 months, depending on product availability and production capacity.

We consolidated our bus production to our largest bus manufacturing facility located in Greenville, South Carolina in the second quarter of 2023. We constructed our Powered 1 battery factory which has approximately 327,000 square feet at Greer, South Carolina. To improve production efficiency, we are also consolidating our battery production to Powered 1 battery factory in the second half of 2023. Our planned total battery system manufacturing capacity is multiple gigawatt-hours per year. We have specifically developed our battery modules using a design for manufacturability (DFM) approach that enables high-volume automated production of the module using a modular manufacturing line that can be rapidly built with low capital expenditures. Enabled by the simplicity of design and integrated architecture of our battery modules, we can manufacture our battery packs in two widths and three heights, various lengths ranging from 3-feet to 9-feet, and four different voltages. In the six months ended June 30, 2023 and 2022, our battery production was 297.9 MWh and 161.0 MWh, respectively, a 85% increase year over year. As we work to increase our production volumes, complete construction of our Powered 1 battery factory, and improve manufacturing efficiency across our production assets as we scale, we believe that we will be able to leverage our historical investments in capacity to reduce our labor and overhead costs as a percentage of total revenue. With the addition of our Powered 1 factory, we believe we will have sufficient capacity to fulfill our current backlog and anticipated near-term growth but further investment in capacity will be required as demand for electric vehicles continues to grow globally.

For the six months ended June 30, 2023 and 2022, our total revenue was $165.2 million and $133.1 million, respectively. We generated a gross loss of $18.9 million and $2.4 million for the six months ended June 30, 2023 and 2022, representing a gross margin of (11.5)% and (1.8)%, respectively. We invested significant resources in research and development, operations, and sales and marketing to grow our business and, as a result, generated losses from operations of $123.8 million and $89.2 million for the six months ended June 30, 2023 and 2022, respectively. The restructuring we announced in the first quarter of 2023 started in the later part of the first quarter, and therefore its impact was not significant to the operating results of the first quarter. In the second quarter of 2023, the costs reduction contributed to the offset of other incremental expenses incurred to grow our business and operate as a public company.

We intend to continue to make investments in developing new products and enhancing existing products. In 2022, we made a strategic equity investment in a privately held entity that we expect to produce lithium iron phosphate (LFP) battery cells in the United States in the coming years to provide us with development opportunities for battery packs with another cell chemistry to address additional segments of the commercial vehicle market. We are also increasing and/or optimizing our production capacity, and also expect to make investments in our sales and marketing organizations as well as those expenses associated with operating as a public company. As a result, we expect that the cost of goods sold and operating expenses will increase with total revenue in absolute dollars in future periods but decline as a percentage of total revenue over time.

Recent Developments

Voluntary Reorganization under Chapter 11

On August 7, 2023 (the “Petition Date”), Proterra Inc and its subsidiary, Proterra Operating Company, Inc (collectively, the “Debtors”), filed voluntary petitions (the “Bankruptcy Petitions”) for reorganization under Chapter 11 of the United States Bankruptcy Code (the “Bankruptcy Code”) in the United States Bankruptcy Court for the

District of Delaware (such court, the “Bankruptcy Court” and such cases, the “Cases”). The Cases are, pending an order authorizing joint administration by the Bankruptcy Court, currently administered under the captions *In re Proterra Inc*, Case No. 23-11120 (BLS) (Bankr. D. Del. 2023) and *In re Proterra Operating Company, Inc.*, Case No. 23-11121 (BLS) (Bankr. D. Del. 2023), for the Company and Proterra Operating Company, Inc. respectively. The Debtors will continue to operate their businesses as “debtors-in-possession” under the jurisdiction of the Bankruptcy Court and in accordance with the applicable provisions of the Bankruptcy Code and orders of the Bankruptcy Court. To ensure their ability to continue operating in the ordinary course of business, the Debtors are seeking from the Bankruptcy Court a variety of “first-day” relief”, including, among other things, authority to use cash collateral, pay employee wages and benefits, pay vendors and suppliers in the ordinary course for all goods and services provided after the Petition Date and continue customer programs. As of August 8, 2023, the motions filed by the Debtors seeking this “first-day” relief are pending approval by the Bankruptcy Court on an interim or final basis, as applicable.

As previously disclosed by the Company, the filing of the Bankruptcy Petitions constituted an event of default that accelerated the Company’s obligations under the following debt instruments:

- The Senior Credit Facility, which, as of June 30, 2023, has no outstanding balance and $20.1 million of letters of credit outstanding; and
- The $175.9 million aggregate principal amount of Convertible Notes outstanding as of June 30, 2023.

The debt instruments set forth above provide that as a result of the Bankruptcy Petitions, the principal and interest due thereunder shall be immediately due and payable. Any efforts to enforce such payment obligations under the debt instruments set forth above are automatically stayed as a result of the Bankruptcy Petitions, and the creditors’ rights of enforcement in respect of the debt instruments set forth above are subject to the applicable provisions of the Bankruptcy Code.

NASDAQ Delisting Proceedings

As previously disclosed, on August 8, 2023, the Company received written notice from the Listing Qualifications Department of the Nasdaq Stock Market LLC (“Nasdaq”) notifying the Company that, as a result of the Chapter 11 Cases and in accordance with Nasdaq Listing Rules 5101, 5110(b) and IM-5101-1, Nasdaq had determined that the Company’s Common Stock, $0.0001 par value per share (the “Common Stock”), will be delisted from the Nasdaq Global Select Market. The Company does not intend to appeal this determination.

Trading of the Company’s Common Stock will be suspended by Nasdaq at the opening of business on August 17, 2023.

Key metrics and select financial data

Deliveries

We delivered 62 and 97 (92 new and 5 pre-owned) vehicles in the six months ended June 30, 2023 and 2022, respectively. We delivered battery systems for 705 and 635 vehicles in the six months ended June 30, 2023 and 2022, respectively.

Deliveries is an indicator of our ability to convert awarded orders into revenue and demonstrates the scaling of our operations. We expect volume of deliveries to vary every quarter and not be linear as product configurations vary in complexity and timing for completion is not standard. Vehicles delivered represents the number of buses that have met revenue recognition criteria during a period. Battery systems delivered represents the battery systems sold to OEMs that have met revenue recognition criteria during a period and is measured based on the number of underlying vehicles in which they are to be used. In addition to batteries, battery systems could include drivetrains and high voltage systems and controls, depending upon the customer contract.

Growth rates between deliveries and total revenue are not perfectly correlated because our total revenue is affected by other variables, such as the mix of products delivered during the period or other services provided in addition to the hardware delivered.

Key factors affecting our performance

Supply Chain Disruption, Material Costs and Economic Impacts

Ongoing macroeconomics conditions have led to adverse impacts on the U.S. and global economies and created uncertainty regarding potential impacts to our supply chain, operations, and customer demand. The recent increase in inflation, interest rate and energy costs and continued disruption in global markets (in part stemming from the conflict in Ukraine) have further impacted supply chain stability and material costs. Our vehicle and charging system deliveries were impacted by ongoing constraints and inefficiencies in production driven in part by shortages in component parts resulting from global supply chain disruptions stemming from the pandemic and supplier instability. Although we achieved revenue growth during the six months ended June 30, 2023 compared to the six months ended June 30, 2022, these disruptions decreased our production which negatively impacted our revenue and increased our overhead, led to increased costs to secure components critical to our production needs and negatively impacted our margins. Our transit bus production in particular was impacted by availability of wiring harnesses and other parts shortages, and we have qualified additional suppliers for wiring harnesses in early 2023 to mitigate that issue going forward. However, we still expect that our results for the remaining 2023 across all of our product lines will continue to be impacted by supply chain issues, including parts shortages.

More generally, raw material and component price inflation, and increased freight and logistics costs in addition to parts shortages are currently expected to continue to have an impact on our results of operations, financial position, and liquidity. If supply chain disruptions, shipment delays, part shortages, production inefficiencies, extended customer order and acceptance processes, are prolonged or worsen, or if supplier credit terms are unfavorable as a result of our current financial condition or supplier to impose more onerous terms on us, such as requiring cash payments prior to parts delivery, it could lead to more significant delays in production, the signing of new customer contracts and customer acceptances of near-term deliveries.

Ability to sell additional powertrains, vehicles, chargers and other products to new and existing customers

Our results will be impacted by our ability to sell our battery systems, electrification solutions including charging and energy management software, and electric transit buses, to new and existing customers. We have had initial success with Proterra Powered establishing strategic partnerships and with Proterra Transit selling electric transit buses and chargers to transit agencies, universities and airports. Our growth opportunity is dependent on commercial vehicle manufacturers electrifying their product offerings and increasing production as well as transit agencies electrifying more of their fleets (both of which we believe will increase with continued improvement in battery performance and costs over time), as well as our ability to increase manufacturing capacity and secure supply of key components, including battery cells, to meet expected demand, and our reputation in the market. Our ability to sell additional products to existing customers is a key part of our success, as follow-on purchases indicate customer satisfaction and decrease the likelihood of competitive substitution. In order to sell additional products to new and existing customers, we will need to continue to invest significant resources in our products and services, and our manufacturing capacity and supply chain, and demonstrate our reliability as a partner both in terms of our financial condition and product quality and customer service. If we fail to make the right investment decisions in our technology and electrification solutions, including our battery systems and electrification and charging solutions, and our manufacturing facilities and supply chain initiatives, if customers do not adopt our technology or our products and services or we cannot timely deliver products to customers due to supply chain disruptions or otherwise, or if our competitors are able to develop and deliver technology or products and services that are superior to ours, our business, prospects, financial condition, and operating results could be adversely affected.

Ability to improve profit margins and scale our business

We intend to continue investing in initiatives to improve our operating leverage and significantly ramp production. We believe continued reduction in costs and an increase in production volumes will enable commercial vehicle manufacturers to electrify faster. Purchased materials represent the largest component of cost of goods sold in all products and we continue to explore ways to reduce these costs through improved design for cost, strategic sourcing, long-term contracts, and in some cases vertical integration. We completed construction of our battery production facility in Greer including the first production line which went in service in January 2023. We consolidated our bus manufacturing in our Greenville facility in the second quarter of 2023, and are in the process of consolidating all battery production to Greer facility, which we expect to complete in the second half of 2023. We expect the consolidation of bus production in Greenville to continue to drive greater labor and overhead efficiencies while maintaining the equivalent volume of output. We believe that an increase in volume and additional experience will allow us to leverage those investments and reduce our labor and overhead costs, as well as our freight costs, as a percentage of total revenue. We expect our product cost of goods sold to increase in absolute dollars in future periods as the volume of products we sell increases. As we grow into our current capacity, execute on cost-reduction initiatives, and improve production efficiency, we expect our product cost of goods sold as a percentage of revenue to decrease in the longer term. We anticipate that by increasing facility utilization rates and improving overall economies of scale, we can positively impact gross margins of our products, bring value to our customers and help accelerate commercial electric vehicle adoption. Our ability to achieve cost-saving and production-efficiency objectives can be negatively impacted by a variety of factors including, among other things, labor cost inflation, lower-than-expected facility utilization rates, rising real estate costs, manufacturing and production cost overruns, increased purchased material costs, and unexpected supply-chain quality issues or interruptions, and delays in our ability to hire, train, and retain employees needed to scale production to meet demand.

Continued emissions regulation and environmental stewardship

Our business benefits from international, federal, state, and local government interest in regulating air pollution and greenhouse gas emissions that contribute to global climate change. In July 2020, 15 states, including California and New York, pledged to work jointly towards a unified goal of zero emissions for 100% of new sales of medium- and heavy-duty commercial vehicles by 2050. In August 2019, the European Union passed Regulation 2019/1242, mandating a reduction in emissions from new trucks by 2025 and 2030. In addition, a growing number of cities and transit agencies have pledged to convert their entire transit bus fleets to zero-emission vehicles by a specific target date, and many have already begun to purchase electric vehicles in order to meet this goal. For example, on December 14, 2018, the California Air Resources Board ("CARB') adopted a state-wide mandate, the Innovative Clean Transit Rule, mandating transit agencies to commit to purchasing zero-emission buses starting in 2029. In 2023, CARB passed the Advanced Clean Fleet Rule, which requires public and private medium-duty fleets in California to convert to zero-emission vehicles by 2045, with some sectors as early as 2035. The move away from diesel- and natural gas-powered commercial vehicles is a significant step forward to accelerate the use of advanced technologies in medium- and heavy-duty vehicles to meet air quality and public health goals, thereby boosting near-term deployment of battery-electric commercial vehicles. As legacy internal combustion engine technology becomes more heavily regulated and costly across the globe, commercial vehicle manufacturers are investing in electrification. While this investment may increase competition, we believe that it will also increase customer demand, and help build the necessary supply chain and adjacent industry investments to support powertrain electrification. However, the uncertainty related to the passage of new legislation, appropriation of government funding, and implementation of regulations could impact the timing and number of vehicle orders, and any reduction in governmental interest in emissions regulation could negatively impact our business prospects or operating results.

Government programs accelerating adoption of zero-emission vehicles

Federal and state funding has accelerated the adoption of electric vehicles in our target markets. For instance, our U.S. transit customers have partially funded electric bus purchases through competitive grant programs, including the Low or No Emission Vehicle Program authorized by the federal Fixing America's Surface Transportation Act in 2015, and other state-specific funding. The Infrastructure Investment and Jobs Act enacted on November 15, 2021 authorizes additional funding for electric vehicles and electric vehicle charging infrastructure through the creation of new programs and grants and the expansion of existing programs, including over $4.0 billion to replace existing buses with zero emission buses and at least $2.5 billion to replace existing school buses with zero emission school buses. In August 2022, the Inflation Reduction Act added additional funding and tax credit programs for both passenger car and commercial vehicles, many of which will become available to recipients in 2023. In the United States, states are also allocating portions of settlement funds from the approximately $15 billion Volkswagen Emissions Settlement Program to investments in zero-emission transit buses and school buses. We expect that the availability of this now unprecedented level of government funding for our customers, suppliers, and competitors to help fund purchases of commercial electric vehicles and battery systems will remain an important factor in our company's growth prospects.

As a result of the Inflation Reduction Act, the Internal Revenue Code Section 45X introduces “Advanced Manufacturing Production Credit” (“AMPC”) in effective January 1, 2023. The AMPC is based on the quantity of eligible components produced and sold by a taxpayer to an unrelated person in the taxable year. The AMPC is available for the production of battery cells and battery modules in the United States based on the capacity in kilowatt hours of the battery cell or module. The credit in the case of a battery cell is based on the capacity of the cell, $35 per kWh, and in the case of a module is based on the capacity of the module, $10 per kWh (or, in the case of a battery module that does not use battery cells, $45 per kWh). The credit is available from 2023 to 2032 subject to phase down beginning in 2030. The credit is eligible for direct payment for a five-year period from Treasury and the right to the credit can be sold for cash to third parties (in both cases subject to certain limitations). Based on the direct pay mechanism, it allows taxpayers to elect to treat the credit as a direct payment of tax, which allows them to receive a cash payment if the taxpayer does not incur any income tax liability. Accordingly, these tax credits are government grants in nature. As such, we follow our accounting policy related to government grants and record it as a reduction of product cost of goods sold when we are reasonably assured that the conditions required for such tax credits are met and such benefit will be received. We expect that we will qualify for the $10 per kWh credit, however, we cannot assure that the IRS will ultimately determine that we qualify.

Components of results of operations

Revenue

We derive revenue primarily from the sale of vehicles, the sale of battery and powertrain systems, the sale and installation of charging systems, as well as the sale of spare parts and other services provided to customers.

Product revenue. Product revenue consists of revenue earned from the sale of vehicles, sale of battery and powertrain systems as well as sales and installation of charging systems. A vehicle is considered delivered once met revenue recognition criteria. Revenue from sales of vehicles and charging systems is typically recognized upon delivery when we can objectively demonstrate that the criteria specified in the contractual acceptance provisions are achieved prior to delivery. In cases, where we cannot objectively demonstrate that the criteria specified in the contractual acceptance provisions have been achieved prior to delivery, revenue is recognized upon acceptance by the customer. Under certain contract arrangements, revenue related to the charging systems is recognized over the installation period using an input measure based on costs incurred to date relative to total estimated costs to completion. Revenue from the sale of battery and powertrain systems is typically recognized upon shipping. Product revenue also includes revenue from leasing vehicles and charging systems under operating leases. Revenue from operating lease arrangements is recognized ratably over the lease term. The amount of product revenue we recognize in a given period depends on the number of products delivered and the type of financing used by the customer.

Parts and other service revenue. Parts and other service revenue includes sales of spare parts, revenue earned from the development of electric vehicle powertrain components, the design and development of battery and drive systems for other vehicle manufacturers, and sales of extended warranties. The amount of parts and service revenue tends to grow with the number of vehicles delivered. However, variability can exist as customers have different methodologies for sourcing spare parts for their fleets. Revenue related to the design, development and integration of battery and drive systems is typically recognized upon shipping or delivery of services and prototypes, depending on the terms in customer contracts.

Cost of goods sold

Product cost of goods sold. Product cost of goods sold consists primarily of direct material and labor costs, manufacturing overhead, other personnel-related expenses, which include salaries, bonuses, benefits, and stock-based compensation expense, reserves for estimated warranty costs, freight expense, and depreciation expense. Product cost of goods sold also includes charges to write-down the carrying value of inventory when it exceeds its estimated net realizable value, including on-hand inventory that is either obsolete or in excess of forecasted demand. We expect our product cost of goods sold to increase in absolute dollars in future periods as the volume of products we sell increases. As we grow into our current capacity, execute on cost-reduction initiatives, and improve production efficiency, we expect our product cost of goods sold as a percentage of revenue to decrease in the longer term.

Parts and other service cost of goods sold. Parts and other service cost of goods sold consists primarily of material costs and the cost of services provided, including field service costs and costs related to our development team. We record costs of development services incurred in periods prior to the finalization of an agreement as research and development expense. Once a development agreement is finalized, we record these costs in parts and other service cost of goods sold. We expect our parts and other service cost of goods sold to increase in absolute dollars in future periods as more customers put additional vehicles into service and sign new development agreements.

Gross profit (loss) and margin

Gross profit (loss) is total revenue less total cost of goods sold. Gross margin is gross profit (loss) expressed as a percentage of total revenue. Our gross profit (loss) and margin has and may in the future fluctuate from period-to-period. Such fluctuations have been and will continue to be affected by a variety of factors, including the timing of vehicle delivery, mix of products sold, manufacturing costs, financing options, and warranty costs. We expect our gross margin to improve over time as we continue to scale our operations and execute on cost reduction initiatives in the longer term.

Operating expenses

Research and development. Research and development expense consists primarily of personnel-related expenses, consulting and contractor expenses, validation and testing expense, prototype parts and materials, depreciation expense, and allocated overhead costs. Software development costs related to our fleet and energy management platform are expensed as incurred if the capitalization criteria are not met. We intend to continue to make significant investments in developing new products and enhancing existing products. Research and development expense will be variable relative to the number of products that are in development, validation or testing. However, we expect it to decline as a percentage of total revenue over time.

Selling, general and administrative. Selling, general and administrative expenses consist primarily of personnel-related expenses for our sales, marketing, supply chain, finance, legal, human resources, and administrative personnel, as well as the costs of customer service, information technology, professional services, insurance, travel, allocated overhead, and other marketing, communications and administrative expenses. We will continue to actively promote our products. We also expect to invest in our corporate organization and incur additional expenses associated with operating as a public company, including increased legal and accounting costs, investor relations costs, higher insurance premiums, and compliance costs. As a result, we expect that selling, general and administrative expenses will increase in absolute dollars in future periods but decline as a percentage of total revenue over time.

Interest expense, net

Interest expense, net consists primarily of interest expense associated with our debt facilities and amortization of debt discount and issuance costs. Interest income consists primarily of interest income earned on our cash and cash equivalents and short-term investments balances.

(Gain) loss on debt extinguishment

Loss on debt extinguishment relates to the amendment made to the Notes Purchase Agreement and Convertible Notes on March 31, 2023. See Note 4, Debt, for additional information of the Convertible Notes. Gain on debt extinguishment relates to the forgiveness of the PPP loan.

(Gain) loss on valuation of derivative liability

(Gain) loss on valuation of derivative liability relates to the changes in the fair value of derivative liability, which were subject to remeasurement at each balance sheet date.

Other expense (income), net

Other expense (income), net primarily relates to sublease income and currency fluctuations that generate foreign exchange gains or losses on invoices denominated in currencies other than the U.S. dollar, amortization of short-term investment premium/discount and other non-operational financial gains or losses.

Critical accounting policies and estimates

Our unaudited condensed consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of financial statements in conformity with U.S. GAAP requires us to make estimates, assumptions, and judgments that affect amounts of assets and liabilities reported in the financial statements, the disclosure of contingent assets and liabilities as of the date of the financial statements and reported amounts of revenues and expenses during the applicable periods. We base our estimates, assumptions, and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances. Different assumptions and judgments would change the estimates used in the preparation of our financial statements, which, in turn, could change the results from those reported. We evaluate our estimates, assumptions, and judgments on an ongoing basis.

There have been no significant changes in our critical accounting policies and estimates during the six months ended June 30, 2023, as compared to the critical accounting policies and estimates disclosed in Management’s Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2022, except for the accounting policies related to the Convertible Notes and derivative liability adopted during the three months ended March 31, 2023. See Note 1 and Note 4 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report for details.

Recent accounting pronouncements

See Note 1 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report for information regarding recent accounting pronouncements that are of significance or potential significance to us.

Results of operations

The following tables set forth our results of operations for the periods presented and as a percentage of our total revenue for those periods. Percentages presented in the following tables may not sum due to rounding.

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2023	2022	2023	2022
Product revenue	$ 77,103	$ 70,256	$ 147,099	$ 124,427
Parts and other service revenue	8,611	4,308	18,144	8,718
Total revenue	85,714	74,564	165,243	133,145
Product cost of goods sold	92,390	69,109	171,441	126,335
Parts and other service cost of goods sold	5,711	4,900	12,747	9,258
Total cost of goods sold (1)	98,101	74,009	184,188	135,593
Gross profit (loss)	(12,387)	555	(18,945)	(2,448)
Research and development (1)	14,922	14,904	33,446	26,706
Selling, general and administrative (1)	35,562	31,705	71,448	60,092
Total operating expenses	50,484	46,609	104,894	86,798
Loss from operations	(62,871)	(46,054)	(123,839)	(89,246)
Interest expense, net	3,938	6,951	11,192	13,830
(Gain) loss on debt extinguishment	—	(10,201)	177,939	(10,201)
Gain on valuation of derivative liability	(33,578)	—	(33,578)	—
Other expense (income), net	(2,237)	(983)	(4,421)	(976)
Loss before income taxes	(30,994)	(41,821)	(274,971)	(91,899)
Provision for income taxes	—	—	—	—
Net loss	$ (30,994)	$ (41,821)	$ (274,971)	$ (91,899)

(1) Includes stock-based compensation as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2023	2022	2023	2022
Cost of goods sold	$ 272	$ 378	$ 577	$ 894
Research and development	1,265	1,288	2,457	2,281
Selling, general and administrative	2,868	4,649	5,685	7,782
Total stock-based compensation expense	$ 4,405	$ 6,315	$ 8,719	$ 10,957

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Product revenue	90 %	94 %	89 %	93 %
Parts and other service revenue	10	6	11	7
Total revenue	100	100	100	100
Product cost of goods sold	108	93	104	95
Parts and other service cost of goods sold	7	6	8	7
Total cost of goods sold (1)	115	99	112	102
Gross profit (loss)	(15)	1	(12)	(2)
Research and development (1)	17	20	20	20
Selling, general and administrative (1)	41	43	43	45
Total operating expenses	58	63	63	65
Loss from operations	(73)	(62)	(75)	(67)
Interest expense, net	5	9	7	10
(Gain) loss on debt extinguishment	—	(14)	108	(8)
Gain on valuation of derivative liability	(39)	—	(20)	—
Other expense (income), net	(3)	(1)	(3)	(1)
Loss before income taxes	(36)	(56)	(167)	(68)
Provision for income taxes	—	—	—	—
Net loss	(36)%	(56)%	(167)%	(68)%

(1) Includes stock-based compensation expense as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Cost of goods sold	— %	— %	— %	— %
Research and development	2	2	2	2
Selling, general and administrative	3	6	3	6
Total stock-based compensation expense	5 %	8 %	5 %	8 %

Comparison of the Three and Six Months Ended June 30, 2023 and 2022

Revenue

	Three Months Ended June 30,		$	%	Six Months Ended June 30,		$	%
(dollars in thousands)	2023	2022	Change	Change	2023	2022	Change	Change
Product revenue	$ 77,103	$ 70,256	$ 6,847	10 %	$ 147,099	$ 124,427	$ 22,672	18 %
Parts and other service revenue	8,611	4,308	4,303	100	18,144	8,718	9,426	108
Total revenue	$ 85,714	$ 74,564	$ 11,150	15	$ 165,243	$ 133,145	$ 32,098	24
Proterra Transit new buses delivered	20	52	(32)	(62)	62	92	(30)	(33)
Proterra Powered battery systems delivered	462	348	114	33	705	635	70	11
MW charging infrastructure installed	8.8	3.0	5.8	193 %	17.8	6.3	11.5	183 %

Total revenue increased by $11.2 million in the three months ended June 30, 2023 compared to the three months ended June 30, 2022. The increase of total revenue was primarily due to an increase of battery systems delivered partially offset by fewer bus deliveries.

Total revenue increased by $32.1 million in the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The increase of total revenue was primarily due to an increase of battery systems delivered partially offset by fewer bus deliveries.

The decrease of vehicle delivery in the three and six months ended June 30, 2023 was mainly due to the timing of bus deliveries at the end of the period and a reduction in bus production as we consolidated all of our bus manufacturing to Greenville, South Carolina.

Cost of goods sold and gross profit (loss)

	Three Months Ended June 30,		$	%	Six Months Ended June 30,		$	%
(dollars in thousands)	2023	2022	Change	Change	2023	2022	Change	Change
Product cost of goods sold	$ 92,390	$ 69,109	$ 23,281	34 %	$ 171,441	$ 126,335	$ 45,106	36 %
Parts and other service cost of goods sold	5,711	4,900	811	17	12,747	9,258	3,489	38
Total cost of goods sold	98,101	74,009	24,092	33	184,188	135,593	48,595	36
Gross profit (loss)	$ (12,387)	$ 555	$ (12,942)	(2332)%	$ (18,945)	$ (2,448)	$ (16,497)	674 %

Cost of goods sold increased by $24.1 million for the three months ended June 30, 2023 compared to the three months ended June 30, 2022. The increase in costs were mainly driven by the increased volume and higher material input costs. The increase was also due to a $6.8 million inventory write down related to excess or obsolete inventories and lower of cost or market adjustment, and increased personnel expense, depreciation and facility expenses associated with Powered 1 factory, which started production in the first quarter of 2023. These costs were partially offset by manufacturing credits earned as part of the Inflation Reduction Act (the “IRA”) in 2023.

Cost of goods sold increased by $48.6 million for the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The increase in costs were mainly driven by the increased volume and higher material input costs and growth in personnel related costs. However, delays in production resulting mainly from parts shortages and supplier instability along with the ramp up Powered 1 factory production, which started in the first quarter of 2023, negatively impacted our ability to absorb increased labor and manufacturing overhead costs in the first quarter of 2023. The increase was also due to the $6.8 million inventory write down, and increased personnel expense, depreciation and facility expenses associated with Powered 1 factory, which started production in the first quarter of 2023. These costs were partially offset by manufacturing credits earned as part of the IRA during the six months ended June 30, 2023.

Gross profit decreased by $12.9 million to a gross loss of $12.4 million in the three months ended June 30, 2023 from a gross profit of $0.6 million in the three months ended June 30, 2022. Gross loss increased by $16.5 million to $18.9 million in the six months ended June 30, 2023 from $2.4 million in the six months ended June 30, 2022. Gross profit was negatively impacted primarily due to a high mix of deliveries with pre-inflation pricing and increased cost of goods sold due to volume and higher material input costs, the $6.8 million inventory write down, and increased personnel related costs depreciation and facility expenses associated with Powered 1 factory, which started production in the first quarter of 2023. For the six months ended June 30, 2023, the gross profit was also negatively impacted by the unabsorbed labor and manufacturing overhead costs caused by delays in production and supply chain interruptions along with the ramp up Powered 1 factory production in the first quarter of 2023.

Gross profit for the six months ended June 30, 2022 was negatively impacted primarily due to unabsorbed labor and manufacturing overhead costs caused by the COVID-19 pandemic and related supply chain interruptions and delays in production.

Operating expenses

Research and development

(dollars in thousands)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	$ Change	% Change	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022	$ Change	% Change
Research and development	$ 14,922	$ 14,904	$ 18	— %	$ 33,446	$ 26,706	$ 6,740	25 %

Research and development expense only slightly changed for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022, primarily due to the increase in prototype parts and tooling expense offset by a decrease in personnel related expense and regulatory testing expense.

Research and development expense increased by $6.7 million for the six months ended June 30, 2023 as compared to the six months ended June 30, 2022, primarily due to an increase in personnel related expenses and stock-based compensation of $3.6 million, an increase in prototype parts and tooling expenses of $1.7 million, and an increase of professional and consulting fees of $1.0 million to support increased product and market development efforts.

Selling, general and administrative

(dollars in thousands)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	$ Change	% Change	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022	$ Change	% Change
Selling, general and administrative	$ 35,562	$ 31,705	$ 3,857	12 %	$ 71,448	$ 60,092	$ 11,356	19 %

Selling, general and administrative expense increased by $3.9 million for the three months ended June 30, 2023 compared to the three months ended June 30, 2022. The $3.9 million increase was primarily due to an increase in professional and consulting fees of $4.7 million due to the growth of our business and operating as a public company.

Selling, general and administrative expense increased by $11.4 million for the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The $11.4 million increase was primarily due to an increase in personnel related expenses and stock-based compensation of $4.1 million, an increase in professional and consulting fees of $7.5 million due to the growth of our business and operating as a public company.

Interest expense, net

(dollars in thousands)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	$ Change	% Change	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022	$ Change	% Change
Interest income	$ (1,125)	$ (458)	$ (667)	146 %	$ (1,849)	$ (767)	$ (1,082)	141 %
Interest expense	5,063	7,409	(2,346)	(32)	13,041	14,597	(1,556)	(11)
Interest expense, net	$ 3,938	$ 6,951	$ (3,013)	(43)%	$ 11,192	$ 13,830	$ (2,638)	(19)%

Interest expense, net decreased by $3.0 million for the three months ended June 30, 2023 compared to the three months ended June 30, 2022. Interest expense, net decreased by $2.6 million for the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The decrease was primarily due to the decrease of amortization expense of debt discount associated with the Convertible Notes, which was amended on March 31, 2023.

(Gain) loss on debt extinguishment

	Three Months Ended June 30,		$	%	Six Months Ended June 30,		$	%
(dollars in thousands)	2023	2022	Change	Change	2023	2022	Change	Change
(Gain) loss on debt extinguishment	$ —	$ (10,201)	$ 10,201	NM	$ 177,939	$ (10,201)	$ 188,140	NM

On March 31, 2023, we entered into amendments to the Notes Purchase Agreement and Convertible Notes as described in Note 4 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report. The Convertible Notes Amendments were considered as an extinguishment of the existing debt under the Convertible Notes outstanding as of March 31, 2023, and the issuance of new debt upon the effectiveness of the Convertible Notes Amendments on March 31, 2023, which resulted in a $177.9 million loss on debt extinguishment was recorded.

The $10.2 million gain on debt extinguishment was related to the $10.0 million PPP loan forgiveness approved by the SBA in May 2022. The previously paid and accrued interest of $0.2 million was also forgiven.

Gain on valuation of derivative liability

	Three Months Ended June 30,		$	%	Six Months Ended June 30,		$	%
(dollars in thousands)	2023	2022	Change	Change	2023	2022	Change	Change
Gain on valuation of derivative liability	$ (33,578)	$ —	$ (33,578)	NM	$ (33,578)	$ —	$ (33,578)	NM

The $33.6 million gain in the three months ended June 30, 2023 was related to the non-cash fair value change in derivative liability arising from the Amended Convertible Notes caused by changes of stock price and certain underlying assumptions related to the likelihood of conversion.

Other expense (income), net

	Three Months Ended June 30,		$	%	Six Months Ended June 30,		$	%
(dollars in thousands)	2023	2022	Change	Change	2023	2022	Change	Change
Other expense (income), net	$ (2,237)	$ (983)	$ (1,254)	128 %	$ (4,421)	$ (976)	$ (3,445)	353 %

The other income in the three and six months ended June 30, 2023 was mainly due to the gains from amortization of short-term investment premium/discount and sublease income.

Provision for income taxes

We are subject to income taxes in the United States and certain states, but due to our net operating loss position and full valuation allowance, we have not recognized any material provision or benefit through June 30, 2023.

Liquidity and capital resources

As of June 30, 2023, we had cash and cash equivalents and short-term investments of $220.8 million. Our primary requirements for liquidity and capital are investment in new products and technologies, the completion and improvement of our current manufacturing and future capacity expansion, working capital, servicing our indebtedness, complying with the requirements of the terms governing the Senior Credit Facility and Convertible Notes, and general corporate needs. Historically, these cash requirements have been met through the net proceeds we received through private sales of equity securities, the Business Combination, the PIPE Financing, the Convertible Notes, borrowings under our credit facilities, and payments received from customers.

Under ASC Subtopic 205-40, *Presentation of Financial Statements—Going Concern* ("ASC 205-40"), we have the responsibility to evaluate whether conditions and/or events raise substantial doubt about our ability to meet our future obligations as they become due within one year of the financial statements included elsewhere in this Quarterly Report being issued.

Due to our potential inability to comply with the Minimum Liquidity Covenant (as defined below) and any resulting potential events of default under the Convertible Notes and the Senior Credit Facility when coupled with the following conditions: our available cash resources, recurring losses and cash outflows from operations, an expectation of continuing operating losses and cash outflows from operations for the foreseeable future, and the need to raise additional capital to finance our future operations, we concluded that we may not be able to meet our future financial obligations within one year of the date of this Quarterly Report on Form 10-Q, which causes substantial doubt about our ability to continue as a going concern to exist.

We are currently executing on various strategies designed to improve liquidity and cash generated from operations. We are undertaking expense reduction and cash savings initiatives that include streamlining facilities, initiating working capital initiatives, and reducing overall selling, general and administrative expenses that include a workforce reduction announced in January 2023, and our planned closure of the City of Industry facility by December 31, 2023 to improve operational efficiency, by consolidating bus production to our Greenville facility and to consolidate all battery production to our Powered 1 battery factory in the second half of 2023.

In addition, beginning on the Petition Date, the Company's ability to continue as a going concern is contingent upon, among other things, its ability to, subject to the Bankruptcy Court's approval, implement a Chapter 11 plan, emerge from the Chapter 11 proceedings and generate sufficient liquidity to meet its contractual obligations and operating needs. As a result of the risks and uncertainties related to, among other things, (i) the Company's ability to obtain requisite support for a Chapter 11 plan from various stakeholders, and (ii) the disruptive effects of the Chapter 11 proceedings on our business making it potentially more difficult to maintain business, financing and operational relationships. As a result of risks and uncertainties related to events of default under our debt obligations, the delisting of our common stock. and the effects of disruption from the Chapter 11 Cases making it more difficult to maintain business, financing and operational relationships, together with the Company's recurring losses from operations and accumulated deficit, substantial doubt exists regarding our ability to continue as a going concern for the next 12 months.

The filing of the Chapter 11 Cases accelerated substantially all of the Company's obligations under its pre-petition debt instruments.As such, the Company expects to reclassify all pre-petition debt obligations to liabilities subject to compromise on its condensed consolidated balance sheets. Since the Petition Date occurred after June 30, 2023, these reclassifications are not reflected on the condensed consolidated balance sheets as of June 30, 2023 included herein. For additional discussion regarding our debt obligations, see Note 4, Debt, and the impact of the Chapter 11 Cases on the Company's debt obligations, see Note 11, Subsequent Events.

See the risk factors under "Risks Associated with Chapter 11 Proceedings" for further information.

Senior Credit Facility

In May 2019, we entered into the Senior Credit Facility, which is a senior secured asset-based lending facility with borrowing capacity up to $75.0 million. The Senior Credit Facility is available on a revolving basis through the earlier of May 9, 2024 or 91 days prior to the stated maturity of any subordinated debt in aggregate amount of $7.5 million or more. The maximum availability under the Senior Credit Facility is based on certain specified percentages of eligible accounts receivable and inventory, subject to certain reserves, to be determined in accordance with the Senior Credit Facility. The Senior Credit Facility includes a $25.0 million letter of credit sub-line as of June 30, 2023. Subject to certain conditions, the borrowing capacity may be increased by $50.0 million upon approval by the lender, and at our option, the borrowing capacity can be reduced to $25.0 million or terminated upon at least 15 days' written notice.

The Senior Credit Facility is secured by a security interest on substantially all our assets except for intellectual property and certain other excluded assets.

As of June 30, 2023, there was no balance for borrowings outstanding under the Senior Credit Facility, although we utilized $20.1 million of the facility's sub-line for letters of credit.

Convertible Notes

In August 2020, Legacy Proterra issued $200.0 million aggregate principal amount of Convertible Notes with an initial maturity date on August 4, 2025. The Convertible Notes had a cash interest of 5.0% per annum payable at each quarter end and a paid-in-kind interest of 4.5% per annum payable by increasing the principal balance at each quarter end.

Certain Convertible Note holders with an original aggregate principal amount of $46.5 million elected to convert their Convertible Notes at the Closing of the Business Combination. The remaining outstanding original principal amount under the Convertible Note Facility is $153.5 million as of March 31, 2023 and June 30, 2023.

Amendment to the Notes Purchase Agreements and the Convertible Notes

On March 31, 2023, the Company entered into an amendment to the Notes Purchase Agreements and the Convertible Notes, which includes amendments to the interest rate, maturity date, mandatory and optional conversion rights, limitations on the issuance of shares of our common stock upon conversion and the Company's obligation to seek stockholder approval, minimum liquidity requirements and certain other covenants (the "Convertible Notes Amendments"). On May 19, 2023, the Generation Convertible Notes for $3.5 million original principal amount was amended and the maturity date was extended to August 4, 2028.

As of June 30, 2023, the Convertible Notes will mature on August 4, 2028. We may not make prepayments in respect of the Convertible Notes unless approved by the required holders of the Convertible Notes.

See Note 4 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report for additional details of the Convertible Notes prior to and after the Convertible Notes Amendments.

As of June 30, 2023, the outstanding balance of the Convertible Notes was $175.9 million inclusive of PIK interest of $22.4 million. The Company was in compliance with the covenants contained in the Senior Credit Facility and Convertible Facility as of June 30, 2023.

Due to the Company's potential inability to comply with the Minimum Liquidity Covenant in future periods and any resulting potential events of default under the Convertible Notes and the Senior Credit Facility in future periods, even though the Convertible Notes have a maturity date in August 2028, the related liabilities are classified as current liability on the Company's condensed consolidated balance sheets as of June 30, 2023.

Performance bonds

Public transit agencies may require their suppliers to obtain performance bonds from surety companies or letters of credit to protect against non-performance. These performance guarantees are normally valid from contract effective date to completion of the contract, which is generally upon customer acceptance of the vehicle. Surety companies limit the maximum coverage they will provide based on financial performance and do not provide committed bonding facilities. Currently, we are required to cash collateralize a portion of the total performance bond amount. Historically, we have primarily provided cash collateral. Our surety provider may accept letters of credit. The collateral provided is a mix of restricted cash on the balance sheet and letters of credit. As of June 30, 2023, we had $12.6 million of restricted cash and $5.0 million of letters of credit related to performance bonds. Subject to the Chapter 11 Cases, we believe we have sufficient capacity to meet the performance guarantee needs of our business through our arrangements with our primary surety provider.

Cash flows

The following table summarizes our cash flows:

(in thousands)	Six Months Ended June 30, 2023	2022
Cash flows (used in) provided by:		
Operating activities	$ (68,942)	$ (116,698)
Investing activities	62,027	(9,249)
Financing activities	(2,579)	8,630
Net decrease in cash and cash equivalents, and restricted cash	$ (9,494)	$ (117,317)

Operating activities

Net cash used in operating activities in the six months ended June 30, 2023 was $68.9 million compared to $116.7 million net cash used in operating activities in the six months ended June 30, 2022. The change of cash used in operating activities in the six months ended June 30, 2023 compared to the six months ended June 30, 2022 was mainly due to changes of working capital balance offset by higher net loss than comparative period. The increase in net loss of $183.1 million between the comparison periods is primarily offset by the increase of non-cash loss on debt extinguishment of $187.9 million and $2.9 million of depreciation and amortization expense. In the six months ended June 30, 2023, cash provided by operating activities includes $48.4 million, $71.4 million, $20.5 million and $16.7 million related to account receivable, accounts payable and accrued liabilities, deferred revenue and prepaid expenses and other current assets, respectively, and partially offset by cash used in operating activities related to inventory of $122.7 million. In the six months ended June 30, 2022, cash used in operating activities included $34.0 million and $11.8 million related to inventory and other assets, respectively, which was partially offset by cash provided by operating activities related to deferred revenue and accounts payable and accrued liabilities of $4.0 million and $3.3 million. respectively.

Investing activities

Net cash provided by investing activities was $62.0 million in the six months ended June 30, 2023 compared to $9.2 million net cash used by investing activities in the six months ended June 30, 2022. The $62.0 million net cash provided by investing activities for the six months ended June 30, 2023 resulted from $71.4 million net cash provided by maturity of marketable securities and offset by $9.4 million capital expenditures mainly related to the Powered 1 factory. The $9.2 million net cash used in investing activities for the six months ended June 30, 2022 resulted from $18.3 million net purchase of short-term investments and $27.6 million capital expenditures mainly related to the Powered 1 factory.

Financing activities

Net cash used in financing activities was $2.6 million for the six months ended June 30, 2023 as compared to $8.6 million net cash provided by financing activities for the six months ended June 30, 2022. The net cash used in financing activities for the six months ended June 30, 2023 primarily resulted from the payment of insurance related financing liability. The net cash provided by financing activities for the six months ended June 30, 2022 primarily resulted from net proceeds of $7.8 million from the exercise of stock options.

Off-balance sheet arrangements

We have not created, and are not party to, any special-purpose or off-balance sheet entities for the purpose of raising capital, incurring debt, or operating our business. With the exception of letters of credit, we do not have any off-balance sheet arrangements or relationships with entities that are not disclosed in our consolidated financial statements that have, or are reasonably likely to have, a material current or future effect on our financial condition, revenue, expenses, results of operations, liquidity, capital expenditures, or capital resources. In addition, we do not engage in trading activities involving non-exchange traded contracts.

Contractual obligations

The purchase commitments including purchase orders or contracts for the purchase of certain goods and services, excluding unestimatable variable components, was $2.0 billion as of June 30, 2023, of which 23% was expected to be due in the next 12 months, 41% in 1-3 years, and the remainder in more than 3 years through 2028. Most of the commitments relate to the expected purchase of cylindrical cells manufactured at a yet to be built LG Energy Solution battery cell plant in the United States, pursuant to a long-term supply agreement through 2028. Our purchase commitments are subject to approval by the Bankruptcy Court during the Chapter 11 Cases.

Item 3. Quantitative and Qualitative Disclosure About Market Risk

There have been no material changes in our market risk exposures for the six months ended June 30, 2023, as compared to those discussed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, as amended on May 1, 2023.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision of and with the participation of our principal executive officer and principal financial officer, management has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities and Exchange Act of 1934, as amended (the “Exchange Act”) as of December 31, 2022. Disclosure controls and procedures are designed to ensure that information required to be disclosed by us in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Based upon this evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were not effective as of June 30, 2023 because the material weaknesses in internal control over financial reporting, described below and in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with SEC on March 17, 2023 and amended on May 1, 2023, remained as of June 30, 2023.

We did not have a sufficient number of trained resources with assigned responsibility and accountability for the design, operation and documentation of internal control over financial reporting. As a result:

a. We did not have an effective risk assessment process that defined clear financial reporting objectives and evaluated risks at a sufficient level of detail to identify all relevant risks of material misstatement across the entity.

b. We did not have an effective information and communication process that identified and assessed the source of and controls necessary to ensure the reliability of information used in financial reporting and that communicates relevant information about roles and responsibilities for internal control over financial reporting.

c. We did not have effective monitoring activities to assess the operation of internal control over financial reporting including the continued appropriateness of control design and level of documentation maintained to support control effectiveness.

As a consequence, we did not effectively design, implement, or operate process-level control activities for substantially all of our financial reporting processes.

Our management, including our chief executive officer and chief financial officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will be able to prevent all errors and detect all fraud due to inherent limitations of internal controls. Because of such limitations, there is a risk that material misstatements will not be prevented or detected on a timely basis by internal control over financial reporting. These inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the financial reporting process safeguards to reduce, though not eliminate, the risk of errors or fraud.

After giving full consideration to the material weaknesses and the additional procedures that we performed, management has concluded that the unaudited condensed consolidated financial statements contained in this Quarterly Report on Form 10-Q fairly present, in all material respects, our financial condition, results of operations and cash flows for the periods presented in conformity with U.S. generally accepted accounting principles (“US GAAP”).

Remediation Plan and Status

Our management, with the oversight of the audit committee of our board of directors, is in the process of designing and implementing a remediation plan and have taken and continue to take steps that we believe will address the underlying causes of the material weakness, which includes the following steps:

(1) Hiring, training, and retaining individuals with the appropriate skills and experience related to technical accounting, internal control over financial reporting, and the design and implementation of information technology solutions;

(2) Enhancing risk assessment and prioritizing remediation activities that most significantly reduce the risk that a material misstatement to the consolidated financial statements would not be prevented or detected on a timely basis;

(3) Implementing and monitoring our phased approach to remediation of control activities;

(4) Enhancing information and communication processes through information technology solutions designed to ensure that information needed for financial reporting is accurate, complete, relevant and reliable, and communicated in a timely manner; and

(5) Reporting regularly to the audit committee of the board of directors on the progress and results of our remediation plan, including the identification, status, and resolution of internal control deficiencies.

The elements of our remediation plan can only be accomplished over time and are subject to continued review, implementation and testing by management, as well as oversight by the audit committee of our board of directors, to determine that it is achieving its objectives. While we have implemented a variety of steps to remediate these weaknesses, the material weaknesses will not be considered remediated until such time as management designs and implements effective controls that operate for a sufficient period of time and concludes, through testing, that these controls are effective. Examples of actions that have been implemented as part of the ongoing remediation plan include but are not limited to the hiring of an accounting advisor while the Company seeks to hire additional accounting staff. The Company has also contracted the services of a global consulting firm that is experienced in SOX and Committee of Sponsoring Organizations (COSO) compliance to assist with the ongoing remediation efforts. We will continue to monitor the effectiveness of our remediation plan and will refine the remediation plan as appropriate.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the Company’s most recently completed quarter ended June 30, 2023 that have materially affected, or are reasonably likely to materially affect the Company’s internal control over financial reporting, other than the remediation steps described above.

Part II. Other Information

Item 1. Legal Proceedings

From time to time we may be involved in various disputes and litigation matters that arise in the ordinary course of business. We are currently not a party to any material legal proceedings.

Item 1A. Risk Factors

Investing in our securities involves risks. You should consider carefully the risks and uncertainties described below, together with all of the other information in this Quarterly Report, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our condensed consolidated financial statements included elsewhere in this Quarterly Report, before deciding whether to purchase any of our securities. Our business, results of operations, financial condition, and prospects could also be harmed by risks and uncertainties that are not presently known to us or that we currently believe are not material. If any of these risks actually occur, our business, results of operations, financial condition, and prospects could be materially and adversely affected. Unless otherwise indicated, references in these risk factors to our business being harmed will include harm to our business, reputation, brand, financial condition, results of operations, and prospects. In such event, the market price of our securities could decline, and you could lose all or part of your investment.

Risks Associated with Chapter 11 Proceedings

We are subject to the risks and uncertainties associated with Chapter 11 proceedings.

For the duration of our Chapter 11 proceedings, our operations and our ability to develop and execute our business plan, as well as our continuation as a going concern, are subject to the risks and uncertainties associated with bankruptcy. These risks include the following:

- our ability to successfully conduct a sale, execute a transaction, or develop, confirm and consummate a Chapter 11 plan or alternative restructuring transaction;
- our ability to obtain and/or maintain court approval with respect to motions filed in Chapter 11 proceedings from time to time;
- our ability to operate within the restrictions and the liquidity limitations of any orders, including orders related to cash collateral, entered by the Bankruptcy Court in connection with the Chapter 11 Cases;
- our ability to obtain sufficient financing, including the use of cash collateral, to allow us to emerge from bankruptcy and execute our business plan of reorganization post-emergence;
- our ability to maintain our relationships with our suppliers, vendors, customers, employees and other third parties;
- our ability to maintain contracts that are critical to our operations;
- our ability to execute on our business plan;
- our ability to attract, motivate and retain key employees;
- the high costs of bankruptcy and related fees;
- the ability of third parties to seek and obtain court approval to terminate contracts and other agreements with us;

- the ability of third parties to seek and obtain court approval to terminate or shorten the exclusivity period for us to propose and confirm a Chapter 11 plan, to appoint a Chapter 11 trustee, or to convert the Chapter 11 proceedings to a Chapter 7 proceeding;

- the actions and decisions of our creditors and other third parties who have interests in our Chapter 11 proceedings that may be inconsistent with our plans; and

- uncertainties and continuing risks associated with our ability to achieve our stated goals and continue as a going concern.

Delays in our Chapter 11 Cases increase the risks of us being unable to reorganize our business and emerge from bankruptcy and increase our costs associated with the bankruptcy process

These risks and uncertainties could affect our business and operations in various ways. For example, negative events associated with our Chapter 11 proceedings could adversely affect our relationships with our suppliers, vendors, customers, employees, and other third parties, which in turn could adversely affect our operations and financial condition. Also, we need the prior approval of the Bankruptcy Court for transactions outside the ordinary course of business, including a sale of all or part of our business, which may limit our ability to respond timely to certain events or take advantage of certain opportunities. Because of the risks and uncertainties associated with our Chapter 11 proceedings, we cannot accurately predict or quantify the ultimate impact of events that will occur during our Chapter 11 proceedings that may be inconsistent with our plans.

Operating under Bankruptcy Court protection for a long period of time may harm our business.

Our future results are dependent upon the successful confirmation and implementation of a plan of reorganization. A long period of operations under Bankruptcy Court protection could have a material adverse effect on our business, financial condition, results of operations and liquidity. So long as the Chapter 11 proceedings continue, our senior management will be required to spend a significant amount of time and effort dealing with the reorganization instead of focusing on our business operations. A prolonged period of operating under Bankruptcy Court protection also may make it more difficult to retain management and other key personnel necessary to the success and growth of our business.

Additionally, so long as the Chapter 11 proceedings continue, we will be required to incur significant costs for professional fees and other expenses associated with the administration of the Chapter 11 proceedings.

The Chapter 11 Cases limit the flexibility of our management team in running our business.

While we operate our businesses as debtors-in-possession under supervision by the Bankruptcy Court, we are required to obtain the approval of the Bankruptcy Court and, in some cases, certain lenders prior to engaging in activities or transactions outside the ordinary course of business. Bankruptcy Court approval of non-ordinary course activities entails preparation and filing of appropriate motions with the Bankruptcy Court, negotiation with a creditors' committee and other parties-in-interest and one or more hearings. The creditors' committee and other parties-in interest may be heard at any Bankruptcy Court hearing and may raise objections with respect to these motions. This process may delay major transactions and limit our ability to respond quickly to opportunities and events in the marketplace. Furthermore, in the event the Bankruptcy Court does not approve a proposed activity or transaction, we would be prevented from engaging in activities and transactions that we believe are beneficial to us.

We may not be able to obtain confirmation of a Chapter 11 plan of reorganization or complete any Bankruptcy Court-approved sales of our Company or assets, or we may not be able to realize adequate consideration for such sales.

To emerge successfully from Bankruptcy Court protection as a viable entity, we must meet certain statutory requirements with respect to adequacy of disclosure with respect to the plan of reorganization, solicit and obtain the requisite acceptances of such a plan and fulfill other statutory conditions for confirmation of such a plan, which have not occurred to date. The confirmation process is subject to numerous, unanticipated potential delays, including a delay in the Bankruptcy Court's commencement of the confirmation hearing regarding our plan of reorganization.

We may not receive the requisite acceptances of constituencies in the Chapter 11 proceedings to confirm our plan. Even if the requisite acceptances of our plan are received, the Bankruptcy Court may not confirm such a plan. The precise requirements and evidentiary showing for confirming a plan, notwithstanding its rejection by one or more impaired classes of claims or equity interests, depends upon a number of factors including, without limitation, the status and seniority of the claims or equity interests in the rejecting class (i.e., secured claims or unsecured claims or subordinated or senior claims). If a Chapter 11 plan of reorganization is not confirmed by the Bankruptcy Court, it is unclear whether we would be able to reorganize our business and what, if anything, holders of claims against us would ultimately receive with respect to their claims.

There can be no assurance as to whether we will successfully reorganize and emerge from the Chapter 11 proceedings or, if we do successfully reorganize, as to when we would emerge from the Chapter 11 proceedings. If we are unable to successfully reorganize, we may not be able to continue our operations.

In connection with the Chapter 11 cases, we may attempt to sell all or certain of our assets pursuant to a sale under section 363 of the Bankruptcy Code or otherwise reorganize the Company pursuant to a Chapter 11 plan of reorganization. There can be no assurance that we will be successful in completing any such transactions because there may not be buyers willing to enter into any such transactions, we may not receive sufficient consideration for such assets, or there may be objections from our stakeholders. If we are unable to complete these transactions, it may be necessary to seek additional funding sources or possibly convert to a Chapter 7 liquidation process. If these transactions are completed, they may not generate the anticipated or desired outcomes.

Our long-term liquidity requirements and the adequacy of our capital resources are difficult to predict at this time.

We face uncertainty regarding the adequacy of our liquidity and capital resources. In addition to the cash requirements necessary to fund ongoing operations, we have incurred significant professional fees and other costs in connection with preparation for the Chapter 11 proceedings and expect that we will continue to incur significant professional fees and costs throughout our Chapter 11 proceedings. We cannot assure investors that cash on hand and cash flow from operations will be sufficient to continue to fund our operations and allow us to satisfy our obligations related to the Chapter 11 proceedings until we are able to emerge from the Chapter 11 proceedings.

Our liquidity, including our ability to meet our ongoing operational obligations, is dependent upon, among other things: (i) our ability to comply with the terms and conditions of any cash collateral order that may be entered by the Bankruptcy Court in connection with the Chapter 11 proceedings, (ii) our ability to maintain adequate cash on hand, (iii) our ability to generate cash flow from operations, (iv) our ability to successfully conduct a sale, execute a transaction, or develop, confirm and consummate a Chapter 11 plan or other alternative restructuring transaction, and (v) the cost, duration and outcome of the Chapter 11 proceedings.

As a result of the Chapter 11 proceedings, our financial results may be volatile and may not reflect historical trends.

During the Chapter 11 proceedings, we expect our financial results to continue to be volatile as restructuring activities and expenses, contract terminations and rejections, and claims assessments significantly impact our condensed consolidated financial statements. As a result, our historical financial performance is likely not indicative of our financial performance after the date of the bankruptcy filing. In addition, if we emerge from Chapter 11, the amounts reported in subsequent condensed consolidated financial statements may materially change relative to historical consolidated financial statements, including as a result of revisions to our operating plans pursuant to a plan of reorganization. We also may be required to adopt fresh start accounting, in which case our assets and liabilities will be recorded at fair value as of the fresh start reporting date, which may differ materially from the recorded values of assets and liabilities on our consolidated balance sheets. Our financial results after the application of fresh start accounting also may be different from historical trends.

We may be subject to claims that will not be discharged in the Chapter 11 proceedings, which could have a material adverse effect on our financial conditions and results of operations.

The Bankruptcy Code provides that the confirmation of a plan of reorganization discharges a debtor from substantially all debts arising prior to confirmation. With few exceptions, all claims that arose prior to the Petition Date, or after such date but before confirmation of the plan of reorganization (i) would be subject to compromise and/or treatment under the plan of reorganization and/or (ii) would be discharged in accordance with the terms of the plan of reorganization. Any claims not ultimately discharged through the plan of reorganization could be asserted against the reorganized entities and may have an adverse effect on our financial condition and results of operations on a post-reorganization basis.

We may experience increased levels of employee attrition as a result of the Chapter 11 proceedings.

As a result of the Chapter 11 proceedings, we may experience increased levels of employee attrition, and our employees likely will face considerable distraction and uncertainty. A loss of key personnel or material erosion of employee morale could adversely affect our business and results of operations. Our ability to engage, motivate and retain key employees or take other measures intended to motivate and incentivize key employees to remain with us through the pendency of the Chapter 11 proceedings may be limited by restrictions on implementation of incentive programs under the Bankruptcy Code. The loss of services of members of our senior management team could impair our ability to execute our strategy and implement operational initiatives, which would be likely to have a material adverse effect on our business, financial condition and results of operations.

Senior management may leave the Debtors during the pendency of the Chapter 11 proceedings if not adequately compensated.

The Bankruptcy Code limits a debtor’s ability to pay bonus compensation to insiders absent court approval. If we are unable to obtain sufficient creditor support and court approval of any insider incentive bonus program, our senior management team will be substantially undercompensated compared to both our market peers and their compensation prior to the Chapter 11 proceedings. There can be no assurance that members of management will continue to work for the Company under such circumstances. Should the Company lose all or part of the senior management team during the pendency of the Chapter 11 proceedings, we may experience substantial disruption and value destruction as a result.

Our post-bankruptcy capital structure is yet to be determined, and any changes to our capital structure may have a material adverse effect on existing debt and security holders, including holders of our common stock.

Our post-bankruptcy capital structure has yet to be determined and will be set pursuant to a plan that requires Bankruptcy Court approval. The reorganization of our capital structure may include exchanges of new debt or equity securities for our existing debt, equity securities, and claims against us. Such new debt may be issued at different interest rates, payment schedules and maturities than our existing debt securities. Existing equity securities are subject to a high risk of being cancelled. The success of a reorganization through any such exchanges or modifications will depend on approval by the Bankruptcy Court and the willingness of existing debt and security holders to agree to the exchange or modification, subject to the provisions of the Bankruptcy Code, and there can be no guarantee of success. If such exchanges or modifications are successful, holders of our debt or of claims against us may find their holdings no longer have any value or are materially reduced in value, or they may be converted to equity and be diluted or may be modified or replaced by debt with a principal amount that is less than the outstanding principal amount, longer maturities and reduced interest rates. Holders of our common stock may also find that their holdings no longer have any value and face highly uncertain or no recoveries under a plan. There can be no assurance that any new debt or equity securities will maintain their value at the time of issuance. If existing debt or equity holders are adversely affected by a reorganization, it may adversely affect our ability to issue new debt or equity in the future. Although we cannot predict how the claims and interests of stakeholders in the Chapter 11 Cases, including holders of common stock, will ultimately be resolved, we expect that common stockholders will not receive a recovery through any plan unless the holders of more senior claims and interests, such as secured and unsecured indebtedness (which is currently trading at a significant discount), are paid in full. Consequently, there is a significant risk that the holders of our common stock would receive no recovery under the Chapter 11 Cases and that our common stock will be worthless.

Any Chapter 11 plan that we may implement will likely be based in large part upon assumptions and analyses developed by us. If these assumptions and analyses prove to be incorrect, or adverse market conditions persist or worsen, our plan may be unsuccessful in its execution.

Any Chapter 11 plan that we may implement will affect both our capital structure and the ownership, structure and operation of our remaining businesses and will likely reflect assumptions and analyses based on our experience and perception of historical trends, current conditions and expected future developments, as well as other factors that we consider appropriate under the circumstances. Whether actual future results and developments will be consistent with our expectations and assumptions depends on a number of factors, including but not limited to (i) our ability to substantially change our capital structure; and (ii) the overall strength and stability of general economic conditions, both in the U.S. and in global markets. The failure of any of these factors could materially adversely affect the successful reorganization of our businesses.

In addition, any plan of reorganization will likely rely upon financial projections, including with respect to revenues, adjusted EBITDA, capital expenditures, debt service and cash flow. Financial forecasts are necessarily speculative, and it is likely that one or more of the assumptions and estimates that are the basis of these financial forecasts will not be accurate. In our case, the forecasts will be even more speculative than normal, because they may involve fundamental changes in the nature of our capital structure. Accordingly, we expect that our actual financial condition and results of operations will differ, perhaps materially, from what we have anticipated. Consequently, there can be no assurance that the results or developments contemplated by any plan of reorganization we may implement will occur or, even if they do occur, that they will have the anticipated effects on us and our subsidiaries or our businesses or operations. The failure of any such results or developments to materialize as anticipated could materially adversely affect the successful implementation of any plan of reorganization.

We may be subject to claims that will not be discharged in the Chapter 11 cases, which could have a material adverse effect on our financial condition and results of operations.

The Bankruptcy Code provides that the confirmation of a Chapter 11 plan of reorganization discharges a debtor from substantially all debts arising prior to confirmation. With few exceptions, all claims that arose prior to the Petition Date, or after such date but before confirmation of the plan of reorganization (i) would be subject to compromise and/or treatment under the plan of reorganization and/or (ii) would be discharged in accordance with the terms of the plan of reorganization. The Company is not currently aware of any material claims that would not be discharged in the Chapter 11 cases, however, any claims not ultimately discharged through a Chapter 11 plan of reorganization could be asserted against the reorganized entities and may have an adverse effect on our financial condition and results of operations on a post-reorganization basis.

In certain instances, a Chapter 11 case may be converted to a case under Chapter 7 of the Bankruptcy Code, in which case our common stock would likely be worthless.

We have not yet negotiated a plan of reorganization with our creditors. There can be no assurance as to whether we will successfully reorganize and emerge from the Chapter 11 proceedings or, if we do successfully reorganize, as to when we would emerge from the Chapter 11 proceedings. If the Bankruptcy Court finds that it would be in the best interest of creditors and/or the Debtors, the Bankruptcy Court may convert our Chapter 11 bankruptcy cases to cases under Chapter 7 of the Bankruptcy Code. In such event, a Chapter 7 trustee would be appointed or elected to liquidate the Debtors' assets for distribution in accordance with the priorities established by the Bankruptcy Code. The Debtors believe that liquidation under Chapter 7 would result in significantly smaller distributions being made to the Debtors' creditors than those provided for in a Chapter 11 plan or reorganization because of (i) the likelihood that the assets would have to be sold or otherwise disposed of in a disorderly fashion over a short period of time rather than reorganizing or selling in a controlled manner the Debtors' businesses as a going concern, (ii) additional administrative expenses involved in the appointment of a Chapter 7 trustee, and (iii) additional expenses and claims, some of which would be entitled to priority, that would be generated during the liquidation and from the rejection of leases and other executory contracts in connection with a cessation of operations.

The Chapter 11 proceedings may cause our common stock to decrease in value materially or may render our common stock worthless.

We have a substantial amount of indebtedness that is senior to the Company's existing shares of common stock in our capital structure. Recoveries in the Chapter 11 Cases for holders of common stock, if any, will depend upon our ability to negotiate and confirm a plan, the terms of such plan, the performance of our business, the value of our assets and other factors. Although we cannot predict how our common stock will be treated under a plan at this time, the common stockholders may not receive a material, or any, recovery unless the holders of more senior claims and interests, such as secured and unsecured indebtedness (which is currently trading at a significant discount), are paid in full. Consequently, there is a significant risk that the holders of our common stock will receive little or no recovery under the Chapter 11 Cases and that our common stock will decrease in value materially or become worthless.

Trading in shares of our common stock during the pendency of the Chapter 11 proceedings is highly speculative and an investor could lose all or part of your investment.

The price of our common stock has been volatile following the commencement of the Chapter 11 Cases and may decrease in value. Accordingly, any trading in our common stock during the pendency of our Chapter 11 Cases is highly speculative and poses substantial risks to purchasers of our common stock. Furthermore, we have experienced extreme price and volume fluctuations in our common stock that have often been unrelated or disproportionate to the operating performance of our Company and/or macro-industry and macroeconomic trends. External factors have caused and may continue to cause the market price and demand for our common stock to fluctuate substantially. Accordingly, we cannot assure investors of the liquidity of an active trading market, the ability to sell shares of our common stock when desired, or the prices that an investor may obtain for the shares of our common stock.

In the past, following periods of extreme volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Securities litigation against us could result in substantial costs and a diversion of our management's attention and resources.

Future sales or issuances of our common stock in the public markets, or the perception that such sales may occur, could adversely affect the trading price of our common stock.

Any future sales of a substantial number of shares of our common stock in the public markets, including by our significant stockholders, directors or officers, or the perception that such sales may occur, could adversely affect the price of our common stock. We cannot predict the effect, if any, that market sales of those shares of common stock, or the perception that those shares may be sold, will have on the market price of our common stock.

In connection with the Chapter 11 Cases and subject to approval by the Bankruptcy Court, we may issue equity securities or securities or other instruments convertible or exchangeable into shares of our common stock. Any issuance of a significant amount of equity securities or securities or other instruments convertible or exchangeable into shares of our Common Stock may result in substantial dilution to existing shareholders of our common stock.

In connection with the Chapter 11 Cases and subject to approval by the Bankruptcy Court, we may issue equity securities or securities or other instruments convertible or exchangeable into shares of our common stock. For example, we have received unsolicited proposals for issuances of equity securities or securities or other instruments convertible or exchangeable into shares of our common stock. Although such proposals are subject to conditions unlikely to be satisfied, to the extent that we receive actionable proposals and we issue a significant amount of equity securities or securities or other instruments convertible or exchangeable into shares of our common stock as part of the Chapter 11 proceedings, our holders of common stock may experience substantial dilution.

We will not be able to maintain a listing of our common stock on the Nasdaq Global Select Market, which could adversely affect the value and liquidity of our common stock and our ability to raise capital.

On August 8, 2023, we received written notice from the Listing Qualifications Department of Nasdaq notifying the Company that, as a result of the Chapter 11 Cases and in accordance with Nasdaq Listing Rules 5101, 5110(b) and IM-5101-1, Nasdaq has determined that our common stock will be delisted from the Nasdaq Global

Select Market. We do not intend to appeal this determination. Trading of our common stock will be suspended by Nasdaq at the opening of business on August 17, 2023. Delisting our common stock may adversely impact its liquidity, impair our stockholders' ability to buy and sell our common stock, impair our ability to raise capital, and the market price of our common stock could decrease. Delisting our common stock could also adversely impact the perception of our financial condition and have additional negative ramifications, including loss of confidence by our employees, the loss of institutional investor interest and fewer business opportunities.

Risks Related to Our Financial Condition

There is substantial doubt about our ability to continue as a going concern for a period of twelve months from the date of this Quarterly Report on Form 10-Q.

Under ASC Subtopic 205-40, *Presentation of Financial Statements—Going Concern* ("ASC 205-40"), we have the responsibility to evaluate whether conditions and/or events raise substantial doubt about our ability to meet our future obligations as they become due within one year of the financial statements included elsewhere in this Quarterly Report on Form 10-Q being issued.

As of June 30, 2023, we had cash and cash equivalents and short-term investments of $220.8 million.

Our potential inability to maintain the Liquidity (as defined in the Note Purchase Agreement) requirement under the Convertible Notes and any resulting potential events of default under the Convertible Notes and the Senior Credit Facility when coupled with the following conditions: our available cash resources, recurring losses and cash outflows from operations, an expectation of continuing operating losses and cash outflows from operations for the foreseeable future, and the need to raise additional capital to finance our future operations, causes substantial doubt about our ability to continue as a going concern to exist.

In addition, beginning on the Petition Date, the Company's ability to continue as a going concern is contingent upon, among other things, its ability to, subject to the Bankruptcy Court's approval, implement a Chapter 11 plan, emerge from the Chapter 11 proceedings and generate sufficient liquidity to meet its contractual obligations and operating needs. As a result of the risks and uncertainties related to, among other things, (i) the Company's ability to obtain requisite support for a Chapter 11 plan from various stakeholders, and (ii) the disruptive effects of the Chapter 11 proceedings on our business making it potentially more difficult to maintain business, financing and operational relationships, the Chapter 11 Cases raise substantial doubt regarding our ability to continue as a going concern for the periods which include and follow the Petition Date.

See the risk factors under "Risks Associated with Chapter 11 Proceedings" for further information.

The Senior Credit Facility, and the Convertible Notes contain obligations and covenants that have and may in the future restrict and impact our business and financing activities. We have in the past obtained waivers of certain covenants contained in the Senior Credit Facility and the Convertible Notes. If we are not able to comply with or obtain further waivers for our covenants, we would be in default which would have an immediate adverse effect on our business.

Subject to certain exceptions, the Senior Credit Facility and Convertible Notes, and any future debt facility may restrict our ability to, among other things:

- dispose of or sell our assets;
- make material changes in our business or management, or accounting and reporting practices;
- acquire, consolidate, or merge with other entities;
- incur additional indebtedness;
- create liens on our assets;
- pay dividends;

- make investments;
- enter transactions with affiliates; and
- pre-pay other indebtedness.

The covenants in the Senior Credit Facility and Convertible Notes, and any future financing agreements that we may enter may, restrict our ability to finance our operations, engage in, expand or otherwise pursue our business activities and strategies. Further, if we fail to comply with our debt covenants in the future, there is no assurance that we will be able to obtain any future waivers under the Convertible Notes or the Senior Credit Facility or any other debt facility we may enter into.

We will require additional capital to support our business activities and business growth, which may be dilutive to our stockholders, and such capital might not be available on terms acceptable to us, if at all.

We will require additional capital to support our business activities and business growth, and we are exploring potential options for raising additional funds through potential alternatives, which may include, among other things, the issuance of equity, equity-linked, and/or debt securities, debt financings or other capital sources and/or strategic transactions. However, we have not yet secured and we may not be successful in securing additional financing or executing a transaction on a timely basis or on terms favorable to us, if at all. We intend to continue to make investments to support our business growth and will require additional funds to respond to business challenges, including the need to improve our operating infrastructure or acquire complementary businesses and technologies. If we raise additional funds through issuances of equity or convertible securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences, and privileges superior to those of holders of our common stock. Any debt financing that we may secure in the future could involve similar and/or additional restrictive covenants as those in our existing indebtedness relating to our capital raising activities and other financial and operational matters, including the ability to pay dividends. This may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential strategic transactions.

There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur, including as a result of recent bank failures. The recent closures of Silicon Valley Bank and Signature Bank has resulted in broader financial institution liquidity risk and concerns, and future adverse developments with respect to specific financial institutions or the broader financial services industry may lead to market-wide liquidity shortages. The failure of any bank in which we deposit our funds could reduce the amount of cash we have available, or delay our ability to access such funds. Any such failure may increase the possibility of a sustained deterioration of financial market liquidity, or illiquidity at clearing, cash management and/or custodial financial institutions. In the event we have a commercial relationship with a bank that has failed or is otherwise distressed, we may experience delays or other issues in meeting our financial obligations. If other banks and financial institutions fail or become insolvent in the future in response to financial conditions affecting the banking system and financial markets, our ability to access our cash and cash equivalents and investments may be threatened and our ability to borrow or raise additional capital when needed to grow our business could be substantially impaired. A severe or prolonged economic downturn could result in a variety of risks to our business, including weakened demand for our products and harm our ability to raise additional capital when needed on acceptable terms, if at all. If the equity and credit markets continue to deteriorate, it may make any necessary debt or equity financing more difficult, more costly, and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms would impair our ability to achieve our growth strategy, would harm our financial performance and stock price and would require us to delay or abandon our business plans. We cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our access to capital. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, we will have to delay, reduce the scope of, or eliminate some of our business activities, including related operating expenses, and our suppliers could impose more onerous terms, such as requiring cash payments prior to parts delivery, and we may not be able to comply with the covenants in our debt facilities, which would adversely affect our business prospects and the Company's ability to continue our operations and would have a negative impact on our financial condition and ability to pursue our business strategies, and we may have to liquidate our assets and may receive less than the value at which those assets are carried on the Company's financial statements, and/or seek protection under Chapters 7 or 11 of the United States Bankruptcy Code.

If our estimates or judgments relating to our critical accounting policies prove to be incorrect or financial reporting standards or interpretations change, our operating results could be adversely affected.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates, judgments, and assumptions that affect the amounts reported in our financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. The results of these estimates form the basis for making judgments about the carrying values of assets, liabilities, and equity as of the date of the financial statements, and the amount of revenue and expenses, during the periods presented, that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our financial statements include those related to determination of revenue recognition, stock-based compensation, inventory, and warranties. Our operating results may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our operating results to fall below the expectations of industry or financial analysts and investors, resulting in a decline in the trading price of our common stock.

Additionally, we regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. As a result of new standards, changes to existing standards, and changes in interpretation, we might be required to change our accounting policies, alter our operational policies, or implement new or enhance existing systems so that they reflect new or amended financial reporting standards, or we may be required to restate our published financial statements. Changes to existing standards or changes in their interpretation may have an adverse effect on our reputation, business, financial position, and profit, or cause an adverse deviation from our revenue and operating profit target, which may negatively impact our financial results.

We have identified material weaknesses in our internal control over financial reporting and may identify additional material weaknesses in the future. If we fail to remediate these material weaknesses or otherwise fail to establish and maintain effective control over financial reporting, it may adversely affect our ability to accurately and timely report our financial results in the future, and may adversely affect investor confidence, our reputation, our ability to raise additional capital, and our business operations and financial condition.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Management, with the participation of the principal executive officer and principal financial officer, under the oversight of our board of directors, evaluated the effectiveness of our internal control over financial reporting as of June 30, 2023, using the framework in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our principal executive officer and principal financial officer have concluded that our internal control over financial reporting was not effective as of March 31, 2023, because of the material weaknesses in internal control over financial reporting, described below and in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with SEC on March 17, 2023 and amended on May 1, 2023, remained as of June 30, 2023.

We did not have a sufficient number of trained resources with assigned responsibility and accountability for the design, operation and documentation of internal control over financial reporting.

As a result:

- We did not have an effective risk assessment process that defined clear financial reporting objectives and evaluated risks at a sufficient level of detail to identify all relevant risks of material misstatement across the entity.

- We did not have an effective information and communication process that identified and assessed the source of and controls necessary to ensure the reliability of information used in financial reporting and that communicates relevant information about roles and responsibilities for internal control over financial reporting.

- We did not have effective monitoring activities to assess the operation of internal control over financial reporting, including the continued appropriateness of control design and level of documentation maintained to support control effectiveness.

As a consequence, we did not effectively design, implement, or operate process-level control activities for substantially all of our financial reporting processes.

Our management, with the oversight of the audit committee of our board of directors, is in the process of designing and implementing a remediation plan and is taking steps to remediate the material weaknesses. The material weaknesses will not be considered remediated until such time as management designs and implements effective controls that operate for a sufficient period of time and concludes, through testing, that these controls are effective. Furthermore, we cannot ensure that the measures we have taken to date, and actions we may take in the future, will be sufficient to remediate in a timely manner or at all the control deficiencies that led to our material weakness in our internal controls over financial reporting or that they will prevent or avoid potential future material weaknesses due to a failure to implement and maintain adequate internal control over financial reporting or circumvention of these controls. In addition, even if we are successful in strengthening our controls and procedures, in the future these controls and procedures may not be adequate to prevent or identify irregularities or errors or to facilitate the fair presentation of our financial statements.

We will need to continue to dedicate internal resources, engage outside consultants and maintain a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to remediate the material weakness and any future control deficiencies or material weaknesses, and improve control processes as appropriate, validate through testing that controls are functioning as documented and maintain a continuous reporting and improvement process for internal control over financial reporting. If we are not able to correct material weaknesses or deficiencies in internal controls in a timely manner or otherwise comply with the requirements of Section 404 in a timely manner, our ability to record, process, summarize and report financial information accurately and within applicable time periods may be adversely affected and we could be subject to sanctions or investigations by the SEC, the Nasdaq Stock Market or other regulatory authorities as well as shareholder litigation which would require additional financial and management resources and could adversely affect the market price of our common stock. Furthermore, if we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

Any failure to remediate the material weaknesses or otherwise develop or maintain effective controls or any difficulties encountered in their implementation or improvement could limit our ability to prevent or detect a misstatement of our accounts or disclosures that could result in material misstatements of our annual or interim financial statements. In such case, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports in addition to the listing requirements of the Nasdaq. For example, in connection with the identification of the material weakness described above, we were unable to file our Annual Report on Form 10-K by the deadline prescribed by the SEC and, as a result, we are currently not eligible to utilize a Form S-3 registration statement. Additionally, investors may lose confidence in our financial reporting and our stock price may decline as a result. In addition, perceptions of the Company among customers, suppliers, lenders, investors, securities analysts and others could also be adversely affected.

Risks Related to Our Business and Industry

Our limited history of selling battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies makes it difficult to evaluate our business and prospects and may increase the risks associated with your investment.

Although we were incorporated in 2004, we only began delivering electric vehicles in 2010, and through June 30, 2023 had delivered over 1,100 electric transit buses. In the six months ended June 30, 2023 and 2022, we recognized $165.2 million and $133.1 million, respectively, in total revenue. In 2022, 2021 and 2020, we recognized $309.4 million, $242.9 million, and $196.9 million in total revenue, respectively. Since 2010, our product line has changed significantly, and our most recent transit bus model has only been in operation since 2020. Further, we started developing our battery technology in 2015 and did not begin battery pack production in any significant volume until 2017. We also have limited experience deploying our electric powertrain technology in vehicles other than electric transit buses. In 2018, we announced our software platform for connected vehicle intelligence, which we now refer to as our Valence (formerly called APEX) fleet and energy management software-as-a-service platform, which has only had beta customers until recently; we just relaunched the platform as Valence in 2022. Our energy services, which includes fleet planning, charging infrastructure and related energy management services, only began generating limited revenue in 2019. We began providing integrated charging solutions in 2019 and have only begun sourcing our new charging hardware from a new partner in 2020, with our first deliveries occurring in 2021.

As a result, we have a limited operating history upon which to evaluate our business and future prospects, which subjects us to a number of risks and uncertainties, including our ability to plan for and predict future growth. Our limited operating experience is particularly concentrated in our Proterra Transit line of business, and that limited experience may not prove to be relevant to Proterra Powered and Proterra Energy. As a result, the operating history of Proterra Transit may not prove to be predictive of the success of Proterra Powered and Proterra Energy.

Moreover, because of the limited deployment of our products and services to date, defects or other problems with our products or industry-wide setbacks that impact the commercial electric vehicle market or the electric vehicle market as a whole may disproportionately impact our ability to attract additional customers or sell to existing customers, and harm our brand and reputation relative to larger, more established vehicle manufacturers that have a longer operating history and investments in more than one technology. We have encountered and expect to continue to encounter risks and difficulties experienced by growing companies in rapidly developing and changing industries, including challenges related to achieving market acceptance of our existing and future products and services, competing against companies with greater financial and technical resources, competing against entrenched incumbent competitors that have long-standing relationships with our prospective customers in the commercial vehicle market, including the public transit market and other transportation markets, recruiting and retaining qualified employees, and making use of our limited resources. We cannot ensure that we will be successful in addressing these and other challenges that we may face in the future, and our business may be adversely affected if we do not manage these risks appropriately. As a result, we may not attain sufficient revenue to achieve or maintain positive cash flow from operations or profitability in any given period, or at all.

We have a history of net losses, have experienced rapid growth and anticipate increasing our operating expenses in the future, and may not achieve or sustain positive gross margin or profitability in the future.

We incurred net losses of $275.0 million in the six months ended June 30, 2023, $238.0 million, $250.0 million, and $127.0 million in 2022, 2021, and 2020, respectively, and we expect to incur net losses for the foreseeable future. As of June 30, 2023, we had an accumulated deficit of $1.4 billion. We expect to make significant expenditures related to the development and expansion of our business, including: making new capital investments and continuing investments in our electric powertrain and advancements in our battery technology and high voltage systems; hiring and retaining qualified employees; adding additional production lines or production shifts in our manufacturing facilities; building new manufacturing facilities; expanding our software offerings; expanding our business into new markets and geographies; research and development in new product and service categories; and in connection with legal, accounting, and other administrative expenses related to operating as a public company.

We have also experienced rapid growth in recent periods. For example, our number of employees has increased significantly over the last few years, from 492 full-time employees as of December 31, 2018 to 1,010 full-time employees as of June 30, 2023 (reflecting the workforce reduction implemented in the first quarter of 2023). On January 13, 2023, we approved a plan designed to improve operational efficiency, including reducing our workforce by approximately 25% and closing our City of Industry facility. We consolidated bus production to our Greenville facility, and are in the process of consolidating all battery production to Powered 1 battery factory in the second half of 2023. In transitioning manufacturing facilities, we may experience delays and disruptions in our manufacturing and production activities. We also expect to continue to hire new employees, particularly for our manufacturing facilities in South Carolina. Managing our growth has and will place significant demands on our management as well as on our administrative, operational, legal and financial resources. To manage our growth effectively, we must continue to improve and expand our infrastructure, including our information technology, financial, legal, compliance and administrative systems and controls. We must also continue to effectively and efficiently manage our employees, operations, finances, research and development, and capital investments.

All of these efforts may prove more expensive than we currently anticipate, and we may not succeed in increasing our revenue sufficiently, or at all, to offset these higher expenses. While our revenue has grown in recent periods, our operating expenses have also increased significantly. If our revenue declines or fails to grow at a rate faster than increases in our operating expenses, or we are unable to increase gross margin, whether through reducing the cost of production or increasing sales, we would not be able to achieve and maintain profitability in future periods. As a result, we may continue to generate losses. We cannot ensure that we will achieve profitability in the future or that, if we do become profitable, that we will be able to sustain profitability.

Our operating results have fluctuated and may fluctuate from quarter to quarter, which makes our future results difficult to predict.

Our quarterly operating results have fluctuated in the past and may fluctuate in the future. Our revenue recognition depends on the timing of delivery and customer acceptance. Large order sizes may result in a significant number of orders being accepted or rejected at one time, which could disproportionately impact revenue recognition in a given quarter. Revenue for battery systems and electrification and charging solutions is less dependent than electric transit buses and charging systems on customer acceptance but can be unpredictable based on our customers' ability to cancel within lead times. Additionally, we have a limited operating history, which makes it difficult to forecast our future results and subjects us to several risks and uncertainties, including our ability to plan for and anticipate future growth. As a result, our past quarterly operating results may not be reliable indicators of future performance, particularly in our rapidly evolving market.

Our operating results in any given quarter can be influenced by numerous factors, many of which are unpredictable or are outside of our control, including:

- our ability to maintain and grow our customer base and to sell additional products to our existing customers;
- our ability to build a reputation as a manufacturer of quality battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses and to build trust and long-term relationships with customers;
- the effects of ongoing macroeconomic conditions, particularly with respect to funding for state and federal transit programs and reduced operating revenue from reduced passenger levels, and the effect on our suppliers and customers;
- the amount of funding appropriated annually for state and federal transit programs and the amount and timing of government funding programs for electric commercial vehicles;
- our ability to deliver our products as planned to meet our revenue goals and avoid liquidated damages within certain contracts, which may depend on factors such as supply shortages of components and component quality issues, customer configuration, manufacturing, or shipping delays, our ability to manage logistics, and to accurately forecast inventory and labor requirements;
- the mix of order size and variations in profit margins for each contract, which may affect our overall gross margin in any particular period;
- fluctuations in the cost and availability of raw materials, including as a result of tariffs and other trade restrictions;
- cancellations or modifications of awards or orders by our customers;

- our ability to design and produce safe, reliable, and quality products on an ongoing basis;
- the cost of materials used in our products;
- levels of warranty claims or estimated costs of warranty claims and vehicle or equipment recalls;
- our ability to distinguish ourselves from competitors in our industry by developing and offering competitive products, effectively partner with manufacturers in adjacent markets and respond to competitive developments, including the introduction of new battery systems, electrification and charging solutions, fleet and energy management software or electric transit buses and pricing changes by our competitors;
- the adoption of electric vehicles over other fuel solutions such as diesel-hybrid, hybrid, or compressed natural gas vehicles or battery electric fuel cell vehicles;
- the success and timing of our strategic relationships to enter adjacent markets;
- pricing pressure as a result of competition or otherwise;
- our ability to implement cost reduction measures;
- buying patterns of customers, and the procurement schedules of our current and prospective customers in the commercial vehicle markets, including the public transit and school bus markets;
- current and evolving industry standards and government regulations that impact our business at the federal, state, and local level, particularly in the areas of product safety and rules of origin such as Buy America, Buy American, and provincial Canadian Content regulations, and competitive bidding regulations at the federal, state and local level for electric transit buses;
- the timing of testing by, and the ability of our buses to pass, the FTA's federal bus testing program;
- delays or disruptions in our supply, manufacturing, or distribution chain, including insolvency, credit, or other difficulties confronting our key suppliers;
- our ability to effectively manage the length and complexity of our sales cycles;
- the mix of financing alternatives that we offer and our customers choose to utilize;
- our ability to continuously improve our product without obsoleting inventory or production tooling;
- litigation, adverse judgments, settlements, or other litigation-related costs;
- timing of stock-based compensation expense; and
- general economic and political conditions and government regulations in the United States and Canada and the countries where we may expand in the future, macroeconomic such as the COVID-19 pandemic, rising inflation and interest rates, uncertain credit and global financial markets, recent and potential future disruptions in access to bank deposits or lending commitments due to bank failures, supply chain disruption and geopolitical conditions, including the conflict between Russia and Ukraine and related sanctions.

The impact of one or more of the foregoing and other factors may cause our operating results to vary significantly. As such, we believe that quarter-to-quarter comparisons of our operating results may not be meaningful and should not be relied upon as an indication of future performance. If we fail to meet or exceed the expectations of investors or securities analysts, then the trading price of our common stock could fall substantially, and we could face costly lawsuits, including securities class action suits.

Our business is dependent on the continued adoption of electrification in the commercial vehicle market and the continued development of infrastructure to support increased electrification by governments, utilities and end users.

The commercial vehicle market, including the transit market, remains largely based on the use of traditional fuel sources and significant infrastructure has been built to support those products. The electric vehicle market remains a small portion of this market and the infrastructure to support our products is still being developed, some of which we can provide to our customers. In order for our products to be attractive to more customers, the development of infrastructure, such as charging stations, increased electrification and utilities to support electric transportation must continue to be developed by governments, utilities and end users, making our products easier to use in more places. A failure for this infrastructure to continue to grow could have a material adverse effect on our business and result of operations.

Further increases in costs, disruption of supply, or shortage of materials, particularly lithium-ion cells, wiring harnesses, and drivetrain components could continue to harm our business.

We may experience, and have continued to experience, increases in the cost of, or a sustained interruption in the supply of or shortage of materials necessary for, the production, maintenance and service of our transit buses, battery systems, electrification and charging solutions, fleet and energy management systems, and related technologies. For example, our vehicle and equipment deliveries were impacted by constraints and inefficiencies in production driven by shortages in component parts, particularly resin for connectors, wiring harnesses, and certain drivetrain components, resulting in part from global supply chain disruptions. In the past, these delays have caused temporary shutdowns of our production lines, and have caused delays in production and incremental shipping costs for air freight. Further, if suppliers impose unfavorable credit terms or impose more onerous terms on us, such as requiring cash payments prior to parts delivery, as a result of our current financial condition, this could restrict our ability to secure parts and limit our production. Any such increases in cost, including due to inflation, supply interruption, materials shortages, or an increase in freight and logistics costs, our unfavorable credit terms with suppliers could adversely impact our business, prospects, financial condition and operating results.

Our suppliers also use various materials, including aluminum, carbon fiber, lithium, cobalt, nickel, copper and neodymium. The prices and supply of these materials have and may fluctuate, depending on market conditions, geopolitical risks, fluctuations in currency exchange rates, and global supply and demand for these materials. Our contracts do not all have mechanisms in place that allow us to raise prices to the end customer due to inflation or other material cost increases. If we are not able to raise our prices to our end customers, inflationary pressures and other material cost increases could, in turn, negatively impact our operating results.

Moreover, we are subject to risks and uncertainties associated with changing economic, political, and other conditions in foreign countries. Unavailability or delay of imports from our suppliers have caused and may in the future cause interruptions in our supply chain and increase our costs of procurement. Consequently, we may experience increased competition for materials, which could further increase the cost to us of sourcing materials and negatively impact our ability to source parts from our current suppliers and from identifying and working with new suppliers.

Our business is dependent on reliable availability of lithium-ion cells for our battery packs. While we believe other sources of lithium-ion cells will be available for our battery packs, to date, we have only used one supplier for lithium-ion cells for the battery packs used in commercial applications for our Proterra Transit and Proterra Powered customers. As we increase battery pack production, there is no guarantee that our current cell supplier will be able to supply the volume that we will require to meet growing demand. Battery cell demand continues to increase across vehicle segments including passenger car, and new incentives and tax credits under the Inflation Reduction Act (the “IRA”), which became law in August 2022, may further accelerate demand and competition for cell supply. Any disruption in the supply of battery cells could disrupt production of our battery systems and electric transit buses until we are able to find a different supplier that can meet our specifications and production demands. Such disruption could have an adverse effect on our business, prospects, financial condition and operating results.

We expect raw material prices to be volatile for the foreseeable future due to inflation and continued global supply chain issues. While we believe our exposure to increased costs is no greater than the industry as a whole, our business and results of operations may be adversely affected if our efforts to mitigate their effects are unsuccessful. Substantial increases in the prices for our materials or prices charged to us, particularly those charged by lithium-ion cell suppliers or charger hardware providers, have and would increase our operating costs and have and could reduce our margins if we cannot recoup the increased costs through increased sale prices on our battery systems, vehicles or charging systems. Furthermore, fluctuations in fuel costs, or other economic conditions, may cause us to experience significant increases in freight charges and material costs. Additionally, because the negotiated price of an existing battery system, vehicle or charging system is established at the outset, we, rather than our customers, bear the economic risk of increases in the cost of materials. Moreover, any attempts to increase battery system, vehicle or charging system prices in response to increased material costs could increase the difficulty of selling our electric transit buses or battery systems at attractive prices to new and existing customers and lead to cancellations of customer orders. If we are unable to effectively manage our supply chain and respond to disruptions to our supply chain in a cost-efficient manner, we may fail to achieve the financial results we expect or that financial analysts and investors expect, and our business, prospects, financial condition and operating results may be adversely affected.

Our recent workforce reductions and consolidation of facilities may not be as successful as anticipated and may not improve overall efficiency.

On January 20, 2023, we implemented a reduction-in-force and announced the planned closure of our City of Industry facility by December 31, 2023. While we believe these actions will improve operational efficiency and expect to realize cost reductions, we may not be able to realize the full benefits within the anticipated time frame, or at all. We may also incur other charges, costs, future cash expenditures or impairments not currently contemplated due to events that may occur as a result of, or in connection with the reduction in workforce and facility closure. Further, we may experience unintended consequences and costs, such as the loss of institutional knowledge and expertise, attrition beyond our intended reductions-in-force, a reduction in morale among our remaining employees, and the risk that we may not achieve the anticipated benefits, all of which may have an adverse effect on our results of operations or financial condition.

While we have implemented, and intend to continue to implement, cost-reduction strategies in order to meet our goals, if we do not achieve expected savings or if operating costs increase as a result of investments in strategic initiatives, our total operating costs would be greater than anticipated. We may also incur substantial costs or cost overruns in utilizing and increasing our production capability, particularly if we build new battery production lines, and if we vertically integrate subsystem production into our manufacturing facilities. In addition, if we do not manage cost-reduction efforts properly, such efforts may affect the quality of our products and our ability to generate future revenue. Moreover, significant portions of our operating expenses are fixed costs that will neither increase nor decrease proportionately with revenue. In addition, we incur significant costs related to procuring the materials required to manufacture our battery systems, electrification and charging solutions, fleet and energy management systems and electric transit buses, as well as assembling electric transit buses and systems, and compensating our personnel. If we are not able to implement further cost-reduction efforts or reduce our fixed costs sufficiently in response to a decline in revenue, our business, prospects, financial condition, and operating results may be adversely affected.

Because many of the markets in which we compete are new and rapidly evolving, including possible consolidation of industry players, it is difficult to forecast long-term end-customer adoption rates and demand for our products, and our ability to meet demand for our products.

We are pursuing opportunities in markets that are undergoing rapid changes, including technological and regulatory changes, and it is difficult to predict the timing and size of the opportunities. There may be ongoing consolidation of industry players which could impact market demand for our products and competition for electrification solutions. Commercial vehicle battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies, represent complex products and services. Because these automotive systems depend on technology from many companies, commercialization of commercial vehicle electrification products could be delayed or impaired due to unavailability of technology or integration challenges inherent in the use of multiple vendors in commercial vehicle production. Although we currently have contracts with several commercial customers, these companies may not be able to implement our technology immediately, or at all. Some of our commercial customers are emerging companies that may not be able to commercialize their products on the production timelines they contemplated when entering into a contract with us, or at all. In 2022, we renegotiated production volumes and minimum order penalties for some customers, and any future inability of customers to meet contract commitments could adversely affect our business and financial results.

In addition, regulatory, safety or reliability requirements, many of which are outside of our control, could also cause delays or otherwise impair commercial adoption of these new technologies, which will adversely affect our growth. Our future financial performance will depend on our ability to make timely investments in the correct market opportunities. If one or more of these markets experience a shift in customer or prospective customer demand, our products may not compete as effectively, if at all. It is also possible that we may not be able to meet demand, and lose customer or prospective customer confidence as a result and lose business to competitors. In the evolving nature of the markets in which we operate, it is difficult to predict customer demand or adoption rates for our products or the future growth of the markets in which we operate. If demand does not develop or if we cannot accurately forecast customer demand, the size of our markets, or our future financial results, our business, prospects, financial condition, and operating results could be adversely affected.

If our battery systems, electrification and charging solutions, electric transit buses, fleet and energy management software, or other products have product defects and if our customer service is not effective in addressing customer concerns, our ability to develop, market and sell our products and services could be harmed.

Our battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses have in the past contained, and may in the future contain, product defects. Due to the limited deployment of our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies, there may be latent problems with our products that have not yet been discovered.

We have in the past found defects in our battery systems, electric transit buses, and charging systems. We may in the future find additional design and manufacturing defects that cause our products to require repair or not perform as expected. While we perform our own and in some cases third-party testing on the products we manufacture, we currently have a limited amount of customer operating experience with our battery systems, drivetrains, high-voltage systems, electric transit buses, software systems, and charging solutions by which to evaluate detailed long-term quality, reliability, durability, and performance characteristics of these products and solutions. There can be no assurance that we will be able to detect and fix any defects in our products prior to their sale to or operation by customers. Our efforts to remedy any issues may not be timely, may hamper production, or may not be satisfactory to our customers. Further, our business has grown rapidly in recent periods, and we may not be able to scale our service organization or partner with an existing service network quickly enough to satisfactorily provide timely customer service and address product defects, customer complaints, and warranty issues, which could result in customer dissatisfaction and negatively impact further sales.

Any product defects, delays, or legal restrictions on our products, or other failure of our products to perform as expected could harm our reputation, negatively impact our ability to market and sell our products, and result in delivery delays, product recalls, product liability claims, customer contract terminations, adverse regulatory actions, and significant warranty and other expenses, and could have an adverse effect on our business, prospects, financial condition, and operating results.

Our battery packs use of lithium-ion cells, which have been observed to catch fire, and our charging solutions operate at high voltages which may cause concerns regarding the use of battery systems, electrification and charging solutions and fleet and energy management software in public transit and other commercial vehicles.

The battery packs that we produce make use of lithium-ion cells. On rare occasions, it is possible for lithium-ion cells to rapidly release contained energy by venting smoke and flames in a manner that can ignite nearby materials as well as other lithium-ion cells. Highly publicized incidents of laptop computers and cell phones containing lithium-ion batteries bursting into flames have focused consumer attention on the safety of these cells. Fires have also been reported in electric cars and transit buses using lithium-ion batteries, including one of our transit buses. These events have raised questions about the suitability of using lithium-ion cells for commercial vehicle applications.

Despite the safety features that we design into our battery packs, there has been, and could be a failure of the battery packs in our buses or battery packs that we may produce for third parties. In November 2022, we experienced the first known fire on a Proterra transit bus that involved our proprietary battery system. There were no injuries and no known property damage, other than to exterior parts of the bus near the thermal event and the involved battery pack. After investigation we issued a recall for a limited number of battery packs. Incidents such as the November 2022 event could subject us to lawsuits, product recalls, cancelled contracts, lost customers, and potentially slow market adoption of our electric transit buses by transit authorities and our technologies by other customers. Also, negative public perceptions regarding the suitability of lithium-ion cells for commercial vehicle applications or any future incident involving lithium-ion cells, such as a vehicle or other fires, particularly public transit vehicle incidents, even if unrelated to our products, could have an adverse effect on our business, prospects, financial condition, and operating results.

In addition to thermal risk related to battery packs, related accessories and ancillary products could also be subject to similar safety concerns and risks as a result of the high voltage they carry and transmit. Our charging solutions also operate at high voltages and charging equipment must be properly maintained. In the past, our legacy single blade chargers have experienced charger fires which caused damage to the chargers and the bus. In particular, we experienced four such thermal incidents related to our legacy overhead single blade chargers over 2019 and 2020, including one incident in which a charger was completely destroyed. While none of these events resulted in personal injury or significant property damage to the bus or other property, it is possible that other such or related incidents could occur in the future, or that such thermal discharge could result in personal injury or property damage.

We also store a significant number of lithium-ion cells and design, test, and produce battery modules and packs at our manufacturing facilities and other locations. While we have implemented safety procedures for handling cells, we may experience a safety issue or fire related to the cells. Once we ship our customers battery systems, those systems are out of immediate control. Any mishandling of battery systems or equipment failures in our operations or in our customers operations may cause accidents that could potentially harm our employees or third parties or result in disruptions to our business or our customers' business. While we have implemented safety procedures and require our customers to implement safety procedures, we or our customers could experience a safety issue or fire which could disrupt operations or cause injuries and could have an adverse effect on our business, prospects, financial condition, and operating results.

Our most recent business expansion with Proterra Powered and Proterra Energy may not be as successful as anticipated, may not attract the customers and business partners we expect, and the assumptions underlying the growth prospects of these businesses may not prove to be accurate.

We have recently introduced and, in the future may introduce, new services and products that our customers and prospective customers may not utilize to the extent we anticipate or at all. For example, Proterra Powered and Proterra Energy products and services are designed to simplify the complexities of electric vehicle energy delivery and the deployment of large electric vehicle fleets for our customers. Through these businesses, we offer to design, build, finance, operate, and maintain the energy ecosystem that we believe to be required to power commercial electric vehicles. We have made, and will continue to be required to make, significant investments to scale these businesses, but we cannot be certain that such investments will be successful or meet the needs of our customers. Moreover, even if our customers use these services, we may encounter new challenges related to the delivery of energy solutions and competition from companies that may be better positioned to provide energy management services. If we invest in services or products that are not adopted by our customers or fail to invest in new services and products that meet the needs of our customers, our business, prospects, financial condition, and operating results could be adversely affected. In addition, we have limited history operating these businesses and providing the products and services they offer. There can be no assurances that these products and services will be accepted by our customers, or that we will effectively be able to market and sell them to existing customers, especially our transit customers who comprise the vast majority of our current revenues. Further, the limited experience we have acquired operating Proterra Transit may not prove to be applicable to Proterra Powered and Proterra Energy.

We expect Proterra Powered and Proterra Energy product lines to account for a growing percentage of our revenue in the future, and it is possible that certain assumptions underlying the launch of these businesses are subsequently determined to be inaccurate, such as assumptions regarding the growing adoption of electrification by commercial vehicle manufacturers and their customers in general; the attractiveness of our products and services to OEMs that would use our battery systems, electric drivetrains, high-voltage systems, vehicle controls, telemetry gateways, charging solutions, software and telematics platforms and related technologies in their electric transit buses or elsewhere; government and regulatory initiatives and directives impacting the adoption of electrification technologies for commercial vehicle applications; and the overall reliance by enterprises on commercial vehicles and the demand for medium- and heavy-duty trucks in the future.

We face intense and increasing competition in the transit bus market and may not be able to compete successfully against current and future competitors, which could adversely affect our business, revenue growth, and market share.

The transit bus industry is relationship driven and dominated by incumbent companies that have served their respective markets longer than we have. In the transit bus industry, our main sources of competition are incumbent transit vehicle integrators that have served our market with legacy diesel, diesel-hybrid and compressed natural gas products for many years, such as NFI Group Inc., Gillig Corporation, and Nova Bus Company; BYD Company Ltd., a Chinese company that offers an array of vehicles and other products, including electric transit vehicles; and new entrants and companies in adjacent markets, including other vehicle manufacturers that have entered or are reported to have plans to enter the transit bus market.

In the transit bus industry, electric bus procurements still represent a minority of annual transit bus purchases. As the number of electric bus OEMs increases, we may not be able to maintain our leading market position in North America. We also may not be successful in competing against incumbent competitors that have longer histories of serving the transit bus market and established track records of service, or with much larger, well-funded companies that choose to invest in the electric transit bus market. As more established bus companies develop their electric vehicle or competing zero-emission solutions, their long history in the transit sector could prove to be a competitive advantage which may have a negative impact on our ability to compete with them. Moreover, our competitors that also manufacture diesel-hybrid and compressed natural gas vehicles may have an advantage with their existing and prospective customers that are interested in exploring diesel alternatives without committing to electric vehicles or to pursue a gradual electrification strategy with the same manufacturer. Additionally, these competitors have more experience with the procurement process of public transit authorities, including bid protests. Competitors, potential customers, or regulators may also make claims that our electric transit buses or competitive bid activity are not in compliance with laws, regulatory requirements, or industry standards, which may impact our ability to sell our electric transit buses and to compete successfully for current and future customers. Actions by competitors may have consequences for future business or effects that we have not anticipated on other future opportunities.

We face intense and increasing competition in the commercial vehicle electrification market and may not be able to compete successfully against current and future competitors, which could adversely affect our business, revenue growth, and market share.

The electric powertrain, electric commercial vehicle and charging solutions industries are highly competitive. We may not be successful in competing against companies in the battery systems, electric powertrain, charging solutions and related industries who may have more resources than we do or who are able to produce products and deliver services that are perceived by the market to be superior to ours. Global battery makers in particular may be able to leverage their superior scale and access to capital to sell their products more effectively to potential customers and may be further incentivized to compete with us in the North American market to take advantage of new incentives and tax credits for commercial vehicle electrification in the Inflation Reduction Act, which became law in August 2022. We may also face competitive pressure from incumbent vehicle producers that decide to enter the battery system or electric powertrain business, or vertically integrate their supply chain, and that are able to leverage their superior resources and capital to produce products that perform or are priced competitively when compared to our own.

In the battery system and electric powertrain industry, our main sources of competition include large Chinese battery suppliers such as CATL; incumbent tier one automotive suppliers that are developing electric powertrain alternatives to internal combustion engines, such as Cummins, Allison Transmission, BorgWarner and Dana; and commercial vehicle manufacturers that are developing or may develop their own internal electric powertrain solutions for their vehicles including large automotive companies, such as Daimler Truck Group and Volvo Group. In the future, incumbents and new companies offering competing zero emission solutions such as fuel cell electric vehicles may also become significant competitors.

In the charging solutions industry, our main sources of competition are incumbent charging solutions providers that develop charging solutions for commercial vehicles such as Siemens, ABB, Heliox, ChargePoint and Rhombus; and software companies that offer charging management solutions and can partner with hardware providers to provide complete solutions to end customers.

These competitors may have greater financial, technical, manufacturing, marketing, sales, and other resources than we do, and may have more experience and ability to devote greater resources to designing, developing, testing, manufacturing, distributing, deploying, promoting, selling or supporting battery systems, electrification and charging solutions, fleet and energy management software, and related technologies. Similarly, our principal competitors that also design, test, manufacture and deploy battery systems, electrification and charging solutions, fleet and energy management systems and related technologies for passenger vehicles may have a competitive advantage, through their established distribution and service networks for legacy vehicle technology, brand recognition and market acceptance of their products and services, and perceived reliability or popularity, all of which could be attractive to prospective partners and manufacturers that are exploring commercial vehicle electrification alternatives. As a result, our current and potential competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards, or customer requirements, or devote greater resources than we can to the development, promotion, distribution and sale of their products and services. Our competitors and potential competitors may also be able to develop products or services that are equal or superior to ours, achieve greater market acceptance of their products and services, and increase sales by utilizing different distribution channels than we do. Some of our competitors may aggressively discount their products and services in order to gain market share, which could result in pricing pressures, reduced profit margins, lost market share, or a failure to grow market share for us. As the market for commercial electric vehicles grows and battery systems, electrification and charging solutions, fleet and energy management software, and related technologies gain wider adoption, we expect that additional specialized providers of battery systems, electric powertrain technology, charging infrastructure, and related software solutions and related technologies will enter the markets that we address and that larger competitors could more effectively sell their offerings.

In addition, we developed our battery system and powertrain systems and related components to be compliant with “Buy America” regulations applicable to the transit business, which means that we may have higher costs to procure components, and design, test and manufacture such products in the United States than competitors that are not compliant with Buy America or similar regulations. Our competitors may be able to manufacture comparable or competitive products in more cost-effective jurisdictions and import them to the United States at prices lower than ours, which competition could cause us to lose market share or compel us to reduce prices for goods or services to remain competitive, which could result in reduced sales and revenue in industry segments that are not subject to Buy America or similar regulation. The production of battery systems, electrification and charging solutions, fleet and energy management systems, and related technologies in China, where production costs are lower and where the development of such technologies could be subsidized by the state, could negatively impact our competitive profile by presenting our customers and partners a more cost-effective alternative to our products and services, which could result in reduced sales and revenue and loss of market share or compel us to reduce prices for goods or services to remain competitive.

Moreover, current and future competitors may also make strategic acquisitions or establish cooperative relationships among themselves or with others, including our current or future suppliers or business partners. By doing so, these competitors may increase their ability to meet the needs of our customers or potential customers. These developments could limit our ability to generate revenue from existing and new customers. If we are unable to compete successfully against current and future competitors, our business, prospects, financial condition, and operating results would be adversely affected.

Our future growth prospects depend upon the interest of commercial vehicle manufacturers in adopting our products and services that are designed to facilitate the electrification of commercial vehicles.

Our growth is highly dependent upon the adoption of our battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses by commercial vehicle manufacturers and OEMs, and their willingness to partner with us on the design, development, testing, manufacturing, distribution, deployment, promotion, sale, and support of our products. The market for commercial electric vehicles and electrification technologies is relatively new, rapidly evolving, and characterized by rapidly changing technologies, price competition, additional competitors, evolving government regulation and industry standards, frequent new product and vehicle announcements, and changing demands and behaviors of customers and potential partners. For example, in August 2022, the Inflation Reduction Act passed in the United States, adding unprecedented funding opportunities and tax credits for passenger car and commercial vehicle electrification, could make the United States an attractive market for vehicle electrification and increase competition as more industry players enter our core market. As a result, we spend resources educating our potential customers and partners on the benefits of adopting electric vehicle technology and engaging in lobbying efforts to promote clean energy initiatives that benefit our business activities.

Other factors that may influence the adoption of our commercial vehicle electrification technologies by manufacturers and OEMs include:

- perceptions about commercial electric vehicle performance, total cost of ownership, design, quality, cost and reliability that may be attributed to the use of advanced technology (in particular with respect to lithium-ion battery packs), especially if adverse events or accidents occur that are linked to the quality or safety of commercial electric vehicles;
- the amount and availability of federal, state, or other government funding and, in particular, the availability of economic incentives promoting fuel efficiency and alternate forms of energy, such as the Low or No Emission Vehicle Program, the Advanced Technology Vehicle Manufacturing Loan Program and the tax credits in the Inflation Reduction Act;
- the range over which commercial electric vehicles may be driven on a single battery charge and the time it takes to recharge the batteries of these vehicles;
- the cost and feasibility of installing new charging infrastructure;
- concerns about electric grid capacity and reliability, the cost of electricity, and reliance of utilities on fossil fuels for electricity generation, which could derail our past and present efforts to promote commercial electric vehicles as a practical substitution for vehicles that require fossil fuels;
- the availability of alternative fuel vehicles, including diesel-hybrid and compressed natural gas vehicles, and battery electric fuel cell vehicles;
- improvements in the fuel economy of the internal combustion engine;
- perceptions about the impact of electric vehicles on the environment and the health and welfare of communities;
- perceptions about the use of electric batteries, sourcing of battery components, recyclability, and safe disposal of batteries;
- the availability of service for commercial electric vehicles;
- the environmental consciousness of corporations and public agencies;
- volatility in the cost of diesel fuel and oil;
- government regulations;

- social and political support for clean energy initiatives and commercial electric vehicles;
- perceptions about and the actual cost of alternative fuel vehicles; and
- macroeconomic factors.

Moreover, the willingness of commercial vehicle manufacturers and OEMs to embrace our battery systems, electrification and charging solutions, fleet and energy management software, and related technologies depends, in part, on the real or perceived reliability of these products and services, and their ability to provide complete electrification solutions to potential customers. Any lapse in quality, reliability or performance of any of these products or services could harm the perception of our other products and negatively impact the adoption of our products or services.

Any of the factors described above may cause current or potential customers not to purchase or adopt our products or services. If the market for commercial electric vehicles does not develop as we expect or develops more slowly than we expect, our business, prospects, financial condition, and operating results could be adversely affected.

Defects in the materials or workmanship of our composite bus bodies could harm our reputation, expose us to product warranty or other liability claims, decrease demand for our buses, or materially harm existing or prospective customer relationships.

We are one of a small number of transit bus manufacturers to use a composite unibody for our electric transit buses. In the past, we have sourced composite bus bodies from three suppliers, and now use only one supplier. Defects in the composite body, including non-structural concerns, whether caused by design, engineering, materials, manufacturing errors, or deficiencies in manufacturing or quality control processes at our suppliers, are an inherent risk in manufacturing technically advanced products for new applications. We offer our customers a twelve-year warranty on the composite bus body structure and bear the risk of possible defects. We have experienced defects in some bus bodies and have had to make repairs. For example, in October 2018 we discovered cracking in the wheel wells on some of our buses which required us to repair these defects under our warranty and will increase our field and customer service costs. In addition, in 2020 and 2021, we discovered a manufacturing quality issue that required us to repair laminate cracks that occurred near door frames of certain customer buses, and we expect that we will have to make more of these types of repairs. In 2020, we filed a recall related to the attachment of a torque limiter plate to the composite bus body that did not have proper adhesive application and could compromise the steering gear box and steering of the vehicle. In 2022, we voluntarily filed a new recall on the same issue for a new population of buses. Certain customers have experienced superficial cracking in the exterior gel coat or skin coat of the composite body which has caused certain customers to remove buses from revenue service and required us to develop inspection criteria and repair protocols, when applicable. We have also had to address vehicle inspection guidelines that are designed for metal frame buses with chassis and are not necessarily applicable to composite unibody architecture. Though these defects have not materially impacted us to date, we expect to continue to address these issues, and these defects or future defects with our advanced body materials whether structural or not may harm our existing and prospective customer relationships, damage our brand, and result in a reduction of awards, customer contract terminations, adverse regulatory actions, increased warranty claims, product liability claims and other damages.

Our suppliers have and may fail in the future to deliver components according to schedules, prices, quality and volumes that are acceptable to us, or we may be unable to manage these suppliers effectively.

Some of our products contain thousands of parts that we purchase from hundreds of mostly single-source direct suppliers, generally without long-term supply agreements. This exposes us to multiple potential sources of component shortages. Unexpected changes in business conditions, materials pricing, labor issues, wars, governmental changes, tariffs, natural disasters, health epidemics and its related disruption of global supply chains, particularly in the industrial sector, and other factors beyond our or our suppliers' control could also affect these suppliers' ability to deliver components to us or to remain solvent and operational. Single source suppliers provide us with a number of components that are required for manufacturing of our current products, including our composite bus bodies. If a single source supplier was to go out of business, we might be unable to find a replacement for such source in a timely manner, or at all. If a single source supplier were to be acquired by a competitor, that competitor may elect not to sell to us in the future. We have experienced and continue to experience component shortages and delays, including wiring harnesses. In the fourth quarter of 2022, difficulty sourcing wiring harnesses from a vendor resulted in our production delays and fewer buses delivered in that quarter. In the first quarter of 2023, we experienced a shortage in certain components used to complete our battery packs, temporarily idling our manufacturing lines in City of Industry. The unavailability of any component or supplier has in the past, and could in the future result in production delays, idle manufacturing facilities, require product design changes, cause loss of access to important technology and tools for producing and supporting our products, and create delays in providing replacement parts to our customers. We have also experienced delays in sourcing replacement parts for some of our oldest transit buses in customer fleets, which has led to customer dissatisfaction and buses being out of service for lengthy periods while awaiting replacement parts.

Moreover, significant increases in our production, or product design changes made by us have required and may in the future require us to procure additional components in a short amount of time. Our suppliers may not be able to sustainably meet our timelines or our cost, quality and volume needs, or may increase prices to do so, requiring us to replace them with other sources. Our supply for battery cells and other raw materials is critical in allowing us to scale our operations and meet our growth profitability and cash flow targets, such that any supply delay or vulnerability in the battery cell supply chain could alter our growth plans. Further, we have limited manufacturing experience and we may experience issues increasing the level of localized procurement at our current or future facilities. While we have to date secured additional or alternate sources or developed our own replacements for many of our components, and we believe that we will be able to continue to do so, there is no assurance that we will be able to do so quickly or at all, particularly with highly customized components. Additionally, we may be unsuccessful in our continuous efforts to negotiate with existing suppliers to obtain cost reductions and avoid unfavorable changes to terms, source less expensive suppliers for certain parts, and redesign certain parts to make them less expensive to produce. Any of these occurrences may harm our business, prospects, financial condition and operating results.

As the scale of our production increases, we will also need to accurately forecast, purchase, warehouse and transport components at high volumes to our manufacturing facilities across the United States. If we are unable to accurately match the timing and quantities of component purchases to our actual needs or successfully implement automation, inventory management and other systems to accommodate the increased complexity in our supply chain and parts management, we may incur unexpected production disruption, storage, transportation and write-off costs, which may harm our business and operating results.

Our dependence on a limited number of suppliers introduces significant risk that could have adverse effects on our financial condition and operating results.

We are a relatively low-volume producer of battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses, and related technologies, and do not have significant purchasing power with suppliers in the electric vehicle market for many components of our products, including batteries, drivetrains, high-voltage systems and electric transit buses. As a result, suppliers and other third parties may be less likely to invest time and resources in developing business relationships with us if they are not convinced that our business will succeed. Larger suppliers have in the past and may in the future require minimum order quantities from us, which can expose us to liquidated damages or substantial penalties. For example, in 2022, we incurred nearly $8 million in penalties owed to our bus body supplier.

To build and maintain our business and obtain favorable contract terms, we must maintain our suppliers' and other vendors' confidence in our stability, liquidity, and business prospects. Maintaining such confidence may be complicated by certain factors, such as our limited operating history, suppliers' unfamiliarity with our products, competition, and uncertainty regarding the future of commercial vehicle electrification. Some of these factors are outside of our control and any negative perception about our business prospects, even if exaggerated or unfounded, would likely harm our business and make it more difficult to contract with suppliers on favorable terms. In addition, some of our suppliers may have more established relationships with our competitors, and as a result of those relationships, some suppliers may choose to limit or terminate their relationship with us.

In addition, with respect to our battery manufacturing operations that supports Proterra Transit and Proterra Powered, our battery production volumes are relatively small and we are currently sole sourcing key components from select suppliers, such as LG Energy Solution, for the lithium-ion cells that we use to manufacture our battery packs and other sole source suppliers for key elements of the battery pack. Disruptions in production may result if we had to replace any of these sole source suppliers on short notice. As we increase battery production volumes, if our current sole source suppliers cannot meet our demand for increased supply, we may find our ability to grow our business constrained if there are not alternative sources of supply that we can secure in a timely fashion, or at all.

With respect to our transit business, we have few long-term agreements with suppliers and typically purchase supplies on an order-by-order basis depending on the material requirements to build customers' buses. In many cases, we rely on a small group of suppliers, many of which are single-source suppliers, to provide us with components for our products, such as our bus body, which we sole source from TPI Composites Inc, and components of our drivetrains. Moreover, transit bus customers have specified a certain supplier for components, such as its preferred seating or heating, ventilation, and air conditioning units, and we are then beholden to that specified supplier's terms and delivery schedule. While we obtain components from multiple sources when that is a viable alternative, certain components used in our electric transit buses, such as bus bodies sourced from TPI Composites, must be custom made for us. In 2022 and into early 2023 we sourced wiring harnesses for our transit and powertrain products largely from one vendor that has experienced challenges and financial instability in its business, which created disruption in our supply and slowed our production.

If these suppliers become unwilling or unable to provide components, there may be few alternatives for supply of specific components, such as wiring harnesses, which may not be available to us on acceptable terms or favorable prices, or that meet our published specifications in a timely manner or at all. We have experienced in the past, may again experience delays while we qualify new suppliers and validate their components. In addition, replacing our sole source suppliers may require us to reengineer our products, which could be time consuming and costly.

Our reliance on a small group of sole-source suppliers as well as certain suppliers specifically chosen by customers creates multiple potential sources of delivery failure or component shortages for the production of our products. As a result, we have in the past, and may be required to in the future renegotiate our existing agreements with our suppliers, potentially with less favorable terms, and incur additional costs associated with the production. In the past, we have experienced delays related to supply shortages, including, most recently, as a result of the global supply chain disruptions related to the continuing impacts of the macroeconomics conditions, and untimely or unsatisfactory delivery of components, including cells, wiring harnesses and other drivetrain components, that have stalled production with respect to our electric transit buses and our battery systems. Moreover, although we continue to expend significant time and resources vetting and managing suppliers and sourcing alternatives, we may experience future interruptions in our supply chain. Failure by our suppliers to provide components for our electric transit buses, battery systems or other products has in the past, and could in the future, severely restrict our ability to manufacture our products and prevent us from fulfilling customer orders in a timely fashion, which could harm our relationships with our customers and result in contract fines, negative publicity, damage to our reputation, and adverse effects on our business, prospects, financial condition, and operating results.

We have been and may continue to be impacted by macroeconomic conditions, rising inflation rates, uncertain credit and global financial market, including recent and potential bank failures, supply chain disruption and geopolitical events, such as the conflict between Russia and Ukraine.

In recent years, the United States and other significant markets have experienced cyclical downturns and worldwide economic conditions remain uncertain, including downturns of economic displacement related to COVID-19 or other similar pandemics and the current conflict between Russia and Ukraine. Economic uncertainty and associated macroeconomic conditions, including high volatility and uncertainty in the capital markets including as a result of inflation and interest rate spikes and recent and potential disruptions in access to bank deposits or lending commitments due to bank failures, make it difficult for our customers and us to accurately forecast and plan future business activities, and could cause our customers to slow spending on our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies, which could delay and lengthen sales cycles. Furthermore, during uncertain economic times our customers may face issues gaining timely access to sufficient funding, which could result in an impairment of their ability to make timely payments to us. If that were to occur, we may be required to increase our allowance for doubtful accounts and our results could be negatively impacted. A weak or declining economy could also strain our suppliers, possibly resulting in supply disruption. In addition, there is a risk that our current or future suppliers, service providers, manufacturers or other partners may not survive such difficult economic times, which would directly affect our ability to attain our operating goals on schedule and on budget.

A significant downturn in economic activity, or general spending on transit or commercial vehicle electrification technologies, may cause our current or potential customers to react by reducing their capital and operating expenditures in general or by specifically reducing their spending on electric commercial vehicles and related technologies. In addition, our customers may delay or cancel projects to upgrade or replace existing vehicles in their fleets, or other projects to electrify commercial vehicle fleets, with our products or seek to lower their costs by renegotiating contracts. Moreover, competitors may respond to challenging market conditions by lowering prices and attempting to lure away our customers.

Given the global nature of our supply chain and customer base, global political, economic, and other conditions, including geopolitical risks such as the current conflict between Russia and Ukraine and related sanctions, may adversely affect our business and results of operations in ways we cannot foresee at the outset. War and economic dislocations may spur recessions, economic downturns, slowing economic growth and social and political instability; commodity shortages, supply chain risks and price increases; instability in U.S. and global capital and credit markets which could impact us, our suppliers and customers; and currency exchange rate fluctuations among other impacts that adversely affect our business or results of operations.

We cannot predict the timing, strength, or duration of any economic slowdown or any subsequent recovery generally, or in any industry. If the conditions in the general economy and the markets in which we operate worsen from present levels, our business, financial condition, and operating results could be adversely affected.

Our business is significantly dependent on government funding for electrification of commercial vehicles and public transit, and the unavailability, reduction, or elimination of government economic incentives would have an adverse effect on our business, prospects, financial condition, and operating results.

On November 15, 2021, President Biden signed the Infrastructure and Investment Jobs Act (IIJA), also referred to as the “Bipartisan Infrastructure Law”, into law, reauthorizing surface transportation programs through the federal government’s fiscal year in 2026, increasing funding for transit focused programs and establishing additional funding opportunities for no and low emission vehicles at unprecedented levels of funding. In August 2022, the Inflation Reduction Act was signed into law, further expanding incentives for commercial zero emission vehicles including clean vehicle tax credits.

In addition to funding and incentives under the FAST Act and the Bipartisan Infrastructure Law, and the Inflation Reduction Act, certain states and cities offer vouchers for the purchase of electric buses and other electric commercial vehicles, such as California’s Hybrid & Zero Emission Truck & Voucher Incentive Project, and the New York Truck Voucher Incentive Program. These vouchers provide point-of-sale discounts to vehicle purchasers. Additionally, there are other state programs that help fund electric bus purchases, including California’s Transit and Intercity Rail Capital Program, which has been allocated a portion of California’s Cap-and-Trade funds annually. The California Low Carbon Fuel Standard, or LCFS, also enables transit agencies using electricity as a source of fuel to opt into the LCFS program and earn credits that can be monetized. While the value of these credits fluctuates, the credits may help to offset up to half of the fuel costs for our transit customers.

Our principal transit customers are transit authorities that depend on government funding and programs authorized for public transportation under Title 49, Chapter 53 of the U.S. Code, and administered by the FTA, including Urbanized Area Formula Grants, Formula Grants for Rural Areas, the Capital Investment Program, and the Bus and Bus Facilities Program. The Fixing America’s Surface Transportation Act, or FAST Act, enacted in December 2015, allocated over $305 billion for highway, transit, and vehicle safety programs for the five-year period that ended on December 31, 2020. Among other programs, the FAST Act reinstated a competitive Bus and Bus Facilities Infrastructure Investment Program, which grew from $268 million in 2016 to $344 million in 2020, resulting in an 89% increase over the 2015 funding levels for buses and bus facilities. To date, a substantial majority of our customers have received funding through these FAST Act programs in order to purchase new electric transit buses. For example, in 2018, nearly 70% of transit agencies that ordered buses from us were recipients of grants through the Low or No Emission Vehicle Program. The Low or No Emission Vehicle Program has enabled public transit agencies to purchase electric transit buses when the upfront cost of the electric bus was significantly higher than legacy diesel buses and the technology was new to customers.

There can be no assurance that these programs will be reauthorized following expiration of their current terms, that other government funding programs will continue to be available at the current levels or at all in the future, or that new government funding programs will be adopted, including with respect to products and services that are currently or will in the future be offered by Proterra Powered and Proterra Energy. Uncertainty or delay in extending, renewing, or adopting these incentives beyond their current or future expiration dates could negatively impact our business because sales cycles for public and other transit customers are long and customers may be unwilling to adopt electric technology if supportive funding is not assured. For example, transit authorities have reduced order sizes in the past because of a decrease in available funding.

Available government funding and economic incentives are subject to change for a variety of reasons that are beyond our control, including budget and the policy initiatives and priorities of current and future administrations at the federal and state level. In addition, future government shutdowns may impact the availability and administration of government funding, which could adversely impact future bus orders and result in payment delays for existing orders. For example, we experienced payment delays from customers during the U.S. federal government shutdown in January 2019 related to the FTA's inability to administer grant funding during the shutdown. If government support for adoption of electric vehicles and clean energy initiatives wanes, as it did during the Trump Administration, this could adversely affect the growth of the North American public transit electric bus market and the commercial electric vehicle market generally, and could have an adverse effect on our business, prospects, financial condition, and operating results.

The growth of our transit business is dependent upon the willingness of corporate and other public transportation providers to adopt and fund the purchase of electric vehicles for mass transit.

The growth of our transit business is highly dependent upon the adoption of electric transit buses for mass transit by corporate and public transportation providers. The market for electric transit buses is relatively new, rapidly evolving, and characterized by rapidly changing technologies, price competition, additional competitors, evolving government regulation and industry standards, frequent new vehicle announcements, and changing demands and behaviors of riders. As a result, we spend resources educating our potential customers on the benefits of adopting electric vehicle technology and engaging in lobbying efforts to promote clean energy initiatives.

The same factors described above that may influence the adoption of our commercial vehicle electrification technologies by manufacturers and OEMs, also may influence the adoption of electric transit buses by corporate and public transportation providers. Moreover, the willingness of corporate and public transportation providers to embrace electric transit buses depends, in part, on the willingness of users of public transportation to continue to use buses instead of alternative modes of transportation, including private car, rail, and ridesharing services including Uber, Lyft, and electric bikes and scooter services, on-demand shuttles and, in the future, autonomous vehicles. Bus ridership has been severely impacted by the COVID-19 pandemic and has been declining in large transportation markets, which may lead to fewer investments in electric transit buses in the long term.

Any of these factors may cause current or potential corporate and other public transit customers not to purchase our electric transit buses or use our services. If the market for electric vehicles for mass transit does not develop as we expect or develops more slowly than we expect, our business, prospects, financial condition, and operating results could be adversely affected.

If we fail to make the right investment decisions in our technologies and services, we may be at a competitive disadvantage.

Electrification of commercial vehicles is a relatively new field. We have invested significant resources into our technologies, including our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies. For example, we invested in a single-blade overhead charging system that we have deployed and must continue to support for transit customers, even though the industry has moved to other solutions such as overhead pantograph or plug-in charging which also have required, and may continue to require, new investments on our part. In the third quarter of 2022, we made a strategic equity investment in a privately held entity that we expect to manufacture LFP cells domestically for us in the future. However, there is no guarantee that this company will succeed in making cells to our specifications, that we will develop product using these cells, or that we will be successful introducing a product with these cells into the market. If we select and invest in technology or technology standards that are not widely adopted or invest in technologies that are not widely adopted by large customers who influence the industry in the future, we may not recover our investments in these technologies and may be at a competitive disadvantage, and our business, prospects, financial condition, and operating results could be adversely affected.

We have a long sales, production, and technology development cycle for new public transit customers, which may create fluctuations in whether and when revenue is recognized, may result in unfavorably priced contracts and may have an adverse effect on our business.

The vast majority of our current and historical sales are to transit agencies that do not procure electric transit buses every year. The complexity, expense, and nature of government procurement processes result in a lengthy customer acquisition and sales process. It can take us years to attract, obtain an award from, contract with, and recognize revenue from the sale of a vehicle to a new customer, if we are successful at all. We have in the past entered contracts with customers based on certain assumptions regarding the cost of production, but the buses were produced years after the award was made when costs were much higher and it was unprofitable to fulfil the order. In 2022, we negotiated with several customers to make adjustments in pricing to acknowledge inflation but were not always successful. With long contract cycles we may continue to face this risk in the future even with contract terms that allow for inflation adjustments.

Before awarding an order for electric transit buses, transit agencies generally conduct a comprehensive and competitive proposal process based on a variety of criteria, including technical requirements, reliability, reputation, and price. Even if we are awarded an order, the actual realization and timing of revenue is subject to various contingencies, many of which are beyond our control, including the customer’s interpretation of technical or performance requirements for acceptance, timing and conditions of customer acceptance, and the customer’s reduction, modification, or termination of an order. A customer is not obligated to purchase the electric transit buses and may cancel or modify an award prior to entering into a contract with us. We have in the past, and may in the future, experience customer cancellations or modifications of awards. Customers have in the past , and customers may in the future cancel or modify an award for a variety of reasons, including as a result of improvements in our technology or the technology of our competitors between the dates of award and signed contract, or as the result of a successful bid protest.

Our sales and production cycle for a transit customer can be a long and time-consuming process. The initial sales process from first engagement to award typically ranges from 6 to 18 months. The award of a proposal is typically followed by a pre-production process where the design and specifications of the customized buses are mutually agreed and we negotiate a final contract and purchase order with our customer. Procurement of parts and production typically follow this final agreement between us and the customer. Once a bus is fully manufactured, the customer typically performs a final inspection and determines whether to accept delivery of the bus, at which time we recognize revenue on the sale. In other cases, revenue is recognized upon acceptance by the customer, typically by signing an acceptance document, which can cause delay in revenue recognition. The length of time between a customer award and vehicle acceptance typically varies between 12 and 24 months, depending on product availability, production capacity, and the pre-delivery and post-delivery inspection process by the customer which has in the past resulted in additional changes to the transit bus after manufacturing completion, re-works, further product validation and acceptance periods, and additional costs to us that we may not be able to recover. Consequently, we have in the past, and we may continue to invest significant resources and incur substantial expenses before a customer accepts a bus order and these expenses may not be recovered at all if a customer does not accept the completed bus, the bus requires costly modifications, or we extend additional warranties. For instance, we create a bill of materials and obtain the appropriate parts for each customized bus for a customer, which can result in excessive inventory risk if a customer changes or cancels the order. In addition, we may devote significant management effort to develop potential relationships that do not result in bus orders, acceptance of the bus as delivered, and the corresponding recognition of revenue, and the diversion of that effort may prevent us from pursuing other opportunities. As a result, our long sales and development cycle may subject us to significant risks that could have an adverse effect our business, prospects, financial condition, and operating results.

If we are unable to attract new customers and expand sales to existing customers, our revenue growth could be slower than we expect and our business would be adversely affected.

Our ability to achieve significant future revenue will depend in large part upon our ability both to attract new customers and to expand our sales to existing customers, including sales of Proterra Powered and Proterra Energy products and services to current and future customers, including Proterra Transit customers. If we fail to attract new customers or fail to maintain and expand our customer relationships, our business would be adversely affected. For example, if our existing transit customers do not expand their orders, our revenue may grow more slowly than expected, may not grow at all, or may decline. Additionally, we have a small direct sales force for each part of our business. We plan to continue expanding our sales efforts, but we cannot be assured that our efforts will result in sales to new customers, or increased sales to existing customers, with respect to our Proterra Powered, Proterra Transit or Proterra Energy offerings. Further, given the small size of our sales team, losing a member of our team may adversely affect our sales efforts with existing or potential new customers. If our efforts to expand sales to our existing customers are not successful, our existing customers do not continue to purchase additional products and services, or we are unable to attract new customers, our business, prospects, financial condition, and operating results would be adversely affected.

We could incur material losses and costs from product warranty claims, recalls, or remediation of electric transit buses for real or perceived deficiencies or from customer satisfaction campaigns.

We provide warranties on our Proterra Transit, Proterra Powered and Proterra Energy hardware products and process warranty claims in the ordinary course of our business. Warranty estimates are inherently uncertain and changes to our historical or projected experience, especially with respect to new battery systems, electrification and charging solutions, fleet and energy management systems or other vehicle technologies, may cause material changes to our warranty reserves in the future. If our warranty reserves are inadequate to cover future warranty claims on our products, our business, prospects, financial condition, and operating results could be adversely affected. In addition, we may also choose to upgrade parts or systems across an entire vehicle fleet or electric drivetrain product line for our own service or customer satisfaction needs, which may result in unforeseen costs.

We provide a limited warranty to customers on battery systems, electric transit buses and charging systems. The limited warranty ranges from one to twelve years depending on the components. Specifically, under the fleet defect provisions included in some transit bus purchase contracts, we are required to establish proactive programs to prevent the re-occurrence of defects in electric transit buses delivered under the contract if the same defect occurs in more than a specified percentage of the fleet within the base warranty period following delivery of the electric transit bus. We calculate an estimate of these costs into each of our contracts based on our historical experience and technical expectations. Warranty reserves include management’s best estimate of the projected costs to repair or to replace items under warranty. These estimates are based on actual claims incurred to date and an estimate of the nature, frequency, and costs of future claims.

Because of the short operating history of our current product line, we have had limited data upon which to base our warranty expense estimates. Also, although we may offer customers lengthy warranties, our ability to recover warranty claims from underlying suppliers may be limited to a shorter period by contract. We are currently aware of warranty claims on certain transit bus structures and components which may result in material warranty costs. For example, we have received warranty claims related to cracked wheel wells and rear door framing in our buses and failures with third-party charging systems installed by us that did not meet customer specifications.

We are potentially subject to recalls of our products to cure real or perceived manufacturing defects or if we fail to comply with applicable U.S. Federal Motor Vehicle Safety Standards, or FMVSS. We have filed voluntary recalls with the United States National Highway Transportation Safety Administration. We are potentially subject to recalls made by the suppliers of components or parts that we purchase and incorporate into our electric transit buses. In October 2018, for example, we initiated a recall on certain of our electric transit buses because of a defect in a brake caliper after an equipment recall by our axle supplier, even though none of our customers had experienced a problem with the part. We may also need to bring battery systems back to our facilities for warranty work and deploy staff to assist customers with battery system issues, and we may need to transport buses back to one of our facilities or retrofit transit buses in the field to address a warranty claim, a recall campaign, or to otherwise satisfy customer concerns, which may require significant staff to be deployed to customer locations.

Even if a defect or perceived defect is not subject to a warranty claim or a current recall process, we may still incur costs of a customer satisfaction campaign when we choose to upgrade our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies without cost to the customer. For example, we are currently aware that the amount of weight on the front axle of certain of our buses in operation may exceed the manufacturer's gross axle weight rating. To address this issue with our customers, in 2019 we launched a customer satisfaction campaign to upgrade our electric transit buses' front axle, which will result in increased labor and parts costs, for which we have accrued a reserve. We are also aware of cracks in the gel coat finish on some of our composite bus bodies which has required and is expected to require customer service support at our cost.

A product warranty claim, product recall, or product remediation, as a result of real or perceived defects, caused by systems or components engineered or manufactured by us or our suppliers, could involve significant expense and could have an adverse effect on our business, prospects, financial condition, and operating results. In addition, adverse publicity or industry rumors and speculation that may result from a customer or customers taking our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies out of service pending a repair or remedy, product warranty claims, or product recalls, could slow market acceptance of our products and have an adverse effect on our reputation, brand image, and our ability to successfully market and sell our products.

If we are unable to scale production and deliver battery systems and buses on time, our business could be adversely affected.

Our business plan calls for significant increases in both vehicle and battery system production in a short amount of time to meet expected delivery dates to customers. Our ability to achieve our production plans will depend upon many factors, including adding additional battery lines, auxiliary vehicle production lines and production shifts, recruiting and training new staff while maintaining our desired quality levels, and improving our vehicle configuration process, supply chain management, and our suppliers' ability to support our needs. Moreover, because many of our orders are with respect to products that will be delivered more than a year after the order placed, whether we are the battery system supplier or, in the case of electric transit buses, the vehicle OEM, there can be no assurance that we will be able to accurately forecast our supply chain demands or scale our manufacturing accordingly to meet the delivery deadlines for these orders. In addition, we have adopted, and may adopt in the future, new factory and supply chain management technologies and manufacturing and quality control processes, which we must successfully introduce and scale for production across our factories. We have introduced new battery system configurations for our customers and we are new to modifying our production processes to complete different configurations. Moreover, our electric transit buses are customized for our customers and certain battery systems require custom integration with our customer electric transit buses, which means that each new electric transit bus order brings its own set of challenges to vehicle configuration and supply chain. For example, each new electric transit bus configuration may introduce a multitude of parts that we have not used in previous electric transit bus builds, which in turn requires obtaining parts from new suppliers that engineering must validate and incorporate into our vehicle configuration. In the past, we have experienced changes in work instructions for electric transit buses that have not been timely communicated between factories, resulting in recalls of delivered product. We have limited experience developing, manufacturing, selling, servicing, and allocating our available resources among multiple products and multiple factories simultaneously. If we fail to effectively manage the complexity of our production process, our business, prospects, financial condition, and operating results could be adversely affected.

Our inability to deliver electric transit buses that meet customer specifications in a timely manner could significantly delay recognition of revenue and receipt of payment, because we do not recognize revenue and are not paid for electric transit buses until they are delivered to the customer. Moreover, some of our contracts with transit agencies include liquidated damages clauses that apply monetary penalties on a per vehicle per day basis if electric transit buses are not delivered to the customer by the date specified in the contract. Per day penalties can be significant depending on the contract. We have delivered battery systems, charging systems and electric transit buses late in the past, and have incurred substantial penalties with respect to certain of these late deliveries, which have reduced our revenue and margin. Although we actively manage our production schedule and our customers' expectations, we may still fail to meet delivery deadlines and may incur penalties as a result. If we are unable to realize our production plans and deliver our battery systems and buses on time, our reputation, business, prospects, financial condition, and operating results could be adversely affected.

Our business could be adversely affected if utilities and state utility commissions do not, or are slow to, support transportation electrification efforts.

Fleet-wide adoption of electric vehicles will benefit from favorable electricity rate structures for transit authorities and other large fleet operators and investment in make-ready infrastructure for electric vehicle charging at scale by utilities. For example, pursuant to California Senate Bill 350: Clean Energy and Pollution Reduction Act, the California investor-owned utilities have submitted Integrated Resource Plans that detailed how each utility will meet its customers' resource needs and reduce greenhouse gas emissions, including support for transportation electrification. The California Public Utilities Commission approved the plans in May 2018, including Pacific Gas and Electric Company's proposed investment in infrastructure and rebates and Southern California Edison Corporation's proposed time-of-use rates for charging electric transit buses. In September 2018, the Public Service Enterprise Group in New Jersey outlined a number of initiatives, including providing funding for charging system installations, deploying make-ready electric infrastructure and making grants for electric school buses. The New Jersey Board of Public Utilities will now evaluate the filing. In addition, utility commissions in several states are also evaluating the needs and benefits of transportation electrification, including the transit bus sector.

Our customers expect to pay lower electricity costs and generally look to the utilities to invest in infrastructure upgrades that will support commercial vehicle electrification plans. Therefore, efforts on the part of utility companies and state utility commissions to develop an appropriate rate designed to ensure that electricity as a fuel is competitive with fossil fuels will improve the total cost of ownership benefits for our transit customers and vehicle fleet owners, and enhance the attractiveness of our other products and offerings. Similarly, investments that utilities make to upgrade the infrastructure necessary to support additional load on the electrical grid will save our customers from potentially having to make their own investments. However, if utilities and utility commissions do not make the necessary investments to support commercial vehicle electrification and develop the appropriate, cost-competitive electricity rates, or delay such efforts, the market for battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses, and related technologies may not develop as we expect or may develop more slowly than we expect, and our business, prospects, financial condition, and operating results could be adversely affected.

Our revenue has in the past depended, and will likely continue to depend, on a small number of customers that fluctuate from year to year, and failure to add new customers or expand sales to our existing customers could have an adverse effect on our operating results for a particular period.

Because the majority of our historical and current customers are public transit authorities that do not procure new vehicle fleets every year, the composition of customers that account for a significant portion of our revenue is likely to vary from year to year based on which customers have accepted delivery of large fleet orders with us during the applicable period. For example, two customers accounted for approximately 33% of our total revenue for the year ended December 31, 2022. Moreover, because public transit authorities tend to procure new vehicles in large batch orders, our revenue in any given quarter may be highly dependent on a single customer. For example, in the third and fourth quarter of 2022, approximately 45% and 67%, respectively, of electric transit buses were delivered to a single customer, Miami-Dade County. In the second quarter of 2020, approximately 50% of the electric transit buses we delivered were delivered to a single customer, the Port Authority of New York and New Jersey and in the fourth quarter of 2020, approximately 40% of the buses we delivered were delivered to a single customer, the City of Edmonton. We believe that we may continue to depend upon a relatively small number of customers for a significant portion of our revenue in any given period for the foreseeable future because we have only recently begun to deliver our buses and other products at a larger scale and we have a lengthy sales cycle and on-ramp for new customers, particularly in our Transit business. Our failure to diversify our customer base by adding new customers or expanding sales to our existing Proterra Transit customers and our failure to add new customers and expand sales to existing customers in our Proterra Powered and Proterra Energy businesses outside of the transit industry could therefore have an adverse effect on our operating results for a particular period.

Our industry and its technology are rapidly evolving and may be subject to unforeseen changes. Developments in alternative technologies and powertrains or improvements in the internal combustion

engine may adversely affect the demand for our electric transit buses and our electric battery solutions for commercial vehicles.

The electric vehicle industry, and the electric commercial vehicle industry in particular, is relatively new and has experienced substantial change in the last several years. As more companies invest in electric vehicle and autonomous vehicle technology and alternative modes of transportation, we may be unable to keep up with technology advancements and, as a result, our competitiveness may suffer. As technologies change, we plan to spend significant resources in ongoing research and development, and to upgrade or adapt our products and services, and introduce new products and services in order to continue to provide battery systems, electrification and charging solutions, fleet and energy management software for electric transit buses, and related technologies with the latest technology, in particular battery technology. Our research and development efforts may not be sufficient or could involve substantial costs and delays and lower our return on investment for our technologies. For example, we invested substantial resources into developing a charging system solution in 2018 and then replaced that solution by entering into a new contract for supply of charging systems a few years later. Delays or missed opportunities to adopt new technologies could adversely affect our business, prospects, financial condition, and operating results.

In addition, we may not be able to compete effectively with other alternative fuel vehicles and integrate the latest technology, which may include autonomous vehicle technology, into our battery systems, electrification and charging solutions, fleet and energy management systems, and related technologies. Even if we are able to keep pace with changes in technology and develop new products and services, we are subject to the risk that our prior models, products, services and designs will become obsolete more quickly than expected, resulting in unused inventory and potentially reducing our return on investment, or become increasingly difficult to service or provide replacement parts at competitive prices. For example, we incurred $0.8 million, $1.9 million and $3.0 million in inventory write-offs in 2022, 2021 and 2020, respectively, as the result of unused raw materials or adopting new technologies. In the three and six months ended June 30, 2023, we incurred $6.8 million of expenses related to the write down of inventories for excess or obsolete inventories and lower of cost or market adjustment. Additionally, given the long sales cycle of each of our products and services, customers may delay purchases and modify or cancel existing orders in anticipation of the release of new models and technology. Moreover, developments in alternative technologies, such as advanced diesel, ethanol, fuel cells, or compressed natural gas, or improvements in the fuel economy of the internal combustion engine, may adversely affect our business and prospects in ways we do not currently anticipate. Any developments with respect to these technologies, in particular fuel cell technologies and related chemical research, or the perception that they may occur, may prompt us to invest heavily in additional research to compete effectively with these advances, which research and development may not be effective. Any failure by us to successfully react to changes in existing technologies could adversely affect our competitive position and growth prospects.

If we are unable to successfully manufacture and sell our battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses, and related technologies, our business could be adversely affected.

We have limited experience with manufacturing and selling battery systems, electrification and charging solutions, fleet and energy management software and electric transit buses, and related technologies to global commercial vehicle manufacturers and other types of manufacturers. As we develop partnerships with global commercial vehicle manufacturers to provide these products and other component parts to these partners and customers, we must introduce and implement manufacturing and quality control processes across our factories that are comparable to those of other Tier 1 suppliers in the automotive industry. We have identified areas for improvement as we scale and mature, such as ISO certification for our operations, that would allow us to meet quality standards required by companies such as Daimler and its subsidiaries. Furthermore, we must compete against more established battery designers, drivetrain designers, vehicle manufacturers, charging solution designers and component suppliers with greater resources and more experience in large scale manufacturing and deployment than we have. To compete effectively against these incumbent manufacturers and suppliers, we will have to devote substantial resources and effort to efficiently and effectively scale our manufacturing capabilities, implement new manufacturing and quality control processes, and enhance our existing processes. The implementation of a Tier 1 automotive supplier manufacturing operations inherently involves risks related to infrastructure and process development, quality control, and customer acceptance. If we fail to mature our manufacturing operations to the satisfaction of our customers, then our business, prospects, financial condition, and operating results could be adversely affected.

If we are unable to design, develop, market, and sell new products and services that address adjacent market opportunities, our business, prospects, and operating results may be adversely impacted.

We may not be able to successfully develop new products and services or develop a significantly broader customer base. For the past several years, we have focused our business on the development and sale of electric transit buses for the mass transit market. Our product line in the transit market is currently limited to the 40-foot and 35-foot ZX5 transit buses, and spare parts. We have recently expanded our offerings to include battery systems, electrification and charging solutions, and fleet and energy management software, and related technologies that are designed for broader application to other commercial vehicles.

In this regard, we have entered into development and supply agreements to develop and sell our battery systems, electrification and charging solutions and fleet and energy management software to other medium-duty and heavy-duty commercial vehicle manufacturers. Our business model offers end-to-end powertrain systems, energy system integrations when electric drivetrains are supplied by a third party, and battery system supply when integration and electric drivetrains are supplied by third parties to the end customer. Achieving success in these relatively new markets will require us to, among other things:

- enter into strategic agreements with leading manufacturers in these markets and maintain and grow these relationships;
- adapt our electric powertrain technology to meet the specifications of additional commercial vehicle categories;
- successfully compete with other manufacturers in the new markets;
- effectively and efficiently scale our manufacturing capabilities;
- effectively and efficiently grow and manage our supply chain;
- expand our sales and marketing capabilities;
- enter into service partnerships or expand our internal service and parts capabilities;
- expand our integration and engineering services to compete with other integrators and suppliers of high voltage systems, controls and drivetrains;
- expand our software and telematics platform to offer competitive solutions;
- develop technology solutions that are compatible with offerings of third-party providers;
- develop charging solutions, including software and telematics that are compatible with electric vehicle technology independent of manufacturer or supplier; and
- comply with changing regulations applicable to our products and services.

If we fail to adequately improve our products and services to compete effectively against our competitors, we may not be successful in expanding our customer base in the electric commercial vehicle market.

In addition, our failure to address additional market opportunities could harm our business, financial condition, operating results, and prospects. We may not be able to successfully design, develop, or test new products and services in order to effectively compete with our competitors in these new markets. Furthermore, there may be no demand by customers to purchase newly developed or improved products and services, there may be risks and unbudgeted costs associated with launching new products and services, and we may not be able to recoup our research and development costs, all of which could have an adverse effect on our business, prospects, financial condition, and operating results.

We may not be able to develop, maintain and grow strategic relationships in the Proterra Powered or Proterra Energy business, identify new strategic relationship opportunities, or form strategic relationships, in the future.

We expect that our ability to establish, maintain, and manage strategic relationships, such as development and supply agreements with customers that could have a significant impact on the success of our business. While we expect to increase the amount of revenue associated with Proterra Powered and Proterra Energy, there can be no assurance that we will be able to identify or secure suitable and scalable business relationship opportunities in the future or that our competitors will not capitalize on such opportunities before we do. Moreover, identifying such opportunities could demand substantial management time and resources, and may involve significant costs and uncertainties.

Additionally, we cannot guarantee that the companies with which we have developed or will develop strategic relationships will continue to devote the resources necessary to promote mutually beneficial business relationships and grow our business. Our current arrangements are not exclusive, and some of our strategic partners offer competing products. As a result of these factors, many of the companies with which we have development and supply agreements may choose to develop alternative products in addition to or in lieu of our solutions, either on their own or in collaboration with others, including our competitors. If we are unsuccessful in establishing or maintaining our relationships with key strategic partners, our overall growth could be impaired, and our business, prospects, financial condition, and operating results could be adversely affected.

Lack of long-term customer contracts, uncertainty regarding customer option exercises, and customer suspension or termination of contracts may have adverse effects on our business.

Proterra Transit relies heavily on sales to public and other transit authorities, which, consistent with general industry practice, do not make long-term purchase commitments with transit vendors. Most transit authorities usually undertake significant procurement of new transit buses once every few years and typically acquire a relatively small percentage of their fleet each time. Often, the terms of our procurements allow customers, without notice or penalty, to suspend or terminate their relationship with us at any time and for any reason. For example, one of our customers previously made an award to us for buses in 2017, but due in part to improvements in electric vehicle technology and the release of new bus models, withdrew the award in 2018 in favor of considering a new request for proposal process. Some customers have also elected to purchase fuel cell vehicles for their transit fleet. Even if customers continue their relationship with us, they may not purchase the same volume of products as in the past or they may not pay the same price for those products. This may also be true with respect to Proterra Powered, where customers may have long-term contracts, but are not subject to fixed quantity order requirements such that final orders may be below our revenue expectations or estimates.

Further, many transit authority contracts include options to purchase additional electric transit buses in the future, and while a portion of future orders may be represented by options, customers may not end up exercising these options. Although options represent a significant source of potential orders for us, we do not have an extensive history of fulfilling orders based on our customer option agreements. Even if we had a history of significant option exercises by customers, customers may not continue to exercise such options at the same rate or at all in the future. Any loss of customers or decrease in the number of electric transit buses or battery systems purchased under a contract could have an adverse effect on our business, prospects, financial condition, and operating results.

We are competing for the business of both small and large transit agencies, which place different demands on our business, and if we do not build an organization that can serve both types of transit customers, by scaling our internal resources to meet varying customer needs, our business, prospects, financial condition and operating results may be harmed.

Proterra Transit has competed for, and may in the future compete for, the business of larger transit agencies that maintain fleets of several hundred to thousands of vehicles, including Los Angeles, Miami Dade County and Chicago. This size of customer places significant demands on our business because they have large, specialized groups of professionals focused on different requirements or systems related to transit bus procurement and rigorous inspections with multiple levels of review to assure each bus meets their specifications, which may be driven by conformity with other vehicles in the fleet, large long-term supply contracts, such as for tires and other wear items, and operating contracts with maintenance and operations teams. Serving these customers requires significant investment in customer relationship managers and service professionals to support the levels of design, review, change orders, inspection, and commissioning and delivery of the electric transit buses. Similarly, servicing our Proterra Powered customers requires significant investments in customer relationship managers and other professionals as each customer requires different levels of battery integration support and service.

We also compete for the business of smaller transit agencies. Although smaller transit agencies often have less complicated procurement processes than larger transit agencies, serving these smaller agencies requires processing small order sizes while still catering to the specific vehicle configurations for each customer. If we continue to serve both large and small transit agency customers, we will need to effectively and efficiently scale our internal resources to meet varying customer needs. Our failure to do so could have an adverse effect on our business, prospects, financial condition, and operating results.

Our business is subject to substantial regulations, which are evolving, and unfavorable changes or failure by us to comply with these regulations could have an adverse effect on our business.

The majority of our current transit customers are government entities and we are subject to many local, state, and federal laws that add significant compliance costs to our operations. In addition, local, state, and federal regulations may conflict, making it difficult to build one vehicle that satisfies all requirements in all jurisdictions. Moreover, competitive bidding rules for government contracts add additional layers of complexity and require compliance with federal and state conflict of interest rules and rules governing our choice of suppliers and components.

Our electric transit buses and component products must comply with the National Traffic and Motor Vehicle Safety Act of 1966, as amended (“NTMVSA”), and regulations promulgated thereunder, which are administered by the National Highway Traffic Safety Administration (“NHTSA”). NTMVSA requires vehicle and equipment manufacturers to provide notice of safety defects to NHTSA and initiate a recall process within five days of such a determination by a manufacturer. NHTSA also administers reporting requirements from vehicle manufacturers under the Transportation Recall Enhancement, Accountability and Documentation Act of 2000 (the “TREAD Act”). We have ongoing reporting requirements under the TREAD Act and in the past have failed to timely report under the TREAD Act. NHTSA may also require a manufacturer to recall and repair vehicles that contain safety defects or that are not compliant with FMVSS or other certification requirements for vehicles. Sales into foreign countries may be subject to similar regulations. We cannot assure you that violations of these laws and regulations will not occur in the future or have not occurred in the past as a result of human error, accidents, equipment failure, manufacturing or design defects, or other causes. It is possible that our reporting for historical periods for which we failed to timely report may reveal instances where we should have taken actions required by law but failed to do so. For example, we became subject to certain early warning reporting obligations under the TREAD Act in 2018. Our ongoing reporting obligations require us to provide certain early warning data to help identify potential safety-related defects, including certain safety data dating back ten years. While we have filed reports for current periods, we are currently not in full compliance with these early warning reporting requirements for prior periods. As we work to remediate our non-compliance, we may be subject to retrospective safety recall notices on our electric transit buses. Recalls of our electric transit buses or components, whether initiated by us, NHTSA or another authority, or penalties for regulatory compliance failures could have a material adverse effect on our reputation, business and operating results and be used by our competitors to our disadvantage.

Furthermore, if we choose to expand internationally, we would likely face additional international requirements that may not be compatible with regulations that govern our business in the United States. For example, in the United States, we developed our supply chain to ensure that we comply with Buy America regulations, which govern manufactured products and rolling stock, including transit bus, procurements that are paid for, in part, with funds administered by the FTA. Buy America regulations currently require that 70% of our vehicle components by cost be manufactured in the United States, and the Made in America Office opened under the Biden-Harris administration has proposed rules which may raise this requirement further. Buy America regulations have the effect of rendering the cost of our supply chain more expensive when compared with our competitors. As we began selling buses to airports, we had to modify our operations to comply with the Buy American requirements under the FAA rules, which differ from the Buy America requirements under the FTA rules. In June 2018, we received our first order from a Canadian transit authority, and as a result, we need to comply with Canadian Content requirements, which will require sourcing components from Canadian suppliers or assembly of components in Canada. These regulations may increase the costs of doing business and add operational challenges.

In addition, there is no assurance that the current Buy America, Buy American, or Canadian Content requirements will not change or become stricter or that we will continue to be able to meet those requirements in the future. Our competitors have lobbied extensively to alter Buy America regulations to effectively prohibit our use of cylindrical battery cells produced outside of the United States for which there currently is no source of domestic supply available to us. Lack of domestic supply of cylindrical battery cells may also make our product less competitive and less desirable to customers that demand product that meets the domestic content requirements to achieve tariff-free status under the United States-Mexico-Canada trade agreement which entered into force on July 1, 2020.

Also, our ability to meet domestic content requirements is, in part, dependent on hundreds of suppliers. If any of these suppliers change the source of the components or subcomponents comprising their products, they could potentially prevent us from meeting domestic content requirements and negatively impact our business. Conversely, if domestic content requirements become less stringent in the future, foreign competitors without significant U.S. operations may be able to enter the U.S. market more easily and gain market share. Thus, any change to domestic content regulations could have an adverse effect on our business, prospects, financial condition, and operating results.

Delays in FTA mandated Model Bus Testing Program, or failure to successfully complete federally mandated testing, could adversely impact our business.

The FTA mandates that new transit bus models must undergo testing at its testing facility in Altoona, Pennsylvania and meet certain performance standards set by the FTA's Model Bus Testing Program, known as "Altoona Testing," in order to be eligible to receive federal funding. There is only one facility approved for testing by the FTA and in the past, we have experienced delays of several months before receiving regulatory approval to test our buses at Altoona, as well as delays in the actual testing at Altoona. The COVID-19 pandemic resulted in a shut-down of the Altoona facility in 2020 and there can be no assurances that the facility will not be shut down again due to the COVID-19 pandemic or otherwise. We may in the future choose to undergo testing or be required to do so.

When available, Altoona Testing is designed to promote production of better transit vehicles and components and to ensure that transit customers purchase vehicles that can withstand the rigors of transit service. Our 40-foot and 35-foot electric transit buses, including the ZX5 with DuoPower drivetrain, have satisfactorily completed Altoona Testing, but for each material change that we make to our transit bus platform, we must undergo a new round of testing. We have in the past and may in the future experience failures of components of our transit bus during Altoona Testing, which may prolong the test process, and cause us to be required to redesign components on the test bus and restart the testing process. Testing is available to vendors on a first-come, first-served basis. We cannot receive payment from customers relying on federal funds unless the applicable bus platform has satisfactorily completed Altoona Testing, and thus testing delays could have an adverse effect on our business, prospects, financial condition, and operating results. We have in the past and may in the future experience delays in Altoona Testing availability, including as a result of the COVID-19 pandemic, other pandemics, or other unforeseen events. In the past, a delay in receiving a required Altoona test report resulted in late delivery of buses to a customer and caused us to incur monetary penalties, delayed acceptance and delayed revenue recognition and customer payments. Moreover, there can be no assurance that the current Altoona Testing requirements will not change or become more onerous or that our future bus models will pass Altoona Testing. For instance, in 2016, the Model Bus Testing Program regulations changed to require a pass/fail test result. If we cannot produce electric transit buses that pass Altoona Testing, we would not be able to continue to sell buses to customers in the United States that rely on federal funds for their procurements, which would have a material and adverse effect on our business, prospects, financial condition, and operating results.

Failure to comply with the Disadvantaged Business Enterprise ("DBE") program requirements or our failure to have our DBE goals approved by the FTA could adversely impact our transit business.

The FTA requires transit vehicle manufacturers that bid on federally-assisted rolling stock procurements to submit annual goals to support qualified DBEs (as defined in the DBE program regulations), and to certify that they have complied with the requirements of the DBE program established by the U.S. Department of Transportation, which aims to increase the participation of DBEs in state and local procurements. Companies are certified as DBE if they are for-profit small businesses majority-owned by socially and economically disadvantaged individuals. The FTA reviews and approves transit vehicle manufacturers' DBE goals for the upcoming year and maintains a certified list of transit vehicle manufacturers that are eligible to bid on federally funded vehicle procurements based on their goals to contract with DBEs and good faith implementation of those goals. Our failure to comply with the DBE program requirements or a delay in having our DBE goals approved by the FTA could result in our ineligibility to bid on federally funded transit vehicle procurements, which could have an adverse effect on our business, prospects, financial condition, and operating results.

Our business and prospects depend significantly on our ability to build our brand. We may not succeed in continuing to establish, maintain, and strengthen our brand, and our brand and reputation could be harmed by negative publicity regarding our company or products.

Our business and prospects are heavily dependent on our ability to develop, maintain, and strengthen our brand. Promoting and positioning our brand will depend significantly on our ability to provide high quality battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies, and we have limited experience in these areas, particularly with respect to products and services that are not used in electric transit buses. In addition, we expect that our ability to develop, maintain, and strengthen our brand will also depend heavily on the success of our branding efforts. To promote our brand, we need to incur increased expenses, including product demonstrations and attending trade conferences. Brand promotion activities may not yield increased revenue, and even if they do, the increased revenue may not offset the expenses we incur in building and maintaining our brand and reputation. If we fail to promote and maintain our brand successfully or to maintain loyalty among our customers, or if we incur substantial expenses in an unsuccessful attempt to promote and maintain our brand, we may fail to attract new customers and partners, or retain our existing customers and partners and our business and financial condition may be adversely affected.

Moreover, any negative publicity relating to our employees, current or future partners, original equipment manufacturers deploying our battery or powertrain technology in their electric transit buses, partners or customers who use our high-voltage systems or software and telematics platforms, or others associated with these parties may also tarnish our own reputation simply by association and may reduce the value of our brand. Additionally, if safety or other incidents or product defects occur or are perceived to have occurred, whether or not such incidents or defects are our fault, we could be subject to adverse publicity, which could be particularly harmful to our business given our limited operating history. Given the popularity of social media, any negative publicity about our products or their safety, whether true or not, could quickly proliferate and harm customer and community perceptions and confidence in our brand. For example, in 2021, we were the subject of negative publicity arising out of the appearance of cracks in the composite bus body architecture, potential early retirement of some of our first generation transit buses and negative political commentary. Public transit agencies and OEMs are particularly sensitive to concerns and perceptions of the passenger and community constituencies they serve. If the passengers in our electric transit buses or people in communities where electric transit buses using our technology are deployed form a negative opinion of our electric transit buses or battery systems or charging solutions, our current and potential customers might not choose our products, and strategic partners in other markets may not adopt our battery systems or electric powertrain technology or charging solutions. Other businesses, including our competitors, and organized labor, may also be incentivized to fund negative campaigns against our company to damage our brand and reputation to further their own purposes. Future customers of our products and services may have similar sensitivities and may be subject to similar public opinion and perception risks. Damage to our brand and reputation may result in reduced demand for our products and increased risk of losing market share to our competitors. Any efforts to restore the value of our brand and rebuild our reputation may be costly and may not be successful, and our inability to develop and maintain a strong brand could have an adverse effect on our business, prospects, financial condition, and operating results.

The use of lithium-ion cells may become disfavored as a result of the availability, or perceived superiority of, other types of batteries or yet undeveloped or unknown technologies.

The battery packs that we currently produce make use of lithium-ion cells, which we believe currently represent the industry standard for battery technology for electric vehicles. It is possible, however, that other types of batteries or yet undeveloped or unknown technologies may become favored in the future, such as lithium iron phosphate ("LFP") batteries. LFP batteries currently have a wide range of applications, including in electric vehicle applications, and are perceived by many as offering cost-effective performance as compared to lithium-ion cells. The cost-effectiveness of LFPs is due, in part, to substantial investments in this technology development and manufacturing capability in China. While we believe that our products and services based on the lithium-ion cells that we have chosen to offer our customers present advantages with respect to ease of integration with their products and services and underlying performance, it is possible that these customers and partners may deem LFP-based technology, or other technologies, as sufficient or superior for their purposes, and may demand that we shift to LFP-based technology or decide to partner with other service providers who employ such technologies. In addition, it is possible that the performance, safety features or characteristics, reliability or cost-effectiveness of LFP batteries, or another form of battery, could improve in the future such that our current lithium-ion cell based offerings would become, or be perceived as, inferior or obsolete. In addition, it is possible that new forms of batteries or electrification technologies, such as solid state batteries, could emerge as a more cost effective or safer alternative to the batteries we currently offer. In the event that LFP or a new form of battery emerges or is deemed to exhibit better performance, operate at lower cost or exhibit better safety features, we could be compelled to attempt to integrate those new types of batteries into our platform, which may not be possible or feasible at a price that would be attractive to our customers or potential partners. Any developments with respect to LFP or new battery technology, or new electrification technologies that are based on unforeseen developments in fuel cell technology, or the perception that they may occur, may prompt us to invest heavily in additional research to compete effectively with these advances, which research and development may not be effective. Any failure by us to successfully react to changes in existing technologies could adversely affect our competitive position and growth prospects.

Our business could be adversely affected from an accident or safety incident involving our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses or defects in the materials or workmanship of our composite bus bodies or other components.

An accident or safety incident involving one of our battery systems, electrification and charging solutions, fleet and energy management systems or electric transit buses could expose us to significant liability and a public perception that our electric transit buses and products are unsafe or unreliable. Our agreements with customers contain broad indemnification provisions, and in the event of a major accident, we could be subject to significant personal injury and property claims that could subject us to substantial liability. While we maintain liability insurance in amounts and of the type generally consistent with industry practice, the amount of such coverage may not be adequate to cover fully all claims, and we may be forced to bear substantial losses from an accident or safety incident. In addition, any accident or safety incident involving one of our buses, even if fully insured, could harm our reputation and result in a loss of future customer demand if it creates a public perception that our electric transit buses are unsafe or unreliable as compared to those offered by other transit bus manufacturers or other means of transportation. While we have not experienced significant accident or safety incidents involving our electric transit buses, we have experienced malfunctions, such as the overhead single blade charger thermal events and a bus fire related to low voltage wiring. Moreover, the public may be more sensitive to incidents involving transit buses and school buses, thereby compounding the effects of such incidents on the public and customer perception of our electric transit buses. As a result, any accident or safety incident involving our buses, or the buses of our competitors could materially and adversely affect our business, prospects, financial condition, and operating results.

Our work with government customers exposes us to unique risks inherent in government contracting.

We must comply with and are affected by laws and regulations relating to the award, administration, and performance of government contracts. Government contract laws and regulations affect how we do business with our customers and impose certain risks and costs on our business. A violation of specific laws and regulations by us, our employees, or others working on our behalf could harm our reputation and result in the imposition of fines and penalties, the termination of our contracts, suspension or debarment from bidding on or being awarded contracts, and civil or criminal investigations or proceedings.

Our performance under our contracts with government entities and our compliance with the terms of those contracts and applicable laws and regulations are subject to periodic audit, review, and investigation by various agencies of the government. If such an audit, review, or investigation uncovers a violation of a law or regulation or improper or illegal activities relating to our government contracts, we may be subject to civil or criminal penalties or administrative sanctions, including the termination of contracts, forfeiture of profits, the triggering of price reduction clauses, withholding of payments, suspension of payments, fines, and suspension or debarment from contracting with government agencies. There is inherent uncertainty as to the outcome of any audit, review, or investigation. If we incur a material penalty or administrative sanction or otherwise suffer harm to our reputation, our business, prospects, financial condition, or operating results could be adversely affected.

Further, if a government regulatory authority were to initiate suspension or debarment proceedings against us as a result of a conviction or indictment for illegal activities, we may lose our ability to be awarded contracts in the future or receive renewals of existing contracts for a period of time. We could also suffer harm to our reputation if allegations of impropriety were made against us, which would impair our ability to win awards of contracts in the future or receive renewals of existing contracts. Inability to be awarded contracts in the future or receive renewal of existing contacts could have an adverse effect on our business, prospects, financial condition, and operating results.

A portion of our business is dependent upon U.S. government contracts and grants, which are highly regulated and subject to oversight audits by U.S. government representatives and subject to cancellations. Such audits could result in adverse findings and negatively impact our business.

Our U.S. government business is subject to specific procurement regulations with numerous compliance requirements. These requirements, although customary in government contracting in the United States, increase our performance and compliance costs. These costs may increase in the future, thereby reducing our margins, which could have an adverse effect on our financial condition. Failure to comply with these regulations or other compliance requirements could lead to suspension or debarment from U.S. government contracting or subcontracting for a period. Among the causes for debarment are violations of various laws or policies, including those related to procurement integrity, export control, U.S. government security regulations, employment practices, protection of criminal justice data, protection of the environment, accuracy of records, proper recording of costs, foreign corruption, Trade Agreements Act, Buy America Act, and the False Claims Act.

Generally, in the United States, government contracts and grants are subject to oversight audits by government representatives. For example, in December 2020, the FTA released an audit of our and other manufacturers compliance with Buy America requirements. Such audits could result in adjustments to our contracts. For contracts covered by the Cost Accounting Standards, any costs found to be improperly allocated to a specific contract may not be allowed, and such costs already reimbursed may have to be refunded. Future audits and adjustments, if required, may materially reduce our revenues or profits upon completion and final negotiation of audits. Negative audit findings could also result in investigations, termination of a contract or grant, forfeiture of profits or reimbursements, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government. All contracts with the U.S. government can be terminated for convenience by the government at any time.

In addition, contacts with government officials and participation in political activities are areas that are tightly controlled by federal, state, local and international laws. Failure to comply with these laws could cost us opportunities to seek certain government sales opportunities or even result in fines, prosecution, or debarment.

We may not be able to obtain, or comply with terms and conditions for, government grants, loans, and other incentives for which we have applied and may apply for in the future, which may limit our opportunities to expand our business.

We have in the past applied for and received state grants and tax incentives designed to promote the manufacturing of electric vehicles and related technologies, including charging solutions. In April 2015, the California Energy Commission awarded us $3.0 million based on our investment of approximately $8.4 million in our manufacturing facilities in California through December 31, 2018. In April 2017, California's Office of Business and Economic Development entered into a California Competes Tax Credit Allocation Agreement with us for an award of a California Competes Tax Credit in the amount of $7.5 million if certain conditions in that agreement are met in the prescribed time periods. In April 2019, the California Energy Commission awarded us a $1.8 million grant based on our expected investment of approximately $4.3 million in our manufacturing facility in City of Industry, California.

We anticipate that in the future there will be new opportunities for us to apply for grants, loans, and other federal and state incentives. Our ability to obtain funds or incentives from government sources is subject to the availability of funds under applicable government programs and approval of our applications to participate in such programs. The application process for these funds and other incentives is and will remain highly competitive. We may not be successful in obtaining any of these additional grants, loans, and other incentives. We have in the past failed and may also in the future fail to comply with the conditions of these incentives, which could cause us to lose funding or negotiate with governmental entities to revise such conditions. For example, we received a grant in South Carolina in 2010 that was subject to certain performance criteria, including a condition that we create no fewer than 400 new full- time jobs. We were unable to meet the original deadline but negotiated with the South Carolina Coordinating Council for Economic Development (the "Council") for an extension on the date of job creation and we have since fulfilled the revised condition to the Council's satisfaction. Our estimates of job growth under our California Competes Tax Credit have also not come to fruition for certain fiscal years. We may be unable to find alternative sources of funding to meet our planned capital needs, in which case, our business, prospects, financial condition, and operating results could be adversely affected.

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

We provide indemnification to our customers who may be sued for product liability related to our electric transit buses and electric powertrain solutions, and we may otherwise be subject to product liability claims, including with respect to our charging solutions. The commercial vehicle market experiences significant product liability claims and we face inherent risk of exposure to claims in the event our electric transit buses or components do not perform as expected. Commercial vehicles including public transit buses have been involved and may in the future be involved in crashes resulting in death or personal injury, and in some cases catastrophic crashes resulting in the death and injury to many passengers.

While we carry insurance for product liability, it is possible that our insurance coverage may not cover the full exposure on a product liability claim of significant magnitude. A successful product liability claim against us could require us to pay a substantial monetary award. A product liability claim could also generate substantial negative publicity about our products and business and could have an adverse effect on our brand, business, prospects, financial condition, and operating results.

Changes to U.S. trade policies, including new tariffs or the renegotiation or termination of existing trade agreements or treaties, may adversely affect our financial performance.

We currently manufacture our products in the United States, but may consider other international locations, including locations in Canada. Although many of our suppliers are in the United States, we rely on a number of suppliers in other countries for key components. We are subject to risks and uncertainties associated with changing economic, political, and other conditions in foreign countries where our vendors are located, such as increased import duties, tariffs, trade restrictions, and quotas or other government regulations, work stoppages, fluctuations of foreign currencies, natural disasters, political unrest, and customs delays. Unavailability or delay of imports from our foreign vendors would likely cause interruptions in our supply chain and could have an adverse effect on our business, prospects, financial condition, and operating results.

Moreover, the U.S. federal government may alter U.S. international trade policy and to renegotiate or terminate certain existing trade agreements and treaties with foreign governments. The U.S. federal government renegotiated the North American Free Trade Agreement, renamed the U.S.-Mexico-Canada Agreement, which was signed on November 30, 2018. The U.S. federal government's potential decision to re-enter, withdraw or modify other existing trade agreements or treaties could adversely impact our business, customers, and suppliers by disrupting trade and commercial transactions and adversely affecting the U.S. economy.

In addition, the U.S. federal government has imposed, tariffs on certain foreign goods. For example, in 2018, the U.S. federal government imposed additional tariffs under Section 232 of the Trade Expansion Act of 1962, as amended, on many products including certain aluminum products imported into the United States, which may impact the commercial vehicle market and our supply chain. Moreover, these tariffs, as well as country-specific or product-specific exemptions, may also lead to retaliatory actions from foreign governments that could adversely affect our business. Certain foreign governments, including China and the European Union, have instituted or may consider imposing additional tariffs on certain U.S. goods. Restrictions on trade with foreign countries, imposition of customs duties, or further modifications to U.S. international trade policy have the potential to disrupt our supply chain or the supply chains of our suppliers and to adversely impact our costs, customers, suppliers, and the economy, which could have an adverse effect on our business, prospects, financial condition, and operating results.

We are subject to various environmental and safety laws and regulations that could impose substantial costs upon us and negatively impact our ability to operate our manufacturing facilities if we fail in our efforts to abide by these laws and regulations.

As a manufacturer, producer and seller of battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies, we are subject to numerous environmental, health, and safety laws and regulations in the United States, including laws relating to exposure to, use, handling, storage, and disposal of hazardous materials, and the building, testing and use of batteries and high-voltage systems, and other components, such as HVAC systems. Moreover, we may be subject to additional regulations as we expand our operations internationally. The costs of compliance, including assessing changes to our operations and notices required in our facilities and on our electric transit buses regarding potential hazards could be substantial. In addition, we may be required to manufacture product with alternative technologies and materials that require changes to our engineering, supply and product development programs that could result in significant cost and delays in product introduction. We also may not be successful in complying with such laws and regulations which could impact our ability to sell our products in certain locations, or result in substantial fines and penalties if our products in service are found to be non-compliant with certain laws and regulations. We also expect regulation of electric powertrains will increase over time, and result in increased compliance costs. For example, beginning in 2023, we will need to receive a zero emission powertrain certification in California. In addition, we have indemnified certain of our landlords for any hazardous waste that may be found on or about property that we lease. Furthermore, delays in achieving required certifications may prevent us from selling product in certain markets, and, any violations of applicable environmental and safety laws and regulations may result in substantial fines and penalties, remediation costs, third-party damages, a suspension or cessation of our sales of product or operations, and negative publicity that could harm our business, reputation, prospects, financial condition, and operating results.

Our future success depends on the continuing efforts of our key employees and on our ability to hire, retain, and motivate additional key employees and scale our workforce.

Our future success depends upon the continuing services of our key employees and on our ability to attract and retain members of our management team and other highly skilled employees, including battery and high voltage systems engineers, electric powertrain designers and engineers, vehicle systems and integration engineers, supply chain and quality control employees, sales personnel, service personnel, and software engineers and manufacturing talent. In our key areas of operations, including California, there is increasing competition for individuals with skill sets needed for our business, including specialized knowledge of batteries, electric vehicles, software engineering, and manufacturing engineering and quality control. This competition affects both our ability to retain key employees and hire new ones. Moreover, none of our key employees has an employment agreement for a specific term and any of our employees may terminate his or her employment with us at any time. Our continued success depends upon our continued ability to retain current employees and hire new employees in a timely manner, especially to support our expansion plans and to continue to ramp up our suite of offerings related to commercial vehicle electrification. For example, we started production at our Powered 1 factory in Greer, South Carolina in January 2023, and have needed and will continue to need to hire many people to achieve maximum production there. We are also adding additional production shifts at existing facilities. If we cannot find sufficiently trained staff in a timely manner, our launch of production at this facility could be delayed and adversely impact our business. Additionally, we compete for talent with both large and established companies that have far greater financial resources than we do and start-ups and emerging companies that may promise more attractive growth opportunities.

Furthermore, the reduction in workforce that we implemented in the first quarter of 2023 may yield unintended consequences and costs, such as the loss of institutional knowledge and expertise, employee attrition beyond our intended reduction in force, a reduction in morale among our remaining employees, greater-than-anticipated costs incurred in connection with implementing the restructuring, and the risk that we may not achieve the benefits from the restructuring to the extent or as quickly as we anticipate, all of which may have a material adverse effect on our business, results of operations or financial condition. These restructuring initiatives could place substantial demands on our management and employees, which could lead to the diversion of our management's and employees' attention from other business priorities. In addition, we may discover that the workforce reduction and other restructuring efforts will make it difficult for us to pursue new opportunities and initiatives and require us to hire qualified replacement personnel, which may require us to incur additional and unanticipated costs and expenses.

In addition, new employees often require significant training and, in many cases, take significant time before they achieve full productivity. As a result, we may incur significant costs to attract and retain new employees, including significant expenditures related to salaries and benefits and compensation expenses related to equity awards, and we may lose new employees to our competitors or other companies before we realize the benefit of our investment in recruiting and training them. Moreover, new employees may not be or become as productive as we expect, as we may face challenges in adequately or appropriately integrating them into our workforce and culture. Difficulties in retaining current employees or recruiting new ones could have an adverse effect on our business, prospects, financial condition, and operating results.

Our businesses rely heavily on our specialized sales personnel and technical sales support to market and sell our products. If we are unable to effectively hire, train, manage, and retain our sales personnel, our business may be adversely impacted.

The success of our businesses largely depends on our ability to hire, train, and manage our sales personnel who have experience with and connections to the public and other transit agencies and commercial vehicle OEMs that are our current and potential customers. Because we employ a small and specialized sales force, the loss of any member of our sales team or technical sales support professionals could weaken our sales expertise and our customer reach, and adversely affect our business, and we may not be able to find adequate replacements on a timely basis, or at all. Moreover, there are no assurances that we will be able to maintain a sufficient level of sales personnel to effectively meet our needs as our business continues to grow, particularly with respect to Proterra Powered and Proterra Energy.

Competition for sales personnel who are familiar with and trained to sell our products and services continues to be strong. We train our sales personnel to better understand our existing and new product technologies and how they can be positioned against our competitors' products. We also train our sales personnel to be adept at working with long sales cycles characteristic of public agency customers and commercial vehicle manufacturers, as well as the special requirements attendant to each.

These initiatives are intended to improve the productivity of our sales personnel and our revenue and profitability. It takes time for the sales professionals to become productive following their hiring and training and there can be no assurance that sales representatives will reach adequate levels of productivity, or that we will not experience significant levels of attrition in the future. Measures we implement to improve the productivity may not be successful and may instead contribute to instability in our operations, departures from our sales and technical support organizations, or reduce our revenue, profitability, and harm our business.

If we are unable to obtain bid bonds, performance bonds, or letters of credit required by public transit agencies or other customers, our ability to obtain future projects could be negatively affected.

We have in the past been, and may in the future be, required to provide bid bonds or performance bonds to secure our performance under customer contracts or, in some cases, as a prerequisite to submitting a bid on a potential project. Our continued ability to obtain these bonds will depend primarily upon our capitalization, working capital, past performance, management expertise, reputation and certain external factors, including the overall capacity of the surety market. Surety companies consider these factors in relation to the amount of our awards and their underwriting standards, which may change from time to time. Surety companies also require that we collateralize a percentage of the bond with cash or other form of credit enhancement. With a decreasing number of insurance providers in that market, it may be difficult to find sureties who will continue to provide contract-required bonding on acceptable terms and conditions, or at all. Furthermore, events that affect surety markets generally may result in bonding becoming more difficult to obtain in the future or being available only at a significantly greater cost.

In addition, some of our Proterra Transit and Proterra Energy customers also require collateral guarantees in the form of letters of credit to secure performance or to fund possible damages in the event of default under our contracts with them. If we enter agreements that require the issuance of letters of credit, our liquidity could be negatively impacted. Our inability to obtain adequate bonding or letters of credit and, as a result, to bid or enter into agreements, could have an adverse effect on our business, prospects, financial condition, and operating results.

We may experience outages and disruptions of our services if we fail to maintain adequate security and supporting infrastructure as we scale our information technology systems.

As we grow our business, we expect to continue to invest in our existing information technology systems, including data centers, network services, data storage, and database technologies, and cybersecurity technologies both to assist us in our business and to better provide our fleet-scale, high-power charging solutions and software services to our customers. Creating the appropriate information technology support systems for our business is time intensive, expensive, and complex. Our implementation, maintenance, and improvement of these systems may create inefficiencies, operational failures and increased vulnerability to cyber-attacks. Moreover, there are inherent risks associated with developing, improving, and implementing new information technology systems, including the disruption of our current data management, procurement, manufacturing, execution, finance, supply chain, sales, and service processes. As we continue to grow our services that rely on collecting and analyzing customer telematics and charging data, our exposure to information technology risks will increase. These risks may affect our ability to manage our data and inventory, procure parts or supplies or manufacture, sell, deliver, and service electric transit buses, or achieve and maintain compliance with applicable regulations.

We also maintain information technology measures designed to protect us against system security risks, data breaches, and cyber-attacks. Cyber-attacks could include denial-of-service attacks impacting customer service availability and reliability, the exploitation of software vulnerabilities in internet facing applications, social engineering of system administrators (for example, tricking company employees into releasing control of their systems to a hacker), or the introduction of computer viruses or malware into our systems to steal confidential or proprietary data. In 2020, we were the victim of a successful social engineering attack that resulted in the diversion of significant funds we intended to pay a supplier to a fraudulent account. In the third quarter of 2021, human error also resulted in a server for our Valence platform being accessible to the public for a short period of time, allowing unauthorized access to telematics data and, resulting in the deletion of a limited amount of data used by employees and customers for report functionality. Cyber-attacks of increasing sophistication may be difficult to detect and could result in the theft of our funds, intellectual property and data. In addition, we are vulnerable to unintentional errors or malicious actions by persons who have authorized access to our systems but exceed the scope of their access rights, or unintentionally or intentionally alter parameters or otherwise interfere with the intended operations of our technology services. The steps we take to increase the reliability, integrity, and security of our systems as they scale may be expensive and may not prevent system failures or unintended vulnerabilities resulting from the increasing number of persons with access to our systems, complex interactions within our technology platform and the increasing number of connections with third-party partners' and vendors' technology. Operational errors or failures or successful cyber-attacks could compromise our proprietary information, the quality of our services, and our ability to perform for our customers, resulting in damage to our reputation, which could have an adverse effect on our business, prospects, financial condition, and operating results. In addition, these events could increase the risk of claims alleging that we do not comply with applicable laws and regulations, subjecting us to potential liability and regulatory penalties under privacy laws protecting personal information.

If we update our manufacturing equipment more quickly than expected, we may have to shorten the useful lives of any equipment to be retired as a result of any such update, and the resulting acceleration in our depreciation could negatively affect our financial results.

We have invested and expect to continue to invest significantly in what we believe is state-of-the-art tooling, machinery, and other manufacturing equipment for production of our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies. We depreciate the cost of such equipment and electric transit buses over their expected useful lives. However, manufacturing and commercial vehicle technology may evolve rapidly, and we may decide to update our manufacturing process with more advanced equipment or tooling. Moreover, as our engineering and manufacturing expertise and efficiency increase, we may be able to manufacture our products using less of our installed equipment. The useful life of any equipment that would be retired early as a result would be shortened, causing the depreciation on such equipment to be accelerated, and our operating results could be negatively impacted.

Our business may be adversely affected by workforce disruptions.

Our production employees in our City of Industry facility are represented by a union and we are party to a collective bargaining agreement that will expire in 2023 as we exit the City of Industry facility and no longer employ the employees that constitute the bargaining unit. Our other employees are not represented by a union, though it is common throughout the commercial vehicle industry for employees to belong to a union, and if more of our employees decide to join or form a labor union, we may become party to additional collective bargaining agreements, which could result in higher employee costs, higher administrative and legal costs, and increased risk of work stoppages. It is also possible that a union seeking to organize our facilities may mount a corporate campaign, resulting in negative publicity or other actions that require attention by our management team and our employees. Negative publicity, work stoppages, or strikes by unions could have an adverse effect on our business, prospects, financial condition, and operating results.

Moreover, some of our suppliers and vendors, including freight companies, have workforces represented by unions and are subject to collective bargaining agreements. The failure of our suppliers and vendors to successfully negotiate collective bargaining agreements could result in disruptions to our supply chain, manufacturing, and sale of our electric transit buses. Such delays could have an adverse impact on our business, prospects, financial condition, or operating results.

We may acquire or invest in additional companies, or undertake other strategic transactions or other business relationships which may divert our management’s attention, result in additional dilution to our stockholders, consume resources that are necessary to sustain our business, and which we may not be able to integrate successfully.

In 2022, we made a strategic equity investment in a privately held entity that we expect to produce lithium iron phosphate (LFP) battery cells in the United States in the coming years to provide us with development opportunities for battery packs with another cell chemistry to address additional segments of the commercial vehicle market. We may never be able to capitalize on the opportunity that we anticipated with this investment, for a number of reasons including our own future strategic decisions or the entity’s failure, which may result in no return on our investment. Although we have not made any acquisitions to date, our business strategy in the future may include acquiring other complementary products, technologies, or businesses or making further investments in companies that the management team believes are important to our supply chain or other strategic business interests. We also may enter relationships with other businesses to expand our domestic and international operations and to create services networks to support our products, such as a joint venture or other strategic partnerships. An acquisition, investment, or other strategic transaction or business relationship may result in unforeseen operating difficulties and expenditures. We may encounter difficulties assimilating or integrating the businesses, technologies, products, services, personnel, or operations of the acquired companies particularly if the key personnel of the acquired companies choose not to work for us. Acquisitions or other strategic transactions may also disrupt our business, divert our resources, and require significant management attention that would otherwise be available for the development of our business. Moreover, the anticipated benefits of any acquisition, investment, or other strategic transaction or business relationship may not be realized or we may be exposed to unknown liabilities.

Negotiating these types of transactions can be time consuming, difficult, and expensive, and our ability to close these transactions may often be subject to approvals that are beyond our control. Consequently, these transactions, even if undertaken and announced, may not close. Even if we do successfully complete transactions, we may not ultimately strengthen our competitive position or achieve our goals, and any transactions we complete could be viewed negatively by our customers, securities analysts, and investors.

Any potential future international expansion will subject us to additional costs and risks that could harm our business, including unfavorable regulatory, political, tax, and labor conditions, and our potential future efforts to expand internationally may not be successful.

Should we choose to expand our business internationally in the future and establish business relationships with new international partners, we may be subject to legal, political, and regulatory requirements and social and economic conditions that may be very different from those affecting us domestically. For example, we have expanded our transit business into Canada. As we expanded into Canada, our electric transit buses were required to comply with Canadian Motor Vehicle Safety Standards, which differ from the FMVSS. Funding for transit bus procurement from certain provincial governments in Canada also requires compliance with Canadian Content requirements, which will require different supply chain partners than those that we rely on for our electric transit buses sold in the U.S. market and assembly of certain components or subcomponents in Canada. In addition, we are providing products and services to OEMs in Australia and Western Europe, and as we expand our Proterra Powered or Proterra Energy business internationally, or should we choose to further expand our Proterra Transit business outside the United States and Canada, we may face a number of risks associated with international business activities that may increase our costs, impact our ability to sell our electric transit buses, and require significant management attention. These risks include:

- conforming our products to various international regulatory and safety requirements as well as charging and other electric infrastructures;
- difficulty in establishing, staffing, and managing foreign operations and service networks;
- challenges in attracting international customers;
- preferences of foreign nations for domestically manufactured products;
- our ability to enforce our contractual rights;
- longer sales and collection cycles in some countries;
- weaker intellectual property protection in some countries;
- compliance with multiple, potentially conflicting and changing governmental laws, regulations and permitting processes, including environmental, product safety, banking, employment, and tax;
- compliance with U.S. and foreign anti-bribery laws including the U.S. Foreign Corrupt Practices Act of 1977, as amended (the “FCPA”), and the UK Bribery Act of 2010;
- currency exchange rate fluctuations;
- regional economic and political instability, including as a result of acts of war or terrorism in countries where we may operate;
- restrictions on repatriations of earnings;
- trade restrictions, customs regulations, tariffs, and price or exchange controls;
- increased competition from local providers of similar products;
- increased costs to establish and maintain effective controls at foreign locations; and

- overall higher costs of doing business internationally.

As a result of these risks, any potential future international expansion efforts that we may undertake may not be successful and may incur significant operational expenses. Our failure to manage these risks and challenges successfully could have an adverse effect on our business, prospects, financial condition, and operating results.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

We may be limited in the portion of net operating loss ("NOL") carryforwards that we can use in the future to offset taxable income for U.S. federal and state income tax purposes. As of December 31, 2022, we had U.S. federal NOL carryforwards and state NOL carryforwards of approximately $729.5 million and $531.1 million, respectively, which if not utilized will begin to expire for federal and state tax purposes beginning in 2030 and 2023, respectively. Federal NOLs generated after December 31, 2017 have an indefinite carryover period, and may be utilized to offset no more than 80% of taxable income annually. Realization of NOL carryforwards that expire beginning in 2030 and 2023, respectively, depends on future income, and there is a risk that these carryforwards could expire unused and be unavailable to offset future income tax liabilities, which could adversely affect our operating results.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), if a corporation undergoes an "ownership change," generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post-change income or taxes may be limited. While we expect to seek an order from the Bankruptcy Court limiting certain equity trades which may impact our ability to use our NOL carryforwards, we may experience ownership changes in the future, including as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. As a result, if we earn net taxable income, our ability to use our pre-change NOL carry-forwards and other tax attributes to offset U.S. federal taxable income or taxes may be subject to limitations, which could potentially result in increased future tax liability to us.

New tax laws or unanticipated changes in existing tax laws and regulations could adversely affect us.

New legislation or regulations that could affect our tax burden could be enacted by any governmental authority. United States federal legislation affecting the tax laws was enacted in December 2017 (the "Tax Cuts and Jobs Act" or "TCJA"), March 2020 (the "Families First Coronavirus Response Act"), March 2020 (the "CARES Act"), December 2020 ("Consolidated Appropriations Act, 2021") and August 2022 (the "Inflation Reduction Act" or "IRA").

We continue to examine the impact that this federal tax legislation may have on our business. The TCJA is a far- reaching and complex revision to the U.S. federal income tax laws with disparate and, in some cases, countervailing impacts on different categories of taxpayers and industries, and will require subsequent rulemaking and interpretation in a number of areas. The long-term impact of the TCJA on the overall economy, the industries in which we operate and our and our partners' businesses cannot be reliably predicted. For example, beginning in 2022, the TCJA eliminates the option to deduct research and development expenditures in the year they were incurred and instead requires taxpayers to capitalize and amortize these expenditures over five or fifteen years pursuant to Section 174 of the Code. Although there has been proposed legislation that would repeal or defer the capitalization requirement to later years, we have no assurance that the provision will be repealed or otherwise modified. There can be no assurance that the TCJA will not negatively impact our operating results, financial condition, and future business operations. The estimated impact of the TCJA is based on our management's current knowledge and assumptions, following consultation with our tax advisors. Because of our valuation allowance in the United States, ongoing tax effects of the Act are not expected to materially change our effective tax rate in future periods.

On August 16, 2022, President Biden signed the IRA, which became effective beginning in 2023. The IRA includes implementation of a new alternative minimum tax, an excise tax on stock buybacks, significant tax incentives for energy and climate initiatives and other provisions. These new incentives may increase competition.

The IRA contains certain expanded tax credits and other financial incentives designed to promote the development of certain domestic clean energy projects. We continue to evaluate the extent of benefits available to us, which we expect will favorably impact our results of operations in future periods. For example, we currently expect to qualify for the advanced manufacturing production credit under Section 45X of the Code, which provides certain specified benefits for domestic production and sale of qualifying solar, wind, inverter, and battery components. Such credits may be refundable or transferable to third parties and are available from 2023 to 2032, subject to phase down beginning in 2030. In order to receive the full value of such credits and incentives, we must satisfy a number of requirements. If we fail to satisfy these requirements, the value of the credits may be limited, and we may become subject to penalties. Additionally, there are currently several critical and complex aspects of the IRA with respect to which technical guidance and regulations from the Internal Revenue Service (“IRS”) and U.S. Treasury Department are needed, including, but not limited to, eligibility for and calculation of the amount of such tax credits. If the IRS and U.S. Treasury Department issue additional guidance that limits the availability of such credits, we may not be able to take full advantage of the tax benefits of the IRA as expected. There is also uncertainty if IRA incentives may be reduced or modified in the future.

We use our best judgment in attempting to quantify and reserve for these tax obligations. However, a challenge by a taxing authority, our ability to utilize tax benefits such as NOL carryforwards or tax credits, or a deviation from other tax-related assumptions may cause actual financial results to be different from previous estimates. For example, there are various provisions of the IRA that remain subject to further guidance from the Treasury Department and the Internal Revenue Service (“IRS”). We have invested resources to interpret the IRA and used our best judgment to determine its application to our business, but our interpretation may prove to be incorrect or change. Though we regularly assess the likelihood of adverse outcomes from such examinations and the adequacy of our provision for income taxes and tax reserves, there can be no assurance that such provision is sufficient and that a determination by a taxing authority will not have an adverse effect on our net income.

Our business is subject to the risk of earthquakes, fire, power outages, floods, and other catastrophic events and to interruption by man-made problems such as terrorism.

We maintain production facilities in Northern and Southern California and South Carolina. Any of our facilities may be harmed or rendered inoperable by disasters, including earthquakes, tornadoes, hurricanes, wildfires, floods, nuclear disasters, geopolitical events, acts of terrorism or other criminal activities, infectious disease outbreaks (such as COVID-19), and power outages. In the event of natural disaster or other catastrophic event, we may be unable to continue our operations and may endure production interruptions, reputational harm, delays in manufacturing, development and testing of our battery systems, electrification and charging solutions, fleet and energy management systems, electric transit buses, and related technologies, and loss of critical data, all of which could have an adverse effect on our business, prospects, financial condition, and operating results. Moreover, our corporate headquarters and one of our current battery production facilities are in the San Francisco Bay Area, and we have facilities in Los Angeles County, regions known for seismic activity and potentially subject to catastrophic fires. If our facilities are damaged by such natural disasters or catastrophic events, our repair or replacement would likely be costly and any such efforts would likely require substantial time that may affect our ability to produce and deliver our products. For example, in July 2015, we experienced a fire in our Greenville, South Carolina manufacturing facility and then-headquarters, in which substantially all of our computer equipment, furniture and fixtures, leasehold improvements, work in progress, raw material, and finished goods inventories were damaged or destroyed. While we were insured for our losses and resumed manufacturing shortly thereafter, the disruption temporarily impacted our business. Similarly, any future disruptions in our operations could negatively impact our business, prospects, financial condition, and operating results and harm our reputation. In addition, we may not carry enough insurance to compensate for the losses that may occur.

Risks Related to Regulation

Failure to comply with anti-corruption, anti-money laundering laws, and sanctions laws,import and export controls, including the FCPA and similar laws associated with our activities outside of the United States, could subject us to penalties and other adverse consequences.

We are subject to the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, the UK Bribery Act of 2010, U.S. and foreign laws relating to import and export controls, economic sanctions, including the laws and regulations administered by the U.S. Department of the

Treasury's Office of Foreign Assets Control, and may be subject to other anti-bribery, anti-money laundering, and sanctions laws in countries in which we conduct activities. We face significant risks if we fail to comply with the FCPA and other anti-corruption laws that prohibit companies and their employees and third-party intermediaries from promising, authorizing, offering, or providing, directly or indirectly, improper payments or benefits to foreign government officials, political parties, and private sector recipients for the purpose of obtaining or retaining business, directing business to any person, or securing any advantage. In many foreign countries, particularly in countries with developing economies, it may be a local custom that businesses engage in practices that are prohibited by the FCPA or other applicable laws and regulations. We may have direct or indirect interactions with officials and employees of government agencies or state- owned or affiliated entities and we can be held liable for the corrupt or other illegal activities of these third- party intermediaries, our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize such activities. We have implemented an anti-corruption compliance program but cannot assure you that all of our employees and agents, as well as those companies to which we outsource certain of our business operations, will not take actions in violation of our policies and applicable law, for which we may be ultimately held responsible.

Our products and solutions are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and the economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls, as well as similar laws in other countries in which we conduct business. Exports of our products, services, and technology must be made in compliance with these laws and regulations. In addition, these laws may restrict or prohibit altogether the sale or supply of certain of our products, services, and technologies to certain governments, persons, entities, countries, and territories, including those that are the target of comprehensive sanctions, unless there are license exceptions that apply or specific licenses are obtained. Any future changes in export control, import, or economic sanctions laws and regulations may adversely impact our ability to sell our products, services, and technologies in certain markets or, in some cases, prevent the export or import of our products, services, and technologies to or from certain countries, governments, or persons altogether, which could adversely affect our business, results of operations, and growth prospects.

Any violation of the FCPA, other applicable anti-corruption laws, anti-money laundering, import and export controls, economic sanctions laws and other applicable laws could result in whistleblower complaints, adverse media coverage, investigations, loss of export privileges, or severe criminal or civil sanctions, which could have an adverse effect on our business, prospects, financial condition, and operating results. In addition, responding to any enforcement action may result in a significant diversion of management's attention and resources, significant defense costs, and other professional fees.

The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain additional executive management and qualified board members.

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act"), the listing requirements of Nasdaq and other applicable securities rules and regulations. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming, or costly, and increase demand on our systems and resources, particularly after we are no longer an emerging growth company. The Exchange Act requires, among other things, that we file annual, quarterly, and current reports with respect to our business and operating results. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management's attention may be diverted from other business concerns, which could adversely affect our business and operating results. Although we have already hired additional employees to comply with these requirements, we may need to hire more employees in the future or engage outside consultants, which would increase our costs and expenses.

In addition, changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time consuming. These laws, regulations, and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve or otherwise change over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations, and standards (or changing interpretations of them), and this investment may result in increased selling, general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations, and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us, and our business may be adversely affected. We also expect that being a public company and the associated rules and regulations will make it more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee, compensation committee, and nominating and governance committee, and qualified executive officers.

As a result of disclosure of information in the filings required of a public company, our business and financial condition is more visible, which may result in threatened or actual litigation, including by competitors. For example, on July 14, 2023, a purported shareholder filed a class action complaint in the United States District Court Northern District of California, against Proterra and certain current and former officers of the Company asserting claims for violation of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, and Rule 10b-5 promulgated thereunder. The complaint alleges that Proterra's filings with the Securities and Exchange Commission and other public statements between August 2, 2022 and March 15, 2023, misrepresented the Company's financial position and when Proterra disclosed that it was in violation of a liquidity clause in its secured convertible notes, it caused a substantial decline in the Company's stock price. The complaint seeks to certify the action as a class action and recover compensatory damages on behalf of the shareholder and potential class members in an unspecified amount. The Company intends to vigorously defend itself. The Company is unable to estimate the potential loss or range of loss, if any, associated with the case. If these or similar claims are successful, our business and operating results could be adversely affected, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and adversely affect our business and operating results. In addition, as a result of our disclosure obligations as a public company, we have reduced flexibility and are under pressure to focus on short-term results, which may adversely affect our ability to achieve long-term profitability.

Regulations related to "conflict minerals" may force us to incur additional expenses, may make our supply chain more complex and may result in damage to our reputation with customers.

Pursuant to the Dodd-Frank Act, the SEC has adopted requirements for companies that use certain minerals and metals, known as conflict minerals, in their products, whether or not these products are manufactured by third parties. These requirements require companies to perform due diligence, disclose, and report whether such minerals originate from the Democratic Republic of Congo and adjoining countries, or come from recycled or scrap sources. These requirements could adversely affect the sourcing, availability, and pricing of minerals used in the manufacture of heavy-duty electric vehicles, including our products. While these requirements continue to be subject to administrative uncertainty, we will incur additional costs to comply with the disclosure requirements, including costs related to determining the source of any of the relevant minerals and metals used in our products. Since our supply chain is complex, we may not be able to sufficiently verify the origins for these minerals and metals used in our products through the due diligence procedures that we implement, which may harm our reputation. In such event, we may also face difficulties in satisfying customers who require that all of the components of our products are certified as conflict mineral free.

Risks Related to our Intellectual Property

Failure to protect our intellectual property could adversely affect our business.

Our success depends in large part on our proprietary technology, software and data. We rely on various intellectual property rights, including patents, copyrights, trademarks, and trade secrets, as well as confidentiality provisions and contractual arrangements, and other forms of statutory protection to protect our proprietary rights. If we do not protect and enforce our intellectual property rights adequately and successfully, our competitive position may suffer, which could adversely affect our business, prospects, financial condition, and operating results.

Our pending patent or trademark applications may not be approved, or competitors or others may challenge the validity, enforceability, or scope of our patents, the scope of our copyrights, the registrability of our trademarks or the trade secret status of our proprietary information. There can be no assurance that additional patents will be issued or that any issued patents will provide significant protection for our intellectual property or for those portions of our proprietary technology and software that are the most key to our competitive positions in the marketplace. In addition, our patents, copyrights, trademarks, trade secrets, and other intellectual property rights may not provide us a significant competitive advantage. There is no assurance that the forms of intellectual property protection that we seek, including business decisions about when and where to file patents and when and how to maintain and protect copyrights, trade secrets, license and other contractual rights will be adequate to protect our business.

Moreover, recent amendments to developing jurisprudence regarding and current and possible future changes to intellectual property laws and regulations, including U.S. and foreign patent, copyright, trade secret and other statutory law, may affect our ability to protect and enforce our intellectual property rights and to protect our proprietary technology, software and data. In addition, the laws of some countries do not provide the same level of protection for our intellectual property as do the laws of the United States. As we expand our international activities, our exposure to unauthorized copying and use of our technology and proprietary information will likely increase. Despite our precautions, our intellectual property is vulnerable to unauthorized access and copying through employee or third-party error or actions, including malicious state or state-sponsored actors, theft, hacking, cybersecurity incidents, and other security breaches and incidents, and such incidents may be difficult to detect or unknown for a significant period of time. It is possible for third parties to infringe upon or misappropriate our intellectual property, to copy or reverse engineer our bus and battery pack designs, and to use information that we regard as proprietary to create products and services that compete with ours. Effective intellectual property protection may not be available to us in every country in which we may sell our electric transit buses and related or other products and services. In addition, many countries limit the enforceability of patents against certain third parties, including government agencies or government contractors, or make patents subject to compulsory licenses to third parties under certain circumstances. In these countries, patents may provide limited or no benefit.

Intellectual property laws, procedures, and restrictions provide only limited protection and any of our intellectual property rights may be challenged, invalidated, circumvented, infringed, or misappropriated. Further, the laws of certain countries do not protect proprietary rights to the same extent as the laws of the United States, and, therefore, in certain jurisdictions, we may be unable to protect our proprietary technology.

We enter into confidentiality and invention assignment or intellectual property ownership agreements with our employees and contractors and enter into confidentiality agreements with other third parties. We cannot ensure that these agreements, or all the terms thereof, will be enforceable or compliant with applicable law, or otherwise effective in controlling access to, use of, reverse engineering, and distribution of our proprietary information or in effectively securing exclusive ownership of intellectual property developed by our current or former employees and contractors. Further, these agreements with our employees, contractors, and other parties may not prevent other parties from independently developing technologies, products and services that are substantially equivalent or superior to our technologies, products and services.

We may need to spend significant resources securing and monitoring our intellectual property rights, and we may or may not be able to detect infringement by third parties. Our competitive position may be adversely impacted if we cannot detect infringement or enforce our intellectual property rights quickly or at all. In some circumstances, we may choose not to pursue enforcement because an infringer has a dominant intellectual property position, because of uncertainty relating to the scope of our intellectual property or the outcome of an enforcement action, or for other business reasons. In addition, competitors might avoid infringement by designing around our intellectual property rights or by developing non-infringing competing technologies. Litigation brought to protect and enforce our intellectual property rights could be costly, time-consuming, and distracting to management and our development teams and could result in the impairment or loss of portions of our intellectual property. Further, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims attacking the scope, validity, and enforceability of our intellectual property rights, or with counterclaims and countersuits asserting infringement by us of third-party intellectual property rights. Our failure to secure, protect, and enforce our intellectual property rights could adversely affect our brand and our business, any of which could have an adverse effect on our business, prospects, financial condition, and operating results.

We may be subject to intellectual property rights claims or other litigation by third parties, which could be costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies.

Third parties may assert claims of infringement of intellectual property rights or violation of other statutory, license or contractual rights in technology, software or data against us or against our customers for which we may be liable or have an indemnification obligation. Any such claim by a third party, even if without merit, could cause us to incur substantial costs defending against such claim and could distract our management and our development teams from our business.

Although third parties may offer a license to their technology, software or data, the terms of any offered license may not be acceptable and the failure to obtain a license or the costs associated with any license could cause our business, prospects, financial condition, and operating results to be adversely affected. In addition, some licenses may be non-exclusive, and therefore our competitors may have access to the same technology, software or data licensed to us. Alternatively, we may be required to develop non-infringing technology, software or data which could require significant effort and expense and ultimately may not be successful. Furthermore, a successful claimant could secure a judgment or we may agree to a settlement that prevents us from selling certain products or performing certain services or that requires us to pay substantial damages, including treble damages if we are found to have willfully infringed such claimant’s patents, copyrights, trade secrets or other statutory rights, royalties or other fees. Any of these events could have an adverse effect on our business, prospects, financial condition, and operating results.

Adverse litigation judgments or settlements resulting from legal proceedings in which we may be involved could expose us to monetary damages or limit our ability to operate our business.

We have in the past and may in the future become involved in private actions, collective actions, investigations, and various other legal proceedings by customers, employees, suppliers, competitors, government agencies, or others. The results of any such litigation, investigations, and other legal proceedings are inherently unpredictable and expensive. Any claims against us, whether meritorious or not, could be time consuming, result in costly litigation, damage our reputation, require significant management time, and divert significant resources. If any of these legal proceedings were to be determined adversely to us, or we were to enter into a settlement arrangement, we could be exposed to monetary damages or limits on our ability to operate our business, which could have an adverse effect on our business, financial condition, and operating results.

Risks Related to our Common Stock

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

From January 3, 2022 through December 30, 2022, our common stock price has ranged from a low of $3.51 to a high of $10.90. For the period from January 1, 2023 through August 4, 2023, our common stock price has ranged from a low of $1.00 to a high of $5.62. As a result of this volatility, investors in our common stock may not be able to sell their shares at or above the prices they paid. In addition, the Chapter 11 proceedings may cause our common stock to decrease materially or may render our stock worthless. Further, as a result of this volatility it may be difficult for us to attract new investments, including additional offerings of our securities, on terms we consider reasonable, or at all. The price of our common stock has fluctuated and may fluctuate in the future due to a variety of factors, including:

- changes in the industries in which we and our customers operate;
- variations in our operating performance and the performance of our competitors in general;
- material and adverse impact of the macro- and micro-economic conditions on the markets and the broader global economy;

- actual or anticipated fluctuations in our quarterly or annual operating results;
- the public's reaction to our press releases, our other public announcements and our filings with the SEC;
- negative publicity regarding our company or products;
- our failure or the failure of our competitors to meet analysts' projections or guidance that we or our competitors may give to the market;
- additions and departures of key personnel;
- changes in laws and regulations affecting its business;
- commencement of, or involvement in, litigation involving us;
- changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;
- publication of research reports by securities analysts about us or our competitors or our industry;
- sales of shares of common stock by the PIPE Investors;
- dilution, or expected or potential dilution, related to the issuance of additional shares of common stock to satisfy conversion under the Convertible Notes or otherwise;
- the volume of shares of our common stock available for public sale, including as a result of a conversion of the Convertible Notes into shares of common stock; and
- general economic and political conditions such as recessions, changes in interest rates, an increased rate of inflation, disruptions to banking systems, increased costs of goods, supply chain disruptions, fuel price fluctuations, foreign currency fluctuations, international tariffs, social, political and economic risks, geopolitical conflicts (including the current conflict in Ukraine), and acts of war or terrorism.

These market and industry factors may materially reduce the market price of our common stock regardless of our operating performance.

Companies that have experienced volatility in the market price of their stock have frequently been the subject of securities class action and shareholder derivative litigation. We could be the target of such litigation in the future. Class action and derivative lawsuits, whether successful or not, could result in substantial costs, damage or settlement awards and a diversion of our management's resources and attention from running our business, which could materially harm our reputation, financial condition and results of operations.

Conversion of the Convertible Notes will dilute the ownership interest of existing stockholders or may otherwise depress our stock price.

In August 2020, Legacy Proterra issued $200.0 million in original aggregate principal amount of Convertible Notes. Certain holders of Convertible Notes with aggregate original principal amounts of $46.5 million elected to convert their Convertible Notes, including accrued PIK interest and cash interest, at the Closing resulting in the issuance of 7.4 million shares of common stock. As of March 31, 2023, the amendment to the Convertible Notes was entered into, which includes an increase in the annual interest rate of the Convertible Notes to 12.0% per annum, consisting of 5.0% in cash and 7.0% PIK with the PIK default rate proportionally increased to 9.0%. As of June 30, 2023, the outstanding balance of the Convertible Notes was $172.7 million inclusive of PIK interest of $22.4 million, all of which mature on August 4, 2028. To the extent the remaining outstanding Convertible Notes are converted pursuant to their conversion provisions, including any adjustments to the conversion price, the balance under the Convertible Notes will grow and the number of shares that may be issued upon conversion will increase accordingly. The issuance of shares of our common stock upon conversion of the Convertible Notes will dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the Convertible Notes may encourage hedging and short selling by market participants because the anticipated conversion of the Convertible Notes into shares of common stock could depress our stock price.

Because the number of shares of our common stock that may be issued to the holders of the Convertible Notes pursuant to the Convertible Notes is determined based on the price of our common stock, provided, however, that conversions may occur at any time or from time to time on or after March 31, 2024 at a conversion price equal to a 25% discount to the lowest issuance price of an equity-linked instrument from March 31, 2023 to the date of conversion, subject to a $1.016 floor price, the exact magnitude of the dilutive effect cannot be conclusively determined. However, the dilutive effect may be material to our existing stockholders. Pursuant to the terms of the Convertible Notes, we will be obligated to reserve such number of shares of our common stock that shall be sufficient to effect the conversion of the Convertible Notes. We cannot predict the price of our common stock at any future date, and therefore cannot predict the number of shares of our common stock to be issued under the Convertible Notes. Accordingly, the number of shares of our common stock that may be issuable to a holder or affiliated holders of the Convertible Notes upon conversion of the Convertible Notes may represent a relatively high percentage of our outstanding shares of common stock, up to 40% of our then outstanding shares of common stock. In this regard, it should be noted that note holders affiliated with the Cowen Parties held substantially all of the Convertible Notes as of June 30, 2023. If any stockholder and its affiliates beneficially owns a relatively high percentage of our common stock, it would be able to exercise a significant level of influence over matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions.

Future resale of our common stock may cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. We have filed a registration statement related to the offer and sale from time to time by the selling securityholders named in the prospectus that forms a part of the registration statement of up to 125,389,111 shares of common stock, which registration statement has been declared effective by the SEC. In addition, as of June 17, 2022, Rule 144 became available for the resale of any shares that are restricted or control securities, which may be subject to volume and other restrictions as applicable under Rule 144. To the extent shares are sold into the market pursuant to a registration statement that has been declared effective by the SEC, under Rule 144 or otherwise, particularly in substantial quantities, the market price of our common stock could decline.

Our management team has limited experience managing a public company.

Most members of our management team have limited experience managing a publicly traded company, interacting with public company investors, and complying with the increasingly complex laws pertaining to public companies. Our management team may not successfully or efficiently manage our transition to a public company subject to significant regulatory oversight and reporting obligations under the federal securities laws and the continuous scrutiny of securities analysts and investors. These obligations and constituents will require significant attention from our senior management and could divert their attention away from the day-to-day management of our business, which could have an adverse effect our business, prospects, financial condition, and operating results.

Reports published by analysts, including projections in those reports that differ from our actual results, could adversely affect the price and trading volume of our common stock.

Securities research analysts may establish and publish their own periodic projections for us. These projections may vary widely and may not accurately predict the results we actually achieve. Our share price may decline if our actual results do not match the projections of these securities research analysts. Similarly, if one or more of the analysts who write reports on us downgrades our stock or publishes inaccurate or unfavorable research about our business or cease coverage, our share price could decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, our share price or trading volume could decline.

While we expect research analyst coverage, if no analysts provide coverage of us, the market price and volume for our common stock could be adversely affected.

We are subject to changing law and regulations regarding regulatory matters, corporate governance and public disclosure that will increase our costs and the risk of non-compliance.

We are subject to rules and regulations by various governing bodies, including, for example, the SEC, which are charged with the protection of investors and the oversight of companies whose securities are publicly traded, and to new and evolving regulatory measures under applicable law. Our efforts to comply with new and changing laws and regulations will result in increased general and administrative expenses and a diversion of management time and attention.

Moreover, because these laws, regulations and standards are subject to varying interpretations, their application in practice may evolve over time as new guidance becomes available. This evolution may result in continuing uncertainty regarding compliance matters and additional costs necessitated by ongoing revisions to our disclosure and governance practices. If we fail to address and comply with these regulations and any subsequent changes, we may be subject to penalty and our business may be harmed.

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

We have never declared or paid any cash dividends on our common stock and do not intend to pay any cash dividends in the foreseeable future. Additionally, our ability to pay dividends on our common stock is limited by restrictions under the terms of our Loan Agreements. We anticipate that for the foreseeable future we will retain all our future earnings to service our indebtedness, maintain compliance with the covenants under our debt agreements, for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

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

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

- provide that our board of directors will be classified into three classes of directors with staggered three-year terms;
- permit the board of directors to establish the number of directors and fill any vacancies and newly created directorships;
- require super-majority voting (or if two-thirds of the board of directors approves, a majority) to amend some provisions in our certificate of incorporation and restated bylaws;
- authorize the issuance of "blank check" preferred stock that our board of directors could use to implement a stockholder rights plan;
- provide that only a majority of our board of directors will be authorized to call a special meeting of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- provide that the board of directors is expressly authorized to make, alter, or repeal our bylaws; and

- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

In addition, our certificate of incorporation provides the Court of Chancery of the State of Delaware, to the fullest extent permitted by law, will be the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law (the “DGCL”), our certificate of incorporation, or our restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine. The provision will not apply to suits brought to enforce a duty or liability created by the Exchange Act. Our restated bylaws provide that the federal district courts of the United States of America will, to the fullest extent permitted by law, be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act or the Exchange Act, which we refer to as a Federal Forum Provision. Our decision to adopt a Federal Forum Provision followed a decision by the Supreme Court of the State of Delaware holding that such provisions are facially valid under Delaware law. While there can be no assurance that federal courts or state courts will follow the holding of the Delaware Supreme Court or determine that the Federal Forum Provision should be enforced in a particular case, application of the Federal Forum Provision means that suits brought by our stockholders to enforce any duty or liability created by the Securities Act or the Exchange Act must be brought in federal court and cannot be brought in state court. These choice of forum provisions may limit a stockholder’s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees.

Moreover, Section 203 of the DGCL may discourage, delay, or prevent a change of control of our company. Section 203 imposes certain restrictions on mergers, business combinations, and other transactions between us and holders of 15% or more of our common stock. See the section titled “Description of Capital Stock” for additional information.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

(a)

Operation of Chapter 11

Chapter 11 is the principal business reorganization chapter of the Bankruptcy Code. Under Chapter 11, a debtor is authorized to reorganize its business for the benefit of itself, its creditors and equity security holders, which includes a debtor’s shareholders. Another goal of Chapter 11 is to promote equality of treatment for similarly situated creditors and equality of treatment for similarly situated equity security holders, in each case, with respect to the distribution of a debtor’s value or assets.

The commencement of a Chapter 11 case creates an estate that is comprised of all of the legal and equitable interests of the debtor as of the filing date. The Bankruptcy Code generally provides that the debtor may continue to operate its business in the ordinary course and remain in possession of its property as a “debtor in possession.” The consummation of a Chapter 11 plan is one of the principal objectives of a Chapter 11 case. A Chapter 11 plan sets forth the means for satisfying claims against and equity interests in a debtor. Confirmation and consummation of a Chapter 11 plan by the Bankruptcy Court makes the plan binding upon the debtor, any issuer of securities under the plan, any person or entity acquiring property under the plan and any creditor of, or equity security holder in, the debtor, whether or not such creditor or equity security holder (i) is impaired under or has accepted the plan or (ii) receives or retains any property under the plan. Subject to certain limited exceptions and other than as provided in the plan itself or the order of the bankruptcy court approving the plan (a “confirmation order”), the confirmation order may discharge the debtor from any debt that arose prior to the date of confirmation of the plan and substitutes therefore the obligations specified under the confirmed plan, and terminates all rights and interests of existing equity security holders.

As previously disclosed, existing equity securities in a debtor are subject to a high risk of being cancelled through a Chapter 11 plan without receiving any consideration or otherwise receiving any value. The reason for this high risk of cancellation is because equity securities in a debtor generally sit last in line of priority in bankruptcy. This is referred to as the “absolute priority rule.” Under the absolute priority rule, unless holders of more senior claims otherwise agree, holders of equity securities are generally precluded from receiving any value unless and until holders of claims or interests senior to them are paid in full. Therefore, equity securities are subordinate to all claims against the debtor, including, claims with valid, perfected security interests in collateral, unsecured priority claims related to, among other things, administration of and the preservation of the value of a debtor’s bankruptcy estate, other secured and unsecured debt, and other general unsecured claims, including trade creditors.

Background to Chapter 11 Cases

As previously disclosed, the Company has incurred net losses and negative cash flows from operations since inception and has funded operations primarily through a combination of equity and debt financing. The Company’s existing loan facilities include a requirement that the Company maintain minimum liquidity and deliver financial reports without a going concern qualification, which have been waived or modified as the Company pursued various strategies designed to improve liquidity and cash generated from operations, such as expense reduction and cash savings initiatives that include streamlining facilities, initiating working capital initiatives, and reducing overall selling, general and administrative expenses that include a workforce reduction announced in January 2023, and the closure of the City of Industry facility by December 31, 2023 to improve operational efficiency. Additionally, the Company explored potential options for raising additional funds through the issuance of equity, equity-linked, and/or debt securities, debt financings or other capital sources and/or strategic transactions. However, as disclosed in the Debtors’ filings in the Chapter 11 Cases, the Company has not been able to secure additional financing. As a result of the liquidity shortfall and an inability to secure additional financing, the Company voluntarily filed for Chapter 11 bankruptcy protection on August 7, 2023.

Use of Cash Collateral During Chapter 11

As part of the Debtors’ requested “first day” relief, the Bankruptcy Court Debtors are seeking authorization to use cash collateral to fund their operations and the costs of the Chapter 11 Cases on an interim basis. If the Bankruptcy Court does not authorize the use of cash collateral or revokes the Debtors’ authorization to use cash collateral, there is a risk that Debtors will be unable to obtain sufficient liquidity to fund their operations and the costs of the Chapter 11 Cases.

(b) None.

(c) None.

Item 6. Exhibits

(a) Exhibits.

		Incorporated by Reference		
Exhibit Number	**Description**	**Form**	**Exhibit**	**Filing Date**
10.1+*	Severance Agreement of David S. Black, dated May 8, 2023			
10.2+*	Executive Offer Letter of Jeffrey D. Embt, dated May 31, 2023			
10.3+*	Severance Agreement of Jeffrey D. Embt, dated June 8, 2023			
31.1*	Certification of the Chief Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a)			
31.2*	Certification of the Chief Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a)			
32.1**	Certification of the Chief Executive Officer required by Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. 1350			
32.2**	Certification of the Chief Financial Officer required by Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. 1350			
101.INS*	Inline 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.			
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.			
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.			
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.			
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.			
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.			
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)			

+	Indicates a management contract or compensatory plan, contract or arrangement.
*	Filed herewith
**	Furnished herewith

SIGNATURES

Pursuant to the requirements 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.

PROTERRA INC

Date: August 8, 2023	By:	*/s/ Jeffrey D. Embt*
	Name:	Jeffrey D. Embt
	Title:	Chief Accounting Officer (On behalf of the Registrant and as Principal Accounting Officer)
	By:	*/s/ David S. Black*
	Name:	David S. Black
	Title:	Chief Financial Officer (On behalf of the Registrant and as Principal Financial Officer)

Exhibit 10.1

SEVERANCE AGREEMENT

This Severance Agreement (the "Agreement") is entered into as of 5/8/2023 (the "**Effective Date**") by and between David Scott Black (the "**Executive**") and Proterra Inc, a Delaware corporation (the "**Company**").

1. Term of Agreement.

This Agreement shall terminate on the date the Executive's employment with the Company or its subsidiary, as applicable, terminates for a reason other than a Qualifying Termination or CIC Qualifying Termination (the "***Expiration Date***"); provided however, if a definitive agreement relating to a Change in Control has been signed by the Company on or before the Expiration Date, then this Agreement shall remain in effect through the earlier of:

- The date the Executive's employment with the Company terminates for a reason other than a Qualifying Termination or CIC Qualifying Termination, or
- The date the Company has met all of its obligations under this Agreement following a termination of the Executive's employment with the Company due to a Qualifying Termination or CIC Qualifying Termination.

2. Qualifying Termination. If the Executive is subject to a Qualifying Termination, then, subject to Sections 4, 9, and 10 below, Executive will be entitled to the following benefits:

(a) **Severance Benefits**. The Company or its subsidiaries shall pay the Executive six months of Executive's monthly base salary (at the rate in effect immediately prior to the actions that resulted in the Qualifying Termination). The severance benefits shall be paid through salary continuation in equal installments in accordance with the Company's or its subsidiary's, as applicable, standard payroll procedures, with the initial payment to occur on the first payroll date following the sixtieth (60^{th}) day following the Separation, with the first installment to include a catchup payment for amounts covering the period from the date of Separation through the first payment date, *provided that* the Release Conditions have been satisfied. However, if the period comprising the sum of the sixty (60)- day period described in the preceding sentence and the ten (10)-day period described in clause (3) of the second sentence of Section 7(e) below spans two calendar years, then the payments which constitute deferred compensation subject to Section 409A will not in any case commence in the first calendar year. The number of months of severance set forth in the first sentence of this subsection (a) shall be referred to herein as the "**Severance Period**."

(b) **Continued Employee Benefits**. If Executive timely elects continued coverage under the Consolidated Omnibus Budget Reconciliation Act ("**COBRA**"), the Company or its subsidiary shall pay the full amount of Executive's COBRA premiums on behalf of the Executive for the Executive's continued coverage under the Company's or its subsidiary's, as applicable, health, dental and vision plans, including coverage for the Executive's eligible dependents, for the Severance Period. Notwithstanding the foregoing, if the Company, in its sole discretion, determines that it cannot provide the foregoing subsidy of COBRA coverage without potentially violating or causing the Company or its subsidiary to incur additional expense as a result of noncompliance with applicable law (including, without limitation, Section 2716 of the Public Health Service Act), the Company or its subsidiary instead shall provide to Executive a taxable monthly payment in an amount equal to the monthly COBRA premium that Executive would be required to pay to continue the group health coverage in effect on the date of the Separation (which amount shall be based on the premium for the first month of COBRA coverage), which payments shall be made regardless of whether Executive elects COBRA continuation coverage and shall commence on the later of (i) the first day of the month following the month in which Executive experiences a Separation and (ii) the effective date of the Company's determination of violation of applicable law, and shall end on the earlier of (x) the effective date on which Executive becomes covered by a health, dental or vision insurance plan of a subsequent employer, and (y) the last day of the Severance Period, *provided that*, any taxable payments under this Section 2(b) will not be paid before the first business day occurring after the sixtieth (60^{th}) day following the Separation and, once they commence, will include any unpaid amounts accrued from the date of Executive's Separation (to the extent not otherwise satisfied with continuation coverage). However, if the period comprising the sum of the sixty (60)-day period described in the preceding sentence and the ten (10)-day period described in clause (3) of the second sentence of Section 7(e) below spans two calendar years, then the payments which constitute deferred compensation subject to Section 409A will not in any case be paid in the first calendar year. Executive shall have no right to an additional gross-up payment to account for the fact that such COBRA premium amounts are paid on an after-tax basis.

3. CIC Qualifying Termination. If the Executive is subject to a CIC Qualifying Termination, then, subject to Sections 4, 9, and 10 below, Executive will be entitled to the following benefits:

(a) **Severance Benefits**. The Company or its subsidiaries shall pay the Executive twelve months of Executive's monthly base salary and then-current target bonus opportunity (at the rates in effect immediately prior to the actions that resulted in the Separation). The severance benefits shall be paid through salary continuation in equal installments in accordance with the Company's or its subsidiary's, as applicable, standard payroll procedures, with the initial payment to occur on the first payroll date following the sixtieth (60th) day following the Separation, with the first installment to include a catchup payment for amounts covering the period from the date of Separation through the first payment date, *provided that* the Release Conditions have been satisfied. However, if the period comprising the sum of the sixty (60)-day period described in the preceding sentence and the ten (10)-day period described in clause (3) of the second sentence of Section 7(e) below spans two calendar years, then the payments which constitute deferred compensation subject to Section 409A will not in any case commence in the first calendar year.

(b) **Continued Employee Benefits**. The Company or its subsidiary shall pay the Executive the continued employee benefits set forth in Section 2(b) above for the same period that the Executive is paid severance benefits pursuant to Section 3(a) following the Executive's Separation or, if earlier, until Executive becomes covered by a health, dental or vision insurance plan of a subsequent employer or until Executive is no longer eligible for COBRA benefits.

(c) **Equity**. Each of Executive's then outstanding Equity Awards, including awards that would otherwise vest only upon satisfaction of performance criteria, shall accelerate and become vested and exercisable as to 100% of the then unvested shares underlying the Equity Award. For awards that would otherwise vest only upon satisfaction of performance criteria, the foregoing acceleration shall be based on achievement of performance criteria at target, except to the extent otherwise provided in the award agreement evidencing such award. "**Equity Awards**" means all options to purchase shares of Company common stock as well as any and all other stock-based awards granted to the Executive, including but not limited to stock bonus awards, restricted stock, restricted stock units or stock appreciation rights. Subject to Section 4, the accelerated vesting described above shall be effective as of the Separation.

4. General Release. Any other provision of this Agreement notwithstanding, the benefits under Section 2 and 3 shall not apply unless the Executive (i) has executed a general release (in a form prescribed by the Company) of all known and unknown claims that Executive may then have against the Company or entities or persons affiliated with the Company and such release has become effective and (ii) has agreed not to prosecute any legal action or other proceeding based upon any of such claims. The release must be in the form prescribed by the Company, without alterations (this document effecting the foregoing, the "**Release**"). The Company or its subsidiary will deliver the form of Release to the Executive within thirty (30) days after the Executive's Separation. The Executive must execute and return the Release within the time period specified in the form.

5. Accrued Compensation and Benefits. Notwithstanding anything to the contrary in Section 2 and 3 above, in connection with any termination of employment upon or following a Change in Control (whether or not a Qualifying Termination or CIC Qualifying Termination), the Company or its subsidiary shall pay Executive's earned but unpaid base salary and other vested but unpaid cash entitlements for the period through and including the termination of employment, including unused earned vacation pay and unreimbursed documented business expenses incurred by Executive prior to the date of termination (collectively "**Accrued Compensation and Expenses**"), as required by law and the applicable Company or its subsidiary, as applicable, plan or policy. In addition, Executive shall be entitled to any other vested benefits earned by Executive for the period through and including the termination date of Executive's employment under any other employee benefit plans and arrangements maintained by the Company or its subsidiary, as applicable, in accordance with the terms of such plans and arrangements, except as modified herein (collectively "**Accrued Benefits**"). Any Accrued Compensation and Expenses to which the Executive is entitled shall be paid to the Executive in cash as soon as administratively practicable after the termination, and, in any event, no later than two and one-half (2-1/2) months after the end of the taxable year of the Executive in which the termination occurs or at such earlier time as may be required by applicable law or Section 10 below, and to such lesser extent as may be mandated by Section 9 below. Any Accrued Benefits to which the Executive is entitled shall be paid to the Executive as provided in the relevant plans and arrangements.

6. Covenants.

(a) **Non-Competition**. The Executive agrees that, during Executive's employment with the Company, Executive shall not engage in any other employment, consulting or other business activity (whether full-time or part-time) that would create a conflict of interest with the Company.

(b) **Cooperation and Non-Disparagement**. The Executive agrees that, during the Severance Period, he or she shall cooperate with the Company or its subsidiary in every reasonable respect and shall use Executive's best efforts to assist the Company or its subsidiary with the transition of Executive's duties to Executive's successor. The Executive further agrees that following the date of Separation, Executive shall not in any way or by any means disparage the Company, its subsidiaries, or the members of their Board of Directors or their officers and employees.

7. Definitions.

(a) "**Cause**" means (i) an unauthorized use or disclosure by Executive of the Company's or its subsidiaries' confidential information or trade secrets, which use or disclosure causes or is reasonably likely to cause material harm to the Company or its subsidiaries, (ii) a material breach of any agreement between Executive and the Company or its subsidiaries, (iii) a material failure to comply with the Company's or its subsidiaries' written policies or rules that has caused or is reasonably likely to cause material injury to the Company, its successor, or its affiliates, or any of their business, (iv) conviction of, or plea of "guilty" or "no contest" to, a felony under the laws of the United States or any state thereof, (v) willful misconduct that has caused or is reasonably likely to cause material injury to the Company, its successor, or its affiliates, or any of their business, (vi) embezzlement, (vii) failure to cooperate with the Company or its subsidiaries in any investigation or formal proceeding if the Company or its subsidiary, as applicable, has requested Executive's reasonable cooperation, (viii) violation of any applicable federal, state or foreign statutes, laws or regulations or (ix) a continued failure to perform assigned duties after receiving written notification of such failure from the Company's or its subsidiaries', as applicable, Chief Executive Officer; *provided that* Executive must be provided with written notice of Executive's termination for "Cause" and Executive must be provided with a thirty (30) day period following Executive's receipt of such notice to cure the event(s) that trigger "Cause," with the Company's or its subsidiaries', as applicable, Board of Directors making the final determination whether Executive has cured any Cause.

(b) "**Code**" means the Internal Revenue Code of 1986, as amended.

(c) "**Change in Control**." For all purposes under this Agreement, a Change in Control shall mean a "Change in Control," as such term is defined in the Company's 2010 Equity Incentive Plan, as may be amended from time to time, *provided that* the transaction (including any series of transactions) also qualifies as a change in control under U.S. Treasury Regulation 1.409A-3(i)(5)(v) or 1.409A-3(i)(5)(vii).

(d) "**CIC Qualifying Termination**" means a Separation (A) within twelve (12) months following a Change in Control or (B) within three (3) months preceding a Change in Control (but as to part (B), only if the Separation occurs after a Potential Change in Control) resulting, in either case (A) or (B), from (i) the Company or its subsidiary, as applicable, terminating the Executive's employment for any reason other than Cause or (ii) the Executive voluntarily resigning Executive's employment for Good Reason. A termination or resignation due to the Executive's death or disability shall not constitute a CIC Qualifying Termination. A "**Potential Change in Control**" means the date of execution of a legally binding and definitive agreement for a corporate transaction which, if consummated, would constitute the applicable Change in Control (which for the avoidance of doubt, would include a merger agreement, but not a term sheet for a merger agreement). In the case of a termination following a Potential Change in Control and before a Change in Control, solely for purposes of benefits under this Agreement, the date of Separation will be deemed the date the Change in Control is consummated.

(e) "**Good Reason**" means, without the Executive's consent, (i) a material reduction in the Executive's level of responsibility and/or scope of authority, (ii) a reduction by more than 10% in Executive's base salary (other than a reduction generally applicableto executive officers of the Company or its subsidiary, as applicable, and in generally the same proportion as for the Executive), or (iii) relocation of the Executive's principal workplace by more than thirty-five (35) miles from Executive's then current place of employment. For the purpose of clause (i), a change in responsibility shall not be deemed to occur (A) solely because Executive is part of a larger organization or (B) solely because of a change in title. For the Executive to receive the benefits under this Agreement as a result of a voluntary resignation under this subsection (e), all of the following requirements must be satisfied: (1) the Executive must provide notice to the Company or its subsidiary, as applicable, of Executive's intent to assert Good Reason within sixty (60) days of the initial existence of one or more of the conditions set forth in subclauses (i) through (iii); (2) the Company or its subsidiary, as applicable, will have thirty (30) days (the "**Company Cure Period**") from the date of such notice to remedy the condition and, if it does so, the Executive may withdraw Executive's resignation or may resign with no benefits; and (3) any termination of employment under this provision must occur within ten (10) days of the earlier of expiration of the Company Cure Period or written notice from the Company or one of its subsidiaries, as applicable, that it will not undertake to cure the condition set forth in subclauses
(i) through (iii). Should the Company or one of its subsidiaries, as applicable, remedy the condition as set forth above and then one or more of the conditions arises again within twelve months following the occurrence of a Change in Control, the Executive may assert Good Reason again subject to all of the conditions set forth herein.

(f) "**Release Conditions**" mean the following conditions: (i) Company has received the Executive's executed Release and (ii) any rescission period applicable to the Executive's executed Release has expired.

(g) "**Qualifying Termination**" means a Separation that is not a CIC Qualifying Termination, but which results from (i) the Company or one of its subsidiaries, as applicable, terminating the Executive's employment for any reason other than Cause or (ii) the Executive voluntarily resigning his or her employment for Good Reason. A termination or resignation due to the Executive's death or disability shall not constitute a Qualifying Termination.

(h) "**Separation**" means a "separation from service," as defined in the regulations under Section 409A of the Code.

8. Successors.

(a) **Company's Successors**. The Company shall require any successor (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets, by an agreement in substance and form satisfactory to the Executive, to assume this Agreement and to agree expressly to perform this Agreement in the same manner and to the same extent as the Company would be required to perform it in the absence of a succession. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets or which becomes bound by this Agreement by operation of law.

(b) **Executive's Successors**. This Agreement and all rights of the Executive hereunder shall inure to the benefit of, and be enforceable by, the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

9. Golden Parachute Taxes.

(a) **Best After-Tax Result**. In the event that any payment or benefit received or to be received by Executive pursuant to this Agreement or otherwise ("**Payments**") would
(i) constitute a "parachute payment" within the meaning of Section 280G of the Code and (ii) but for this subsection (a), be subject to the excise tax imposed by Section 4999 of the Code, any successor provisions, or any comparable federal, state, local or foreign excise tax ("**Excise Tax**"), then, subject to the provisions of Section 10, such Payments shall be either
(A) provided in full pursuant to the terms of this Agreement or any other applicable agreement, or (B) provided as to such lesser extent which would result in the Payments being $1.00 less than the amount at which any

portion of the Payments would be subject to the Excise Tax ("**Reduced Amount**"), whichever of the foregoing amounts, taking into account the applicable federal, state, local and foreign income, employment and other taxes and the Excise Tax (including, without limitation, any interest or penalties on such taxes), results in the receipt by Executive, on an after-tax basis, of the greatest amount of payments and benefits provided for hereunder or otherwise, notwithstanding that all or someportion of such Payments may be subject to the Excise Tax. Unless the Company and Executive otherwise agree in writing, any determination required under this Section shall be made by independent tax counsel designated by the Company and reasonably acceptable to Executive ("**Independent Tax Counsel**"), whose determination shall be conclusive and binding upon Executive and the Company for all purposes. For purposes of making the calculations required under this Section, Independent Tax Counsel may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; *provided that* Independent Tax Counsel shall assume that Executive pays all taxes at the highest marginal rate. The Company and Executive shall furnish to Independent Tax Counsel such information and documents as Independent Tax Counsel may reasonably request in order to make a determination under this Section. The Company shall bear all costs that Independent Tax Counsel may reasonably incur in connection with any calculations contemplated by this Section. In the event that Section 9(a)(ii)(B) above applies, then based on the information provided to Executive and the Company by Independent Tax Counsel, the cutback described hereunder will apply as to compensation not subject to Section 409A of the Code prior to compensation subject to Section 409A of the Code and will otherwise apply on a reverse chronological basis from payments latest in time. If the Internal Revenue Service (the "**IRS**") determines that any Payment is subject to the Excise Tax, then Section 9(b) hereof shall apply, and the enforcement of Section 9(b) shall be the exclusive remedy to the Company.

(b) **Adjustments**. If, notwithstanding any reduction described in Section 9(a) hereof (or in the absence of any such reduction), the IRS determines that Executive is liable for the Excise Tax as a result of the receipt of one or more Payments, then Executive shall be obligated to surrender or pay back to the Company or its subsidiary, as applicable, within one-hundred twenty (120) days after a final IRS determination, an amount of such payments or benefits equal to the "**Repayment Amount**." The Repayment Amount with respect to such Payments shall be the smallest such amount, if any, as shall be required to be surrendered or paid to the Company or its subsidiary, as applicable, so that Executive's net proceeds with respect to such Payments (after taking into account the payment of the Excise Tax imposed on such Payments) shall be maximized. Notwithstanding the foregoing, the Repayment Amount with respect to such Payments shall be zero (0) if a Repayment Amount of more than zero (0) would not eliminate the Excise Tax imposed on such Payments or if a Repayment Amount of more than zero would not maximize the net amount received by Executive from the Payments. If the Excise Tax is not eliminated pursuant to this Section 9(b), Executive shall pay the Excise Tax.

10. Miscellaneous Provisions.

(a) **Section 409A**. To the extent (i) any payments to which Executive becomes entitled under this Agreement, or any agreement or plan referenced herein, in connection with Executive's termination of employment with the Company or its subsidiary, as applicable, constitute deferred compensation subject to Section 409A of the Code and (ii) Executive is deemed at the time of such termination of employment to be a "specified" employee under Section 409A of the Code, then such payment or payments shall not be made or commence until the earlier of (i) the expiration of the six (6)-month period measured from the Executive's Separation; or (ii) the date of Executive's death following such Separation; *provided, however*, that such deferral shall only be effected to the extent required to avoid adverse tax treatment to Executive, including (without limitation) the additional twenty percent (20%) tax for which Executive would otherwise be liable under Section 409A(a)(1)(B) of the Code in the absence of such deferral. Upon the expiration of the applicable deferral period, any payments which would have otherwise been made during that period (whether in a single sum or in installments) in the absence of this paragraph shall be paid to Executive or Executive's beneficiary in one lump sum (without interest). Except as otherwise expressly provided herein, to the extent any expense reimbursement or the provision of any in-kind benefit under this Agreement (or otherwise referenced herein) is determined to be subject to (and not exempt from) Section 409A of the Code, the amount of any such expenses eligible for reimbursement, or the provision of any in-kind benefit, in one calendar year shall not affect the expenses eligible for reimbursement or in kind benefits to be provided in any other calendar year, in no event shall any expenses be reimbursed after the last day of the calendar year following the calendar year in which Executive incurred such expenses, and in no event shall any right to reimbursement or the provision of any in- kind benefit be subject to liquidation or exchange for another benefit. To the extent that any provision of this Agreement is ambiguous as to its exemption or compliance with Section 409A, the provision will be read in such a manner so that all payments hereunder are exempt from Section 409A to the maximum permissible extent, and for any payments where such construction is not tenable, that those payments comply with Section 409A to the maximum permissible extent. To the extent any payment under this Agreement may be classified as a "short-term deferral" within the meaning of Section 409A, such payment shall be deemed a short-term deferral, even if it may also qualify for an exemption from Section 409A under another provision of Section 409A. Payments pursuant to this Agreement (or referenced in this Agreement) are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the regulations under Section 409A.

(b) **Other Arrangements**. This Agreement also supersedes any and all cash severance arrangements and vesting acceleration arrangements on change in control under any agreement governing Equity Awards, severance and salary continuation arrangements, programs and plans which were previously offered, or may be offered on the Effective Date or thereafter, by the Company or its subsidiary, as applicable, to the Executive, including change in control severance arrangements and vesting acceleration arrangements pursuant to an agreement governing Equity Awards, employment agreement or offer letter, and Executive hereby waives Executive's rights to such other benefits. In no event shall any individual receive cash severance benefits under both this Agreement and any other severance pay or salary continuation program, plan or other arrangement with the Company or its subsidiaries. For the avoidance of doubt, in no event shall Executive receive payment under both Section 2 and Section 3 with respect to Executive's Separation.

(c) **Dispute Resolution**. To ensure rapid and economical resolution of any and all disputes that might arise in connection with this Agreement, Executive and the Company agree that any and all disputes, claims, and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation, will be resolved solely and exclusively by final, binding, and confidential arbitration, by a single arbitrator, in San Mateo County, and conducted by Judicial Arbitration & Mediation Services, Inc. ("**JAMS**") under its then-existing employment rules and procedures. Nothing in this section, however, is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party to an arbitration or litigation hereunder shall be responsible for the payment of its own attorneys' fees.

(d) **Notice**. Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid or deposited with Federal Express Corporation, with shipping charges prepaid. In the case of the Executive, mailed notices shall be addressed to him or her at the home address which he or she most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its Secretary.

(e) **Waiver**. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Executive and by an authorized officer of the Company (other than the Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(f) **Withholding Taxes**. All payments made under this Agreement shall be subject to reduction to reflect taxes or other charges required to be withheld by law.

(g) **Severability**. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

(h) **No Retention Rights**. Nothing in this Agreement shall confer upon the Executive any right to continue in service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Company or any subsidiary of the Company or of the Executive, which rights are hereby expressly reserved by each, to terminate his or her service at any time and for any reason, with or without Cause.

(i) **Choice of Law**. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of California (other than its choice- of-law provisions).

[Signature Page Follows]

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year first above written.

PROTERRA INC

/s/ L. Sara Dadyar

By L. Sara Dadyar, CPO

Title On behalf of the Board of Director

/S/ David Scott Black

Signature

May 31, 2023

Jeffrey Embt

Dear Jeff:

We are pleased to extend this offer letter to join Proterra Inc (collectively with its subsidiaries, the "*Company*" or "*Proterra*") as the Chief Accounting Officer (CAO), subject to and effective upon (the "*Effective Date*") your appointment as CAO by the Board of Directors (the "*Board*"). Your employment with the Company will commence as soon as practicable on a date to be determined by you and the Chief Financial Officer (CFO), which shall be on or around June 8, 2023 ("*Start Date*"). You will be based in Greer, South Carolina and will be expected to travel to the Company's other offices. We are offering you the following:

1. Position and Duties. As of the Effective Date, you will serve as the CAO of Company and will report to the Company's CFO. You will render such business and professional services in the performance of your duties, consistent with your position within the Company, as will reasonably be assigned to you by the CFO, CEO or the Board.

2. Cash Compensation. The Company will pay you an annual base salary of $290,000 payable in accordance with the Company's standard payroll schedule. Your pay will be periodically reviewed as a part of the Company's regular reviews of compensation. You will be eligible to participate in the Company's short term cash incentive plan at a target of 40% of your annual base salary. Your participation in the 2023 short term cash incentive plan will be prorated based on your Start Date.

3. Sign-On Bonus. We will offer a sign-on bonus of $20,000, less applicable withholding taxes and deductions, to be paid in your second paycheck. If you voluntarily terminate employment with Proterra within twelve months following your start date, you will be required to repay to Proterra the net amount of this sign-on bonus.

4. Employee Benefits. You will be eligible to participate in a number of Company-sponsored benefits to the extent that you comply with the eligibility requirements of each such benefit plan. The Company, in its sole discretion, may amend, suspend or terminate its employee benefits at any time, with or without notice. In addition, you will be entitled to paid vacation in accordance with the Company's Flexible Time Off (FTO) Policy.

5. Equity Compensation. Following your Effective Date, we will recommend to the Board or Compensation Committee that the Company grant you an equity award comprised of restricted stock units (the "*RSUs*") for the Company's common stock valued at $250,000, in accordance with the Company's grant valuation procedures at the time of grant pursuant to the 2021 Equity Incentive Plan ("*Plan*"). We will recommend that the RSUs vest in accordance with the following four-year vesting schedule: 25% of such RSUs shall vest annually on a date set by the Company based on you start employment until all such RSUs have vested, so long as you continue to provide services to the Company on each such vesting date. The RSUs will be subject to the terms, conditions and restrictions set forth in the Plan and the Company's standard form of Equity Award Agreement. You will also be eligible to receive additional equity awards as may be determined by the Board or Compensation Committee, consistent with the Company's compensation practices. We will recommend to the Board or Compensation Committee that you be eligible for an equity incentive award as part of the Company's current long term incentive program, with four-year ratable vesting valued at $250,000 at the time of grant in fiscal year 2024. Such grants are not part of your base compensation, and the Board or Committee may change or discontinue the long-term incentive program at any time.

6. Termination Benefits. You will be eligible to receive certain change in control and severance payments and benefits under the Severance Agreement approved by the Board and attached to this offer letter as **Exhibit A**.

7. Confidentiality Agreement. By signing this offer letter, you confirm that you will execute and abide by the terms and conditions of the Employee Confidentiality, Arbitration, Non-Solicit, and Invention Assignment Agreement by and between you and the Company and attached to this offer letter at **Exhibit B**.

8. No Conflicting Obligations. You understand and agree that by signing this offer letter, you represent to the Company that your performance will not breach any other agreement to which you are a party and that you have not - and will not during the term of your employment with the Company - enter into any oral or written agreement in conflict with any of the provisions of this letter or the Company's policies. You are not to bring with you to the Company or use or disclose to any person associated with the Company, any confidential or proprietary information belonging to any former employer or other person or entity with respect to which you owe an obligation of confidentiality under any agreement or otherwise. The Company does not need and will not use such information and we will assist you in any way possible to preserve and protect the confidentiality of proprietary information belonging to third parties. Also, we expect you to abide by any obligations to refrain from soliciting any person employed by or otherwise associated with any former employer and suggest that you refrain from having any contact with such persons until such time as any non- solicitation obligation expires.

9. Outside Activities. While you render services to the Company, you agree that you will not engage in any other employment, consulting, or other business activity without the written consent of the Company. In addition, while you render services to the Company, you will not assist any person or entity in competing with the Company, in preparing to compete with the Company or in hiring any employees or consultants of the Company.

10. General Obligations. As an employee, you will be expected to adhere to the Company's standards of professionalism, loyalty, integrity, honesty, reliability, and respect for all. You will also be expected to comply with the Company's policies and procedures. The Company is an equal opportunity employer.

11. At-Will Employment. Your employment with the Company is for no specific period of time. Your employment with the Company will be on an "at will" basis, meaning that either you or the Company may terminate your employment at any time for any reason or no reason. The Company also reserves the right to modify or amend the terms of your employment at any time for any reason. Any contrary representations which may have been made to you are superseded by this offer letter. This is the full and complete agreement between you and the Company on this term. Although your job duties, title, compensation, benefits, and the Company's personnel policies and procedures, may change from time to time, the "at will" nature of your employment may only be changed in an express written agreement signed by you and the Company's Board of Directors.

12. Withholdings. All forms of compensation paid to you as an employee of the Company shall be less all applicable withholdings.

13. Section 409A. It is intended that all of the severance benefits and other payments payable under this offer letter satisfy, to the greatest extent possible, the exemptions from the application of Section 409A of the Internal Revenue Code of 1986, as amended (the "*Code*" and "*Section 409A*") provided under Treasury Regulations 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9), and this offer letter will be construed to the greatest extent possible as consistent with those provisions, and to the extent not so exempt, this offer letter (and any definitions hereunder) will be construed in a manner that complies with Section 409A. All payments and benefits that are payable upon a termination of employment hereunder shall be paid or provided only upon your "separation from service" from the Company (within the meaning of Section 409A).

This offer letter supersedes and replaces any prior understandings or agreements, whether oral, written, or implied, between you and the Company regarding the matters described in this letter. This letter will be governed by the laws of South Carolina, without regard to its conflict of laws provisions.

Very truly yours, PROTERRA INC

By: Sara Dadyar
Chief People Officer

ACCEPTED AND AGREED:
/s/ Jeffrey D. Embt
Date 5/31/2023

[SIGNATURE PAGE TO OFFER LETTER]

Exhibit A: Severance Agreement

Exhibit B: Employee Confidentiality, Arbitration, Non-Solicit, and Invention Assignment Agreement

Exhibit 10.3

SEVERANCE AGREEMENT

This Severance Agreement (the "**Agreement**") is entered into as of 6/8/2023 (the "**Effective Date**") by and between Jeffrey Donald Embt (the "**Executive**") and Proterra Inc, a Delaware corporation (the "**Company**").

1. Term of Agreement.

This Agreement shall terminate on the date the Executive's employment with the Company or its subsidiary, as applicable, terminates for a reason other than a Qualifying Termination or CIC Qualifying Termination (the "***Expiration Date***"); provided however, if a definitive agreement relating to a Change in Control has been signed by the Company on or before the Expiration Date, then this Agreement shall remain in effect through the earlier of:

- The date the Executive's employment with the Company terminates for a reason other than a Qualifying Termination or CIC Qualifying Termination, or
- The date the Company has met all of its obligations under this Agreement following a termination of the Executive's employment with the Company due to a Qualifying Termination or CIC Qualifying Termination.

2. Qualifying Termination. If the Executive is subject to a Qualifying Termination, then, subject to Sections 4, 9, and 10 below, Executive will be entitled to the following benefits:

(a) **Severance Benefits**. The Company or its subsidiaries shall pay the Executive six months of Executive's monthly base salary (at the rate in effect immediately prior to the actions that resulted in the Qualifying Termination). The severance benefits shall be paid through salary continuation in equal installments in accordance with the Company's or its subsidiary's, as applicable, standard payroll procedures, with the initial payment to occur on the first payroll date following the sixtieth (60th) day following the Separation, with the first installment to include a catchup payment for amounts covering the period from the date of Separation through the first payment date, *provided that* the Release Conditions have been satisfied. However, if the period comprising the sum of the sixty (60)- day period described in the preceding sentence and the ten (10)-day period described in clause (3) of the second sentence of Section 7(e) below spans two calendar years, then the payments which constitute deferred compensation subject to Section 409A will not in any case commence in the first calendar year. The number of months of severance set forth in the first sentence of this subsection (a) shall be referred to herein as the "**Severance Period**."

(b) **Continued Employee Benefits**. If Executive timely elects continued coverage under the Consolidated Omnibus Budget Reconciliation Act ("**COBRA**"), the Company or its subsidiary shall pay the full amount of Executive's COBRA premiums on behalf of the Executive for the Executive's continued coverage under the Company's or its subsidiary's, as applicable, health, dental and vision plans, including coverage for the Executive's eligible dependents, for the Severance Period. Notwithstanding the foregoing, if the Company, in its sole discretion, determines that it cannot provide the foregoing subsidy of COBRA coverage without potentially violating or causing the Company or its subsidiary to incur additional expense as a result of noncompliance with applicable law (including, without limitation, Section 2716 of the Public Health Service Act), the Company or its subsidiary instead shall provide to Executive a taxable monthly payment in an amount equal to the monthly COBRA premium that Executive would be required to pay to continue the group health coverage in effect on the date of the Separation (which amount shall be based on the premium for the first month of COBRA coverage), which payments shall be made regardless of whether Executive elects COBRA continuation coverage and shall commence on the later of (i) the first day of the month following the month in which Executive experiences a Separation and (ii) the effective date of the Company's determination of violation of applicable law, and shall end on the earlier of (x) the effective date on which Executive becomes covered by a health, dental or vision insurance plan of a subsequent employer, and (y) the last day of the Severance Period, *provided that*, any taxable payments under this Section 2(b) will not be paid before the first business day occurring after the sixtieth (60^{th}) day following the Separation and, once they commence, will include any unpaid amounts accrued from the date of Executive's Separation (to the extent not otherwise satisfied with continuation coverage). However, if the period comprising the sum of the sixty (60)-day period described in the preceding sentence and the ten (10)-day period described in clause (3) of the second sentence of Section 7(e) below spans two calendar years, then the payments which constitute deferred compensation subject to Section 409A will not in any case be paid in the first calendar year. Executive shall have no right to an additional gross-up payment to account for the fact that such COBRA premium amounts are paid on an after-tax basis.

3. CIC Qualifying Termination. If the Executive is subject to a CIC Qualifying Termination, then, subject to Sections 4, 9, and 10 below, Executive will be entitled to the following benefits:

(a) **Severance Benefits**. The Company or its subsidiaries shall pay the Executive twelve months of Executive's monthly base salary and then-current target bonus opportunity (at the rates in effect immediately prior to the actions that resulted in the Separation). The severance benefits shall be paid through salary continuation in equal installments in accordance with the Company's or its subsidiary's, as applicable, standard payroll procedures, with the initial payment to occur on the first payroll date following the sixtieth (60th) day following the Separation, with the first installment to include a catchup payment for amounts covering the period from the date of Separation through the first payment date, *provided that* the Release Conditions have been satisfied. However, if the period comprising the sum of the sixty (60)-day period described in the preceding sentence and the ten (10)-day period described in clause (3) of the second sentence of Section 7(e) below spans two calendar years, then the payments which constitute deferred compensation subject to Section 409A will not in any case commence in the first calendar year.

(b) **Continued Employee Benefits**. The Company or its subsidiary shall pay the Executive the continued employee benefits set forth in Section 2(b) above for the same period that the Executive is paid severance benefits pursuant to Section 3(a) following the Executive's Separation or, if earlier, until Executive becomes covered by a health, dental or vision insurance plan of a subsequent employer or until Executive is no longer eligible for COBRA benefits.

(c) **Equity**. Each of Executive's then outstanding Equity Awards, including awards that would otherwise vest only upon satisfaction of performance criteria, shall accelerate and become vested and exercisable as to 100% of the then unvested shares underlying the Equity Award. For awards that would otherwise vest only upon satisfaction of performance criteria, the foregoing acceleration shall be based on achievement of performance criteria at target, except to the extent otherwise provided in the award agreement evidencing such award. "**Equity Awards**" means all options to purchase shares of Company common stock as well as any and all other stock-based awards granted to the Executive, including but not limited to stock bonus awards, restricted stock, restricted stock units or stock appreciation rights. Subject to Section 4, the accelerated vesting described above shall be effective as of the Separation.

4. General Release. Any other provision of this Agreement notwithstanding, the benefits under Section 2 and 3 shall not apply unless the Executive (i) has executed a general release (in a form prescribed by the Company) of all known and unknown claims that Executive may then have against the Company or entities or persons affiliated with the Company and such release has become effective and (ii) has agreed not to prosecute any legal action or other proceeding based upon any of such claims. The release must be in the form prescribed by the Company, without alterations (this document effecting the foregoing, the "**Release**"). The Company or its subsidiary will deliver the form of Release to the Executive within thirty (30) days after the Executive's Separation. The Executive must execute and return the Release within the time period specified in the form.

5. Accrued Compensation and Benefits. Notwithstanding anything to the contrary in Section 2 and 3 above, in connection with any termination of employment upon or following a Change in Control (whether or not a Qualifying Termination or CIC Qualifying Termination), the Company or its subsidiary shall pay Executive's earned but unpaid base salary and other vested but unpaid cash entitlements for the period through and including the termination of employment, including unused earned vacation pay and unreimbursed documented business expenses incurred by Executive prior to the date of termination (collectively "**Accrued Compensation and Expenses**"), as required by law and the applicable Company or its subsidiary, as applicable, plan or policy. In addition, Executive shall be entitled to any other vested benefits earned by Executive for the period through and including the termination date of Executive's employment under any other employee benefit plans and arrangements maintained by the Company or its subsidiary, as applicable, in accordance with the terms of such plans and arrangements, except as modified herein (collectively "**Accrued Benefits**"). Any Accrued Compensation and Expenses to which the Executive is entitled shall be paid to the Executive in cash as soon as administratively practicable after the termination, and, in any event, no later than two and one-half (2-1/2) months after the end of the taxable year of the Executive in which the termination occurs or at such earlier time as may be required by applicable law or Section 10 below, and to such lesser extent as may be mandated by Section 9 below. Any Accrued Benefits to which the Executive is entitled shall be paid to the Executive as provided in the relevant plans and arrangements.

6. Covenants.

(a) **Non-Competition**. The Executive agrees that, during Executive's employment with the Company, Executive shall not engage in any other employment, consulting or other business activity (whether full-time or part-time) that would create a conflict of interest with the Company.

(b) **Cooperation and Non-Disparagement**. The Executive agrees that, during the Severance Period, he or she shall cooperate with the Company or its subsidiary in every reasonable respect and shall use Executive's best efforts to assist the Company or its subsidiary with the transition of Executive's duties to Executive's successor. The Executive further agrees that following the date of Separation, Executive shall not in any way or by any means disparage the Company, its subsidiaries, or the members of their Board of Directors or their officers and employees.

7. Definitions.

(a) "**Cause**" means (i) an unauthorized use or disclosure by Executive of the Company's or its subsidiaries' confidential information or trade secrets, which use or disclosure causes or is reasonably likely to cause material harm to the Company or its subsidiaries, (ii) a material breach of any agreement between Executive and the Company or its subsidiaries, (iii) a material failure to comply with the Company's or its subsidiaries' written policies or rules that has caused or is reasonably likely to cause material injury to the Company, its successor, or its affiliates, or any of their business, (iv) conviction of, or plea of "guilty" or "no contest" to, a felony under the laws of the United States or any state thereof, (v) willful misconduct that has caused or is reasonably likely to cause material injury to the Company, its successor, or its affiliates, or any of their business, (vi) embezzlement, (vii) failure to cooperate with the Company or its subsidiaries in any investigation or formal proceeding if the Company or its subsidiary, as applicable, has requested Executive's reasonable cooperation, (viii) violation of any applicable federal, state or foreign statutes, laws or regulations or (ix) a continued failure to perform assigned duties after receiving written notification of such failure from the Company's or its subsidiaries', as applicable, Chief Executive Officer; *provided that* Executive must be provided with written notice of Executive's termination for "Cause" and Executive must be provided with a thirty (30) day period following Executive's receipt of such notice to cure the event(s) that trigger "Cause," with the Company's or its subsidiaries', as applicable, Board of Directors making the final determination whether Executive has cured any Cause.

(b) "**Code**" means the Internal Revenue Code of 1986, as amended.

(c) "**Change in Control**." For all purposes under this Agreement, a Change in Control shall mean a "Change in Control," as such term is defined in the Company's 2010 Equity Incentive Plan, as may be amended from time to time, *provided that* the transaction (including any series of transactions) also qualifies as a change in control under U.S. Treasury Regulation 1.409A-3(i)(5)(v) or 1.409A-3(i)(5)(vii).

(d) "**CIC Qualifying Termination**" means a Separation (A) within twelve (12) months following a Change in Control or (B) within three (3) months preceding a Change in Control (but as to part (B), only if the Separation occurs after a Potential Change in Control) resulting, in either case (A) or (B), from (i) the Company or its subsidiary, as applicable, terminating the Executive's employment for any reason other than Cause or (ii) the Executive voluntarily resigning Executive's employment for Good Reason. A termination or resignation due to the Executive's death or disability shall not constitute a CIC Qualifying Termination. A "**Potential Change in Control**" means the date of execution of a legally binding and definitive agreement for a corporate transaction which, if consummated, would constitute the applicable Change in Control (which for the avoidance of doubt, would include a merger agreement, but not a term sheet for a merger agreement). In the case of a termination following a Potential Change in Control and before a Change in Control, solely for purposes of benefits under this Agreement, the date of Separation will be deemed the date the Change in Control is consummated.

(e) "**Good Reason**" means, without the Executive's consent, (i) a material reduction in the Executive's level of responsibility and/or scope of authority, (ii) a reduction by more than 10% in Executive's base salary (other than a reduction generally applicableto executive officers of the Company or its subsidiary, as applicable, and in generally the same proportion as for the Executive), or (iii) relocation of the Executive's principal workplace by more than thirty-five (35) miles from Executive's then current place of employment. For the purpose of clause (i), a change in responsibility shall not be deemed to occur (A) solely because Executive is part of a larger organization or (B) solely because of a change in title. For the Executive to receive the benefits under this Agreement as a result of a voluntary resignation under this subsection (e), all of the following requirements must be satisfied: (1) the Executive must provide notice to the Company or its subsidiary, as applicable, of Executive's intent to assert Good Reason within sixty (60) days of the initial existence of one or more of the conditions set forth in subclauses (i) through (iii); (2) the Company or its subsidiary, as applicable, will have thirty (30) days (the "**Company Cure Period**") from the date of such notice to remedy the condition and, if it does so, the Executive may withdraw Executive's resignation or may resign with no benefits; and (3) any termination of employment under this provision must occur within ten (10) days of the earlier of expiration of the Company Cure Period or written notice from the Company or one of its subsidiaries, as applicable, that it will not undertake to cure the condition set forth in subclauses
(i) through (iii). Should the Company or one of its subsidiaries, as applicable, remedy the condition as set forth above and then one or more of the conditions arises again within twelve months following the occurrence of a Change in Control, the Executive may assert Good Reason again subject to all of the conditions set forth herein.

(f) "**Release Conditions**" mean the following conditions: (i) Company has received the Executive's executed Release and (ii) any rescission period applicable to the Executive's executed Release has expired.

(g) "**Qualifying Termination**" means a Separation that is not a CIC Qualifying Termination, but which results from (i) the Company or one of its subsidiaries, as applicable, terminating the Executive's employment for any reason other than Cause or (ii) the Executive voluntarily resigning his or her employment for Good Reason. A termination or resignation due to the Executive's death or disability shall not constitute a Qualifying Termination.

(h) "**Separation**" means a "separation from service," as defined in the regulations under Section 409A of the Code.

8. Successors.

(a) **Company's Successors**. The Company shall require any successor (whether direct or indirect and whether by purchase, lease, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets, by an agreement in substance and form satisfactory to the Executive, to assume this Agreement and to agree expressly to perform this Agreement in the same manner and to the same extent as the Company would be required to perform it in the absence of a succession. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets or which becomes bound by this Agreement by operation of law.

(b) **Executive's Successors**. This Agreement and all rights of the Executive hereunder shall inure to the benefit of, and be enforceable by, the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

9. Golden Parachute Taxes.

(a) **Best After-Tax Result**. In the event that any payment or benefit received or to be received by Executive pursuant to this Agreement or otherwise ("**Payments**") would
(i) constitute a "parachute payment" within the meaning of Section 280G of the Code and (ii) but for this subsection (a), be subject to the excise tax imposed by Section 4999 of the Code, any successor provisions, or any comparable federal, state, local or foreign excise tax ("**Excise Tax**"), then, subject to the provisions of

Section 10, such Payments shall be either (A) provided in full pursuant to the terms of this Agreement or any other applicable agreement, or (B) provided as to such lesser extent which would result in the Payments being
$1.00 less than the amount at which any portion of the Payments would be subject to the Excise Tax ("**Reduced Amount**"), whichever of the foregoing amounts, taking into account the applicable federal, state, local and foreign income, employment and other taxes and the Excise Tax (including, without limitation, any interest or penalties on such taxes), results in the receipt by Executive, on an after-tax basis, of the greatest amount of payments and benefits provided for hereunder or otherwise, notwithstanding that all or someportion of such Payments may be subject to the Excise Tax. Unless the Company and Executive otherwise agree in writing, any determination required under this Section shall be made by independent tax counsel designated by the Company and reasonably acceptable to Executive ("**Independent Tax Counsel**"), whose determination shall be conclusive and binding upon Executive and the Company for all purposes. For purposes of making the calculations required under this Section, Independent Tax Counsel may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code; *provided that* Independent Tax Counsel shall assume that Executive pays all taxes at the highest marginal rate. The Company and Executive shall furnish to Independent Tax Counsel such information and documents as Independent Tax Counsel may reasonably request in order to make a determination under this Section. The Company shall bear all costs that Independent Tax Counsel may reasonably incur in connection with any calculations contemplated by this Section. In the event that Section 9(a)(ii)(B) above applies, then based on the information provided to Executive and the Company by Independent Tax Counsel, the cutback described hereunder will apply as to compensation not subject to Section 409A of the Code prior to compensation subject to Section 409A of the Code and will otherwise apply on a reverse chronological basis from payments latest in time. If the Internal Revenue Service (the "**IRS**") determines that any Payment is subject to the Excise Tax, then Section 9(b) hereof shall apply, and the enforcement of Section 9(b) shall be the exclusive remedy to the Company.

(b) **Adjustments**. If, notwithstanding any reduction described in Section 9(a) hereof (or in the absence of any such reduction), the IRS determines that Executive is liable for the Excise Tax as a result of the receipt of one or more Payments, then Executive shall be obligated to surrender or pay back to the Company or its subsidiary, as applicable, within one-hundred twenty (120) days after a final IRS determination, an amount of such payments or benefits equal to the "**Repayment Amount**." The Repayment Amount with respect to such Payments shall be the smallest such amount, if any, as shall be required to be surrendered or paid to the Company or its subsidiary, as applicable, so that Executive's net proceeds with respect to such Payments (after taking into account the payment of the Excise Tax imposed on such Payments) shall be maximized. Notwithstanding the foregoing, the Repayment Amount with respect to such Payments shall be zero (0) if a Repayment Amount of more than zero (0) would not eliminate the Excise Tax imposed on such Payments or if a Repayment Amount of more than zero would not maximize the net amount received by Executive from the Payments. If the Excise Tax is not eliminated pursuant to this Section 9(b), Executive shall pay the Excise Tax.

10. Miscellaneous Provisions.

(a) **Section 409A**. To the extent (i) any payments to which Executive becomes entitled under this Agreement, or any agreement or plan referenced herein, in connection with Executive's termination of employment with the Company or its subsidiary, as applicable, constitute deferred compensation subject to Section 409A of the Code and (ii) Executive is deemed at the time of such termination of employment to be a "specified" employee under Section 409A of the Code, then such payment or payments shall not be made or commence until the earlier of (i) the expiration of the six (6)-month period measured from the Executive's Separation; or (ii) the date of Executive's death following such Separation; *provided, however*, that such deferral shall only be effected to the extent required to avoid adverse tax treatment to Executive, including (without limitation) the additional twenty percent (20%) tax for which Executive would otherwise be liable under Section 409A(a)(1)(B) of the Code in the absence of such deferral. Upon the expiration of the applicable deferral period, any payments which would have otherwise been made during that period (whether in a single sum or in installments) in the absence of this paragraph shall be paid to Executive or Executive's beneficiary in one lump sum (without interest). Except as otherwise expressly provided herein, to the extent any expense reimbursement or the provision of any in-kind benefit under this Agreement (or otherwise referenced herein) is determined to be subject to (and not exempt from) Section 409A of the Code, the amount of any such expenses eligible for reimbursement, or the provision of any in-kind benefit, in one calendar year shall not affect the expenses eligible for reimbursement or in kind benefits to be provided in any other calendar year, in no event shall any expenses be reimbursed after the last day of the calendar year following the calendar year in which Executive incurred such expenses, and in no event shall any right to reimbursement or the provision of any in- kind benefit be subject to liquidation or exchange for another benefit. To the extent that any provision of this Agreement is ambiguous as to its exemption or compliance with Section 409A, the provision will be read in such a manner so that all payments hereunder are exempt from Section 409A to the maximum permissible extent, and for any payments where such construction is not tenable, that those payments comply with Section 409A to the maximum permissible extent. To the extent any payment under this Agreement may be classified as a “short-term deferral” within the meaning of Section 409A, such payment shall be deemed a short-term deferral, even if it may also qualify for an exemption from Section 409A under another provision of Section 409A. Payments pursuant to this Agreement (or referenced in this Agreement) are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the regulations under Section 409A.

(b) **Other Arrangements**. This Agreement also supersedes any and all cash severance arrangements and vesting acceleration arrangements on change in control under any agreement governing Equity Awards, severance and salary continuation arrangements, programs and plans which were previously offered, or may be offered on the Effective Date or thereafter, by the Company or its subsidiary, as applicable, to the Executive, including change in control severance arrangements and vesting acceleration arrangements pursuant to an agreement governing Equity Awards, employment agreement or offer letter, and Executive hereby waives Executive’s rights to such other benefits. In no event shall any individual receive cash severance benefits under both this Agreement and any other severance pay or salary continuation program, plan or other arrangement with the Company or its subsidiaries. For the avoidance of doubt, in no event shall Executive receive payment under both Section 2 and Section 3 with respect to Executive’s Separation.

(c) **Dispute Resolution**. To ensure rapid and economical resolution of any and all disputes that might arise in connection with this Agreement, Executive and the Company agree that any and all disputes, claims, and causes of action, in law or equity, arising from or relating to this Agreement or its enforcement, performance, breach, or interpretation, will be resolved solely and exclusively by final, binding, and confidential arbitration, by a single arbitrator, in San Mateo County, and conducted by Judicial Arbitration & Mediation Services, Inc. (“**JAMS**”) under its then-existing employment rules and procedures. Nothing in this section, however, is intended to prevent either party from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Each party to an arbitration or litigation hereunder shall be responsible for the payment of its own attorneys’ fees.

(d) **Notice**. Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered or when mailed by U.S. registered or certified mail, return receipt requested and postage prepaid or deposited with Federal Express Corporation, with shipping charges prepaid. In the case of the Executive, mailed notices shall be addressed to him or her at the home address which he or she most recently communicated to the Company in writing. In the case of the Company, mailed notices shall be addressed to its corporate headquarters, and all notices shall be directed to the attention of its Secretary.

(e) **Waiver**. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by the Executive and by an authorized officer of the Company (other than the Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(f) **Withholding Taxes**. All payments made under this Agreement shall be subject to reduction to reflect taxes or other charges required to be withheld by law.

(g) **Severability**. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

(h) **No Retention Rights**. Nothing in this Agreement shall confer upon the Executive any right to continue in service for any period of specific duration or interfere with or otherwise restrict in any way the rights of the Company or any subsidiary of the Company or of the Executive, which rights are hereby expressly reserved by each, to terminate his or her service at any time and for any reason, with or without Cause.

(i) **Choice of Law**. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of California (other than its choice- of-law provisions).

[Signature Page Follows]

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year first above written.

PROTERRA INC

/s/ L. Sara Dadyar

By L. Sara Dadyar, CPO

Title On behalf of the Board of Director

/S/ Jeffrey Donald Embt

Signature

EXHIBIT 31.1

CERTIFICATION

I, Gareth T. Joyce, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Proterra Inc;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer 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:	August 8, 2023	By:	/s/ *Gareth T. Joyce*
		Name	Gareth T. Joyce
		Title	Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION

I, David S. Black, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Proterra Inc;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer 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:	August 8, 2023	By:	*/s/ David S. Black*
		Name	David S. Black
		Title	Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
RULE 13a-14(b) OF THE SECURITIES EXCHANGE ACT OF 1934
AND 18 U.S.C. SECTION 1350

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. § 1350), Gareth T. Joyce, the Chief Executive Officer of Proterra Inc (the “Company”), hereby certifies that, to the best of his knowledge:

(1) The Company’s quarterly report on Form 10-Q for the quarter ended June 30, 2023, to which this Certification is attached as Exhibit 32.1 (the “Report”), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and;

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the end of the period covered by the Report and results of operations of the Company for the period covered by the Report.

Date:	August 8, 2023	By:	/s/ *Gareth T. Joyce*
		Name	Gareth T. Joyce
		Title	Chief Executive Officer

A signed original of this written statement required by Section 906 of 18 U.S.C. § 1350 has been provided to Proterra Inc and will be retained by Proterra Inc and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
RULE 13a-14(b) OF THE SECURITIES EXCHANGE ACT OF 1934
AND 18 U.S.C. SECTION 1350

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. § 1350), David S. Black, the Chief Financial Officer of Proterra Inc (the “Company”), hereby certifies that, to the best of his knowledge:

(1) The Company’s quarterly report on Form 10-Q for the quarter ended June 30, 2023, to which this Certification is attached as Exhibit 32.2 (the “Report”), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and;

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the end of the period covered by the Report and results of operations of the Company for the period covered by the Report.

Date:	August 8, 2023	By:	*/s/ David S. Black*
		Name	David S. Black
		Title	Chief Financial Officer

A signed original of this written statement required by Section 906 of 18 U.S.C. § 1350 has been provided to Proterra Inc and will be retained by Proterra Inc and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.